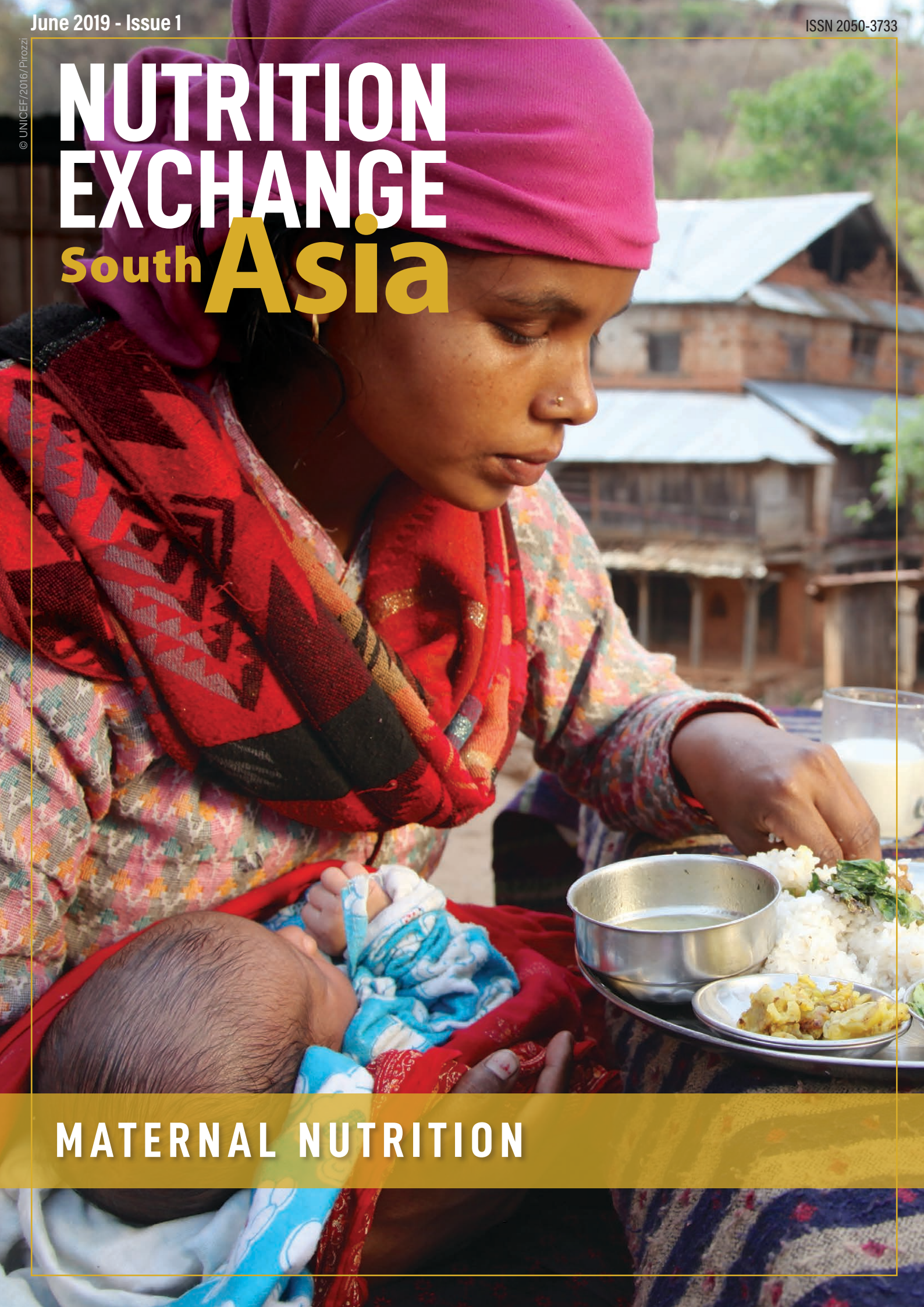


NUTRITION EXCHANGE

South Asia



MATERNAL NUTRITION

CONTENTS

- 2** Editorial
- 4** Overview: Unlocking the power of maternal nutrition to improve nutritional care of women in South Asia
- 6** Harnessing the potential of **India's** medical colleges to bring maternal nutrition services to scale
- 9** Addressing maternal nutrition service delivery gaps in **Afghanistan**: Policy and programming opportunities
- 12** Creating an enabling environment for delivering maternal nutrition interventions in **Bhutan**
- 14** **Nepal's** success story: What helped to improve maternal anaemia?
- 17** Delivering care to address a double burden of maternal malnutrition in **Sri Lanka**
- 20** Combining a mid-day meal, health service package and peer support in **Karnataka State, India**
- 23** Providing maternal nutrition services at sub-national level in **Punjab Province, Pakistan**
- 26** Integration of maternal nutrition into **Nepal's** health service platforms: What's happening?
- 29** Strengthening nutrition information systems to improve maternal nutrition in **Bangladesh**
- 31** Resources



ABOUT NUTRITION EXCHANGE

Nutrition Exchange (NEX) is an ENN publication that contains articles on nutrition programme experiences and learning from countries around the world. Published twice per year, NEX is aimed at those working to reduce malnutrition at the national and sub-national level including government, civil society and allied sectors concerned with nutrition. Articles written by national actors are prioritised for publication.

PARTNERSHIP BETWEEN ENN AND UNICEF

ENN and the UNICEF Regional Office for South Asia (ROSA) have worked closely together from the outset of this publication reflecting the partnership approach we have adopted. Our vision has been to deliver a high-quality publication to enable regional actors to share their country learning on maternal nutrition within the region and beyond. We would like to warmly thank ENN's Regional Knowledge Management Specialist for Asia, Charulatha Banerjee, for her contribution to this publication and associated podcasts.



EDITORIAL



Carmel Dolan, NEX co-editor and
Judith Hodge, NEX co-editor

Nutrition Exchange (NEX) is a long-standing ENN publication that captures the different experiences of countries in preventing and treating malnutrition. The focus of NEX has been global, but ENN is aware of a growing appetite for sharing lessons learned between countries from the same region. This edition is the first opportunity for NEX to 'go regional'. It arose from a desire to build on the momentum from the 'Stop Stunting: the Power of Maternal Nutrition' conference held in Nepal in 2018. Through a partnership with the UNICEF Regional Office for South Asia, NEX editors have worked closely with national governments and their development partners to develop articles that explore how they are improving maternal nutrition.

We feature nine articles from seven countries – Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka. Each country is a unique context in its own right, is at a different stage of development in terms of maternal nutrition policies and programmes, and has adopted varying approaches to strengthening its maternal nutrition services. The countries provide a rich insight into what's being done to improve maternal nutrition, the obstacles confronting them in achieving this, and what more needs to be done.

An overview, written by our UNICEF colleagues, highlights the alarming levels of maternal malnutrition in South Asia; one in five women is underweight, one in 10 is of short stature and anaemia is a significant public health problem. Rightly, they point out that the solutions to these problems require policies and programmes that integrate actions from multiple sectors, with the health sector having a pivotal role.

What is striking in this NEX regional issue is that five of the seven countries featured are addressing their maternal nutrition problems in widely varying contexts of conflict/fragility, with disrupted services and hard-to-reach populations adding to the challenges of programming. The **Afghanistan** article, for example, illustrates how the creation of a new cadre of nutrition counsellors at health-facility level can help increase interaction with pregnant woman and new mothers, despite the ongoing security challenges.

Another strong theme to emerge is the emphasis placed (based on WHO Global Guidance) on nutrition counselling, particularly delivered via community-based actors and platforms. In **Nepal** the role of the country's large workforce of female community health volunteers (FCHVs) in promoting iron and folic acid uptake was crucial in reducing the prevalence of maternal anaemia. A second article from **Nepal** highlights efforts to strengthen the integration of maternal nutrition activities into the health system with support from a development partner, again with a focus on social and behaviour change communication strategies and capacity-building of the FCHVs. **Pakistan's** lady health workers are also a vital part of its health sector response to improving maternal nutrition, bridging the divide between health facilities and women at community and household level.

In **Bihar** and **Uttar Pradesh** in **India**, concerted efforts have also focused on building the capacity of health practitioner at all levels, including medical training for doctors and midwives, to improve the quality of maternal nutrition counselling services. Having showcased the importance of this training, there are plans to scale up to other states in the country.

The double burden of malnutrition is of increasing concern in the South Asia region, with the prevalence of overweight among women being greater than underweight in all but two countries (India and Bangladesh). **Sri Lanka** is one of the few countries whose maternal nutrition policy and programming is attempting to address this new reality through the counselling of pregnant women to promote healthy eating and physical activity to prevent excessive weight gain.

Lack of data and information about the coverage and the quality of services is a theme running through a number of the articles. In **Bangladesh** a deliberate focus on prioritising indicators for maternal nutrition and strengthening the country's nutrition information system has led to an increase in the resources available for scaling up services for pregnant women. In **Pakistan** there are ongoing constraints due to the lack of quality data, and even in countries with a strong enabling environment for maternal nutrition, such as **Bhutan**, the article emphasises that work is still needed to improve programme coverage and quality.

In a number of countries services are decentralised, which can offer opportunities to both integrate with other sectors and add new activities within sectors. For example, in **Punjab province, Pakistan**, overlapping programmes and interventions for maternal and child health have been combined under one umbrella programme for a health sector response, although challenges remain in involving other sectors, despite the existence of multi-sector mechanisms at provincial level. In **Karnataka state, India**, state-level resources under the Anganwadi services scheme are being used to include a hot mid-day meal in the health service provision for pregnant women, with the aim of increasing their calorie intake and uptake of services.

All the articles in this issue provide powerful stories of diverse country agendas for improving maternal nutrition. Yet, for all of these countries, maternal nutrition is very much unfinished business and, as countries themselves acknowledge, much more must be done to enable women to avoid the perils of undernutrition – and, indeed, the growing risk of overweight/obesity. It is evident from these stories that some of the pieces are starting to be put into place, and we look forward to capturing the region's progress towards improving the nutrition status of women in future editions of NEX.

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Unlocking the power of maternal nutrition to improve nutritional care of women in South Asia

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Nutrition has never been as high on the political agenda in South Asia as it is today. All countries have committed to Sustainable Development Goal 2 to end hunger and many have developed and resourced multi-sector nutrition plans to meet the global targets on child stunting, wasting and overweight. However, there is a danger that women will be left behind in the regional momentum to improve nutrition unless greater attention is given to the nutritional care of women.

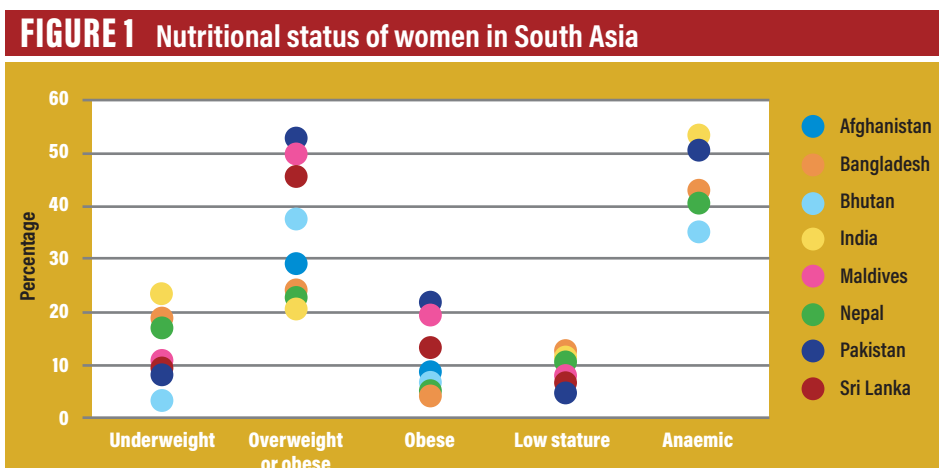
Poor maternal nutrition increases the risk of life-threatening birth complications and diminishes the health and wellbeing of women. The nutritional status of women is improving in South Asia, but progress is uneven and slow. One in five women is underweight (body mass index <18.5 kg/m²); one in 10 are of short stature (height <145 cm); and anaemia is a severe or moderate public health problem in seven out of eight countries¹ (see Figure 1). Disparities persist, with undernutrition concentrated in the most marginalised and disadvantaged communities and groups. Meanwhile, the nutrition challenges are becoming even more

complex, because the prevalence of overweight is increasing at an alarming rate in women and now exceeds underweight in all countries in the region, except Bangladesh and India.

Poor maternal nutrition also has consequences for children. Despite high rates of economic growth, South Asia has a disproportionate number of children under five years old who are stunted (59 million) and wasted (26 million) (Joint Malnutrition Estimates, 2019). The region also has the highest proportion of low birth weight infants in the world (27%)². This paradoxical phenomenon has been coined the “South Asian Enigma” and is rooted in gender inequalities: there is consistent evidence from South Asian countries that children are more likely to be stunted or wasted if their mothers have a short stature, low body-mass index, are less educated, or gave birth in adolescence¹.

¹ Torlesse, H. & Aguayo, V. (2018). *Aiming higher for maternal and child nutrition in South Asia. Maternal & Child Nutrition*, 14(Suppl 4), e12739. www.ncbi.nlm.nih.gov/pubmed/30499249

² UNICEF-WHO (2019) Low Birthweight Estimates. Levels and trends 2000-2015 www.unicef.org/media/53711/file/UNICEFWHO%20Low%20birthweight%20estimates%202019%20.pdf



BOX 1 Call to Action from the South Asia Regional Conference on “Stop Stunting | Power of Maternal Nutrition”

1	National policies and guidelines on maternal nutrition should be in line with evidence-based global recommendations, adapted to the country context	6	Evidence-informed social and behaviour change communication is needed to improve behaviours, with priority given to improving dietary intake of women
2	Maternal nutrition should be prioritised in national development agendas, and sectoral plans and budgets	7	National health and nutrition information systems and surveys should include appropriate indicators to track programme performance and progress towards national and global targets on maternal nutrition
3	Greater attention is needed to operationalise national policies and plans on maternal nutrition at subnational level	8	Implementation research is needed to understand the barriers, enablers and pathways to delivering maternal nutrition interventions at scale with equity
4	Service delivery platforms should maximise the opportunities to reach women and families with maternal nutrition interventions	9	Investments are needed from multiple sectors to improve the maternal nutrition
5	Service delivery packages should include context-specific interventions according to the prevalence of malnutrition and the local contexts	10	Regional leadership and platforms on nutrition is needed to support country level actions and facilitate country exchange of knowledge and experience

Policy and programme solutions to maternal malnutrition require a combination of nutrition-specific and nutrition-sensitive solutions that address immediate, underlying and basic causes. In the context of South Asia, which has the second-lowest regional score on the 2017 Global Gender Gap Index, approaches must address women's empowerment and place women at the centre of these solutions.

In 2016 the World Health Organization released its *Recommendations on antenatal care for a positive pregnancy experience for women*, which include eight nutrition-specific interventions. A recent review³ found that almost all countries in South Asia have policies on the two interventions that are relevant in all contexts (counselling on healthy eating and physical activity to prevent excessive weight gain, and iron and folic acid supplementation). However, few countries have adopted the six context-specific nutrition interventions and it appears that some may not have fully considered the conditions under which they apply.

In addition to these policy gaps, a range of barriers at maternal, household and health system-level reduce the likelihood that women receive nutrition-specific interventions during pregnancy^{1,3}. Even long-running interventions reach too few women; for example, less than 40% of pregnant women take iron folic acid supplements for at least 90 days in Afghanistan, India and Pakistan. Many of the maternal and household barriers reflect women's low empowerment, such as low women's education and knowledge, low self-efficacy, and inadequate support from husbands. Health-system barriers vary from one setting to another, but can be overcome with well-designed, com-

munity-based programmes that are based on formative research, reach pregnant women in their homes and communities, engage influential family members, and strengthen the capacities, supervision and motivation of community health workers.

While the health system plays a crucial role in improving women's nutrition, it cannot act alone. Coordinated actions by food, health and social protection systems are needed in South Asia to improve the dietary intake of women by increasing the supply, affordability and desirability of nutritious foods, and enhancing the knowledge and skills of women to prepare them. The health and education systems should work together to reach school-age and adolescent girls with interventions to improve their nutrition literacy and nutrition status. In addition, a positive legal and policy environment to end child marriage, combined with initiatives to keep adolescent girls in school and promote positive societal attitudes towards girls, can help to empower adolescent girls and protect them from early marriage and adolescent pregnancy.

Efforts to improve maternal nutrition have been greatly constrained by the lack of data and information to bring visibility to the issue, build accountability and guide decisions. Most – but not all – health information management systems in the region include an indicator on the coverage of iron and folic acid supplementation, but countries are not tracking other essential interventions, such as nutrition counselling and calcium supplementation. In addition, greater investment in studies, research and evaluation is needed to illuminate the context-specific pathways to improving maternal nutrition.

Many of these issues were raised at the regional conference organised by the South Asian Association for Regional Cooperation (SAARC) and UNICEF Regional Office for South Asia on *Stop Stunting/The Power of Maternal Nutrition* in 2018⁴. This conference brought together government representatives from all eight SAARC member countries, development partners and researchers to discuss the nutritional care of women during pregnancy and postpartum. The conference culminated in a set of 10 key actions to guide country and regional plans to improve maternal nutrition (see Box 1). One of these actions is to find opportunities to exchange knowledge and experience between countries on efforts to improve maternal nutrition; this need catalysed the development of this special, themed issue of *Nutrition Exchange*.

Women, children, families, communities and nations will all benefit if South Asia's women are well-nourished. As stakeholders concerned about the wellbeing of women and prosperity of the region, we must do more to bring maternal nutrition to the forefront of national approaches to disrupt the intergenerational cycle of malnutrition and reach global nutrition targets. With tremendous political momentum on nutrition in the region, we need to grasp this opportunity now and build the evidence and confidence that change is possible. The articles in this issue share the experiences of countries in the region to improve the lives of women and their children through a range of nutrition interventions.

³ UNICEF (2019). *Policy Environment and Programme Action on the Nutritional Care of Pregnant Women During Antenatal Care in South Asia*. UNICEF Regional Office for South Asia: Kathmandu.

⁴ UNICEF & SAARC (2018). *Stop Stunting | Power of Maternal Nutrition. Scaling up the Nutritional Care of Women During Pregnancy. Conference Report*. UNICEF Regional Office for South Asia: Kathmandu. www.unicef.org/rosa/reports/stop-stunting



Training medical students and nursing staff on maternal nutrition service delivery protocols

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Harnessing the potential of India's medical colleges to bring maternal nutrition services to scale

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Background

India has a policy environment that is conducive to maternal nutrition (MN), with clear commitments to improve the nutrition and health status of women and children. However, 38% of India's children under five years of age are stunted, half of women of reproductive age suffer from anaemia, and almost a quarter of women and 45% of adolescent girls are underweight¹. Antenatal care (ANC) services are sub-optimal; for example, 30% of Indian women consume iron and folic acid (IFA) tablets for at least 100 days during pregnancy, while 83% receive two or more tetanus toxoid immunisations during antenatal check-ups², highlighting a missed opportunity to increase IFA coverage.

Antenatal care is provided in various tiers of India's health system, including outreach through village health and nutrition days and by various cadres, including doctors and midwives. Through their academic, research and service-delivery facilities, medical colleges offer an untapped opportunity to build the knowledge and skills of medical practitioners on maternal nutrition. To harness this under-utilised potential, partnerships have been forged between Alive & Thrive (A&T)³ and eight government medical colleges (and attached hospitals) in the states of



India Fact Sheet

Women's nutrition 15-49 years

THINNESS (2016) Women who are thin (BMI < 18.5kg/m²)



OVERWEIGHT OR OBESE (2016)
Women who are overweight or obese (BMI ≥ 25 kg/m²)



ANAEMIA (WRA) (2016) Anaemia among women of reproductive age



130 MATERNAL MORTALITY (2016) per 100,000 live births

25 NEONATAL MORTALITY (2015) per 1,000 live births

¹ National Family Health Survey (NFHS 4) 2015-16; Rapid Survey of Children (RSoc), 2013-14.

² National Family Health Survey (NFHS 4) 2015-16.

³ The Alive & Thrive initiative, managed by FHI 360, is funded by the Bill & Melinda Gates Foundation, Irish Aid, the Tanoto Foundation and UNICEF.

Uttar Pradesh (UP) and Bihar to support the integration and prioritisation of maternal nutrition in the undergraduate curriculum for doctors and in the antenatal service-delivery platform of the medical college hospitals.

The broader aims of the initiative include: integrating maternal nutrition in undergraduate medical teaching (doctors); improving the quality of MN services in the hospitals attached to medical colleges; facilitating an increased role for medical colleges in supporting state and district health systems in capacity building, monitoring and reviewing maternal nutrition programming; and undertaking relevant implementation research to inform policy and programming. The initiative is unique in maximising the expertise and experience of medical colleges by prioritising undergraduate teaching and influencing the curriculum to have a better integration of maternal nutrition, thus creating a well-trained future generation of medical practitioners for both the public and private sectors with a basic grounding in MN.

Assessing medical training in maternal nutrition

In 2017 A&T carried out a baseline survey (n=1,491) across the eight partner medical colleges (from a sample of medical college faculty staff, undergraduate and postgraduate medical students, nursing staff, beneficiaries, etc.) to assess three key areas: the degree to which maternal nutrition is currently covered in the undergraduate medical curriculum of medical colleges, including the attached nursing colleges; how MN interventions are delivered in routine service provision by the departments of obstetrics and gynaecology (OBGY) across the eight medical college hospitals (four in UP and four in Bihar); and how medical colleges support state and district health systems in capacity building and the monitoring of maternal nutrition programmes.

Sixty per cent of the faculty staff across the eight colleges reported that MN topics were not adequately covered in the pre-service curriculum of medical colleges, although around 40% of the faculty had delivered lectures on maternal nutrition for undergraduate

medical students. The existing curriculum does have an MN component, but content needed to be updated and it was essential that teaching became more focused on the area. Less than one third of undergraduate students knew about maternal dietary diversity and less than one in five students could state the correct dose of iron supplementation during pregnancy.

Just 53% of faculty staff had provided nutritional advice to pregnant women attending antenatal clinics at the medical colleges. Availability and awareness of government-standard MN intervention protocols remained low at these clinics, resulting in sub-optimal service delivery, including a low coverage of iron (46%) and calcium (37%) supplementation. About one third of nursing staff reported availability of standard protocol for nutrition counselling of pregnant women during ANC, with a similarly low proportion (36%) aware of written guidelines on discharge counselling on maternal nutrition. Only one in five pregnant women were counselled on iron supplementation and diet. Counselling on nutrition in the postpartum period was provided by two out of five postgraduate students and one in five nursing staff.

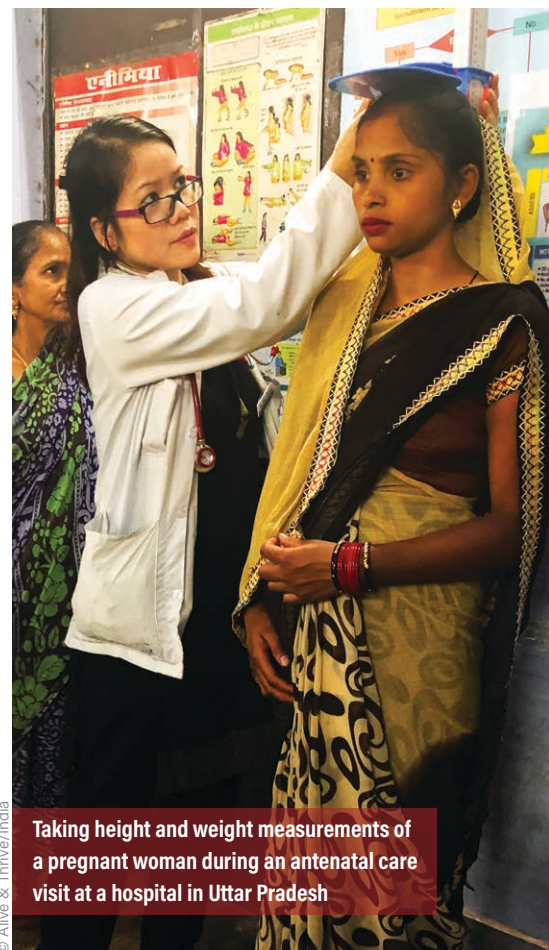
Roadmap to strengthen curriculum and services

To address the gaps identified in the survey baseline, a roadmap and implementation plan were developed to strengthen MN integration in the undergraduate curriculum and service delivery in the eight medical colleges and hospitals in the two states, in consultation with the partner colleges, the Directorate of Medical Education and the State Health Missions⁴. A&T is currently providing technical support to integrate maternal nutrition in undergraduate medical curricula, updating service delivery protocols for the medical college hospitals, and increasing the technical support role of the selected institutions to state and district health systems in UP and Bihar.

⁴ State Health Missions have been set up in all states within the Directorate of Health for the effective implementation of the Government of India's National Health Mission, which includes a component on reproductive maternal-neonatal-child and adolescent health.

A mid-line internal status review (carried out by A&T) reported a number of achievements:

- Development of an maternal nutrition-focused curriculum and updated standard protocols (in line with national and WHO guidelines) for MN service delivery in the two states by a technical expert committee, comprising senior faculty from the departments of OBGY and preventive and social medicine (PSM), national experts and government officials. The modified integrated curriculum is aligned with the current teaching plans of OBGY and PSM, as approved by the Medical Council of India;
- Addition of new topics in the medical curriculum, including:
 - tools/techniques for anthropometric measures and diet assessment during ANC;
 - prevention of anaemia in pregnancy;
 - maternal diet and micronutrient supplement counselling in ANC services;



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Role play to improve service delivery for nutritional care of pregnant women during training of healthcare staff and medical students

© Alive & Thrive, India

- management of nutrition requirements for medical conditions such as gestational diabetes mellitus and hypertensive disorders; and
- Development of updated protocols integrating evidence-based MN interventions, including counselling, as recommended by WHO and national guidelines during ANC visits (including first and subsequent ANC visits). These are now available as a handbook and posters for display at critical service-delivery points. The protocols focus on appropriate anthropometric measurements to assess nutritional status, counselling on healthy eating (dietary adequacy and diversity), micronutrient requirements (iron and calcium supplementation), and gestational weight-gain monitoring, along with assessment of nutrition-related risks and appropriate management of nutrition for pregnant women, including a focus on the elevated nutritional and obstetric risk of adolescent pregnancy.

Rolling out the new curriculum and service protocols

Interdepartmental coordination committees with OBGY, paediatrics and PSM departments have been constituted in the colleges under the chairmanship of the principals to undertake the pilot rollout of the integrated curriculum and ensure that the MN service-delivery protocol is implemented at the medical college hospitals. Approximately

900 faculty and hospital staff are being trained in both states under the supportive leadership of the State directorate of Medical Education, State Health Mission and the Ministry of Health & Family Welfare (MoHFW). An internal supervision and monitoring framework has also been developed.

A&T has leveraged its partnerships with professional medical associations, such as the Indian Association of Preventive and Social Medicine (IAPSM), the Indian Academy of Paediatrics (IAP) and its IYCF Chapter, and the Federation of Obstetricians & Gynaecologists in India (FOGSI), to enhance links between professional medical associations and the medical colleges to undertake a number of activities. These include ongoing upskilling and knowledge enhancement of medical college faculty and health providers (doctors and nursing staff, frontline workers) on MN; supportive supervision and monitoring of national programmes; and focused research/evidence generation to influence policy and programme decisions.

Overcoming barriers

The initiative has benefitted from an open dialogue and sharing of global scientific evidence with the state's medical education directorate, heads of medical colleges and the faculty on the critical importance of maternal nutrition in improving maternal and newborn health and wellbeing. This helped to overcome initial resistance to prioritising maternal nutrition (especially preventive and promotive components)

in undergraduate teaching and clinical antenatal practice. The approach of prioritising and integrating MN content into existing approved curriculum format allayed concerns related to treating nutrition as a separate area for teaching and helped to ease the adoption process. Ownership was generated by the active engagement of the state's Directorate of Medical Education, heads of medical colleges and the faculty from inception in drafting the integrated curriculum and development of protocols, and proactive leadership from these bodies was also critical.

Next steps

A&T is advocating with the Directorate of Medical Education and the State Health Mission for scaling up across all government medical colleges in the two states, UP and Bihar, based on the learning emerging from the current work. Plans are to organise progress-sharing sessions involving all key stakeholders, one-to-one discussions and sensitisation of other government medical colleges. Opportunities are also being explored to expand the model across more colleges in other states through partnerships with other development partners.

At the national level, A&T is undertaking advocacy with the MoHFW, Government of India, representatives from key medical and public health institutes, professional medical associations, UN agencies, development partners and technical support organisations on a possible pathway for scale-up across all medical colleges. A pool of experts from academia is also being created as champions to sustain medical college leadership in integrating maternal nutrition.

Moreover, MoHFW and State Health Missions in UP and Bihar have, in principle, agreed to the roadmap for engaging medical college faculty to support state and district health systems through capacity building, supportive supervision and monitoring on MN. Recent activities include the engagement of two colleges in supportive supervision and mentoring of maternal nutrition programmes through health and nutrition service providers in selected high-burden districts.



A nutrition counsellor weighs a mother and child at a health clinic in Zabul province

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Afghanistan Fact Sheet

Women's nutrition 15-49 years

THINNESS (2013) Women who are thin (BMI < 18.5kg/m²)

9.2%



OVERWEIGHT OR OBESE (2013)

Women who are overweight or obese (BMI ≥ 25 kg/m²)

29%



ANAEMIA (WRA) (2013)

Anaemia among women of reproductive age

40.4%



396

MATERNAL MORTALITY (2018)
per 100,000 live births

23

NEONATAL MORTALITY (2018)
per 1,000 live births

Addressing maternal nutrition service delivery gaps in Afghanistan: Policy and programming opportunities

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Background

Afghanistan is entering its fourth decade of unrest and conflict; 40 years that have left an indelible impact on the country's women and children. The year 2018 was especially challenging, with a spike in violence, unprecedented levels of drought and food insecurity, increased poverty and a higher number of security incidents compared to past years. Strategic roads that link the different regions and provinces have become highly insecure, adding complexity to programme implementation and further hampering the access of women and children to basic health and social services. Over half of the country's population (54.5%) live below the poverty line¹.

Although there has been much progress in the Afghan health system in the

last 15 years, the country continues to have a fragile and challenging health-care environment and still has among the highest maternal and newborn mortality rates globally. Afghanistan also has among the worst coverage of maternal and child health (MCH) services in the world. Key indicators of service coverage, such as receipt of four or more visits of antenatal care (20.9%), women who deliver in a health facility (56.3%), and those who receive care from a skilled birth attendant (58.8%), remain low². Only 37.4% of women receive any post-natal care from a skilled health provider, with major disparities and much poorer service provision in conflict-affected and remote areas². Other important barriers are poverty and women's lack of decision-making power in the family.

Building an enabling environment at the policy level

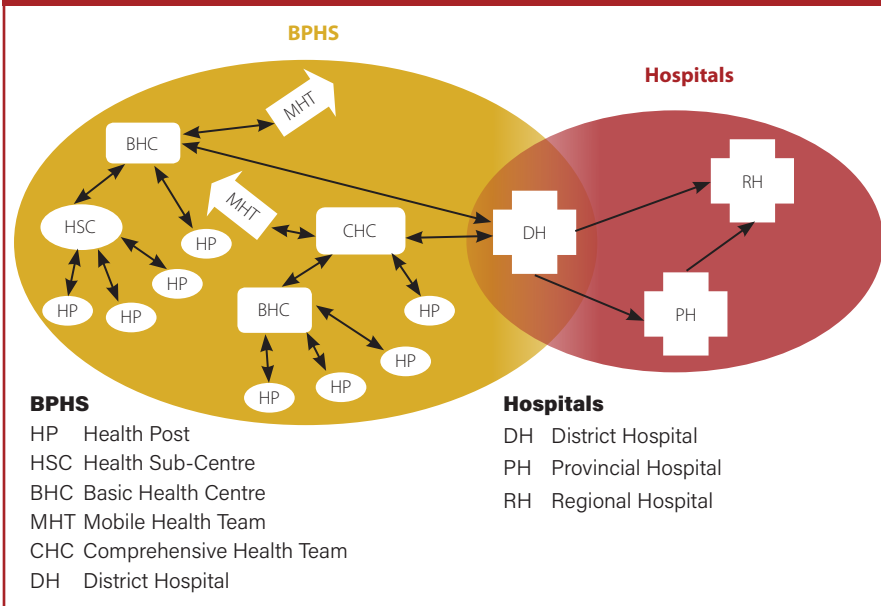
Afghanistan joined the SUN Movement in 2018, raising the nutrition agenda to a higher political level. At the same time, it established a multisector nutrition platform, the Afghanistan Food Security and Nutrition Agenda (AFSEN-A), in which 14 ministries, UN agencies and partner organisations discuss joint work to improve the nutrition situation in the country.

Several recent policy decisions show an increasing national commitment to maternal nutrition. Improving maternal nutrition is a core component of the revised *National Nutrition Strategy*

¹ Afghanistan Living Conditions Survey (2016/17).

² Afghanistan Health Survey (2018).

FIGURE 1 Health system links in Afghanistan



(2019–2023), and the *National Nutrition Promotion Strategic Plan (2019–2023)*; still being finalised) includes specific activities to address current gaps in the Ministry of Public Health’s (MoPH) nutrition promotion; for example, adolescent girls (aged 10–19 years) taking iron and folic acid (IFA) weekly supplementation, and pregnant women taking IFA supplements during pregnancy are key behaviours in the strategy.

Maternal nutrition is included in the revised *Infant and Young Child Feeding Strategy*, now called the *Maternal, Infant, and Young Child Nutrition (MIYCN) Strategy*. Moreover, weekly IFA supplementation for adolescent girls has been integrated into the *National School Health Policy*, ensuring the continuum between adolescent and maternal nutrition. Weekly IFA supplementation is currently available only for school-going adolescent girls, but the 2019 plan includes expansion to out-of-school adolescent girls.

Packaging health services

Afghanistan has faced significant challenges in rebuilding its health system in a fragile-state setting since the Government and international donors and partners began the work in 2001. The MoPH developed the Basic Package of Health Services (BPHS) to delineate the services that should be provided at each level of primary healthcare facility, which includes district hospitals, comprehensive health centres, mo-

bile health teams, basic health centres, health sub-centres and health posts (the latter being the lowest level of service delivery, where volunteer Community Health Workers (CHW) make home visits). The Essential Package of Hospital Services (EPHS) was endorsed in 2005 to provide tertiary-level health services for all Afghan citizens.

BPHS and EPHS nutrition interventions for pregnant postpartum women include: promotion of iodised salt and a balanced diet of micronutrient-rich foods through health education sessions; one-to-one nutrition counselling and food demonstrations; and IFA supplementation. However, to date maternal nutrition interventions have not been prioritised by the non-governmental organisations that are contracted to implement the BPHS and EPHS, and there are no specific indicators currently in place to monitor intervention coverage. For example, antenatal care (ANC) visits are used as a proxy indicator for IFA supplementation, despite evidence that IFA is not always available in health facilities and distribution is sometimes below the required recommendations.

Improving the continuum of maternal nutrition care in service delivery

One of the main gaps in the provision of health and nutrition services in Afghanistan was the provision of

one-to-one counselling based on actual client needs. This was not always possible due to the high volume of patients, time pressures for midwives and nurses, and the lack of counselling skills of existing health staff. To address this need, in 2016 the MoPH approved the recruitment of paid female nutrition counsellors for all primary healthcare facilities in 18 out of 34 provinces.

Around 1,500 of this nutrition-specific cadre were recruited and received a 28-day comprehensive nutrition training package, including maternal nutrition. Their services in the 18 provinces were assessed before the initiative was expanded to the entire country. The results of this assessment confirmed that clients regularly gave positive feedback on information and advice they received from nutrition counsellors, and that the counsellors play a positive role in increasing the awareness of nutrition practices.

Following this assessment, nutrition counsellors are now being recruited for the remaining 16 provinces. Based on recommendations, a refresher training is planned for the cadre in the initial 18 provinces. In addition, UNICEF and other development partners have supported the recruitment of one mentor per province to provide on-the-job support to nutrition counsellors as part of their one-year, capacity-building plan.

One-to-one nutrition counselling

The main role of nutrition counsellors is providing individual counselling to women who are pregnant, exclusively breastfeeding and/or nursing and feeding young children. Counselling includes promoting the consumption of micronutrient-rich foods. Nutrition counsellors coordinate with midwives, nurses and vaccinators to ensure there are no missed opportunities to provide nutrition information and advice to women who visit the facility for different reasons. The nutrition counsellors also provide outreach work and, where possible, attend CHW meetings and meet with *health shuras*³ to share information on nutrition.

The nutrition counsellors will be supported through capacity-building

³ Health shuras are community volunteers (usually elders) who meet to discuss health-related issues of community members.



Counselling a mother on exclusive breastfeeding at a basic health centre in Jalalabad

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programmes to improve delivery of activities at community level. It is hoped this will assist in building awareness on nutrition, including the importance of maternal nutrition; not only for the mothers themselves, but also for the wellbeing of their children. The counsellors are based in health facilities and link with communities through community health supervisors, whose key role is to supervise and mentor CHWs.

Strengthening service-provision monitoring and tracking

Nutrition counsellors are one of the contact points for distributing the *Maternal and Child Health Handbook* to women. The handbook is the country's first-ever home-based maternal, child, health and nutrition record. It combines birth registration, pregnancy monitoring, birth monitoring, vaccination, growth monitoring and childhood-illness monitoring. The handbook also includes messages on maternal nutrition for easy reference for women and families to read and put into practice at home. It has been introduced in three provinces in 2019 and introduction will expand in phases to all provinces by the end of 2021.

The current policy is for pregnant women to attend four ANC visits; however, there are plans to increase this to eight ANC visits, as recommended by WHO, although this may be difficult to achieve due to access issues to health facilities. One way to overcome this constraint is to use the monthly growth monitoring and promotion and food demonstration sessions of the Community Based Nutrition Package

(CBNP)⁴ to provide a regular contact point between pregnant women and CHWs at the community level. CHWs are the volunteer health and nutrition service providers who are closest to communities. However, many partners are working with the same CHWs through convergent and coordinated approaches, which can sometimes overburden the workload of these volunteers.

Challenges to maternal nutrition programming

Access is a particular challenge in the insecure and fragile context of Afghanistan, since government staff and development partners are unable to travel to some parts of the country. Such security limitations make monitoring of maternal nutrition activities very difficult and affect the quality of the services provided; for example, they mean restricted travel for the female nutrition counsellor mentors recruited to provide support to nutrition counsellors.

Administrative data on the coverage of maternal nutrition interventions is lacking as there is currently no indicator in the health management information system. It is important to address this gap to elevate the importance of and build greater accountability for the delivery of maternal nutrition interventions in the health system. In addition, impact indicators such as anaemia prevalence are not regularly integrated into national health surveys. Other challenges to improving maternal nutrition concern irregular supplies of IFA in health facilities, which affects the coverage and continuity of supplement-

tation. The promotion of iodised salt also remains an issue due to several factors, including the higher cost of iodised salt compared to regular salt.

Opportunities for scaling up maternal nutrition services

The Government and its partners have identified several opportunities to integrate all maternal and child nutrition-related activities in a unified package, so that mothers and children receive the complete package of services at each contact point. After finalisation of the MIYCN strategy and operational guidance, comprehensive training will be provided to all relevant health staff on all components of IYCF and caring, with the addition of maternal nutrition. The nutrition counsellors have already been trained and deployed in 18 provinces, with recruitment in process for the remaining provinces.

Linkage and referral between health facilities and communities through the CBNP for increasing antenatal coverage at community level are being considered, including expanding four ANC visits to eight ANC key contact points. Finally, national information systems are under review, which will be an opportunity to integrate indicators to monitor the coverage of maternal nutrition interventions.

⁴ The CBNP includes regular home visits, aside from the monthly community gatherings, for those children who are in the yellow bar (at risk category) of the growth monitoring and promotion card. During these home visits, the families will be followed up, consulted and encouraged to practice what they have learned during the monthly community gatherings to help their children gain weight.



Bhutan Fact Sheet

Women's nutrition 15-49 years

THINNESS (2014) Women who are thin (BMI < 18.5kg/m²)

3.6%



OVERWEIGHT OR OBESE (2014)

Women who are overweight or obese (BMI ≥ 25 kg/m²)

37.4%



ANAEMIA (WRA) (2015) Anaemia among women of reproductive age

34.9%



86 **MATERNAL MORTALITY** (2012)
per 100,000 live births

17 **NEONATAL MORTALITY** (2018)
per 1,000 live births



© Nutrition Programme/2018/

Creating an enabling environment for delivering maternal nutrition interventions in Bhutan

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Background

The Kingdom of Bhutan is located in the eastern Himalayas, landlocked between the Tibet Autonomous Region of China in the north and India on the other three sides. The latest census shows the population of Bhutan to be a little over 700,000 people¹. Average life expectancy in the country has risen from 37 years in the 1960s to over 70 years in 2017¹. Much of the improvement in the health status of the Bhutanese people can be attributed to the inception of modern health care systems in the early 1960s, when Bhutan introduced universal access to healthcare².

This article explores the factors in Bhutan, including access to healthcare, policy shifts and optimising service delivery, that have created an environment that is conducive to delivering maternal nutrition interventions.

Policies and strategies relating to the nutrition care of women

Universal healthcare, as mandated by the constitution, covers all health services (curative, promotive, preventive and rehabilitative) and is delivered at all levels (primary, secondary and tertiary). This means that there are no direct or indirect cost implications (financial barriers) for women in accessing pregnancy, delivery and postnatal care services. Antenatal services are provided 'on the doorstep' and a referral system (including airlift) is available for all women for institutional deliveries.

The most important development plan, the Government's 12th five-year plan (2019–2023), is aligned with World Health Assembly global targets (2025) on maternal and child nutrition.

However, the most recent strategy document the *National Reproductive*

Health Strategy of Bhutan (2018–2023) highlights the need to improve accessibility of maternal nutrition and health services, with a focus on quality and reach of services particularly in hard-to-reach areas and for nomadic populations, with the latter comprising 15% of the population³.

Delivering maternal nutrition services

The creation of a single service delivery platform for maternal and child health (MCH) services, designed by and sitting under the Ministry of Health (MoH), enables uniformity in the service package being delivered across Bhutan. Furthermore, maternal nutrition services are well integrated into the overall MCH package, so that mothers automatically receive these when seeking other maternal and child health services. All pregnant women are registered during the first trimester in the MCH clinic and receive a unique identification number to keep track

¹ National Statistics Bureau of Bhutan (2017); Population and Housing Census of Bhutan (2018).

² Sharma J, Zangpo K, Grundy J. *Measuring universal health coverage: a three-dimensional composite approach from Bhutan*. WHO South-East Asia Journal of Public Health. 2014;3(3):226–37.

³ www.cia.gov/library/publications/the-world-factbook/geos/bt.html

of the total number of pregnant women in a catchment area. More importantly, this enables health facilities to follow up with mothers if they miss scheduled services, which has proven useful in supporting mothers to complete the recommended number of ANC and PNC visits.

Maternal nutrition packages

The ANC service package includes supplementation for iron, folic acid and calcium; screening and management of pre-existing health conditions such as maternal anaemia; monitoring the progression of the pregnancy, including foetal growth; health promotion (maternal nutrition counselling); and birth preparation. These services are delivered over the course of the recommended eight or more visits, a policy that was adopted in 2009 (long before the WHO recommendations in 2017). Currently, ANC coverage in pregnant women has reached 91% and PNC coverage (complete) is 87%⁴.

During the four mandatory postnatal visits, mothers are monitored for complications and supplemented with vitamin A, iron and folic acid. Counselling on maternal, infant and young child nutrition is also provided, with an emphasis on exclusive breastfeeding. Mothers are screened for anaemia and the growth of the infant is regularly monitored. In Bhutan, the prevalence of anaemia is lower in pregnant women (27.3%) than women of reproductive age and there is no severe anaemia among pregnant women, which has been attributed to high coverage of prenatal iron and folic acid (IFA) supplementation interventions⁵. However, the prevalence of anaemia among women of reproductive age (34.9%) still constitutes a public health problem⁵.

Capacity-development efforts

Health workers working in MCH services complete a three-year health assistant training, which includes midwifery, usually at the country's medical university. Nutrition is one of the main pre-service components of this training course. Health workers also undergo continuous in-service training to ensure that they remain up-to-date with the latest developments in maternal nutrition and acquire mandatory continuing medical

education (CME) credit points for periodically updating their practice license.

Two to three health assistants are posted at each basic health unit (BHU) and are the primary health providers responsible for antenatal, postnatal and delivery care for pregnant women. They also conduct monthly outreach clinics. This cadre receive periodic supervisory visits from district health officials and national programme officers, but there is no specific supervisory cadre available for health assistants.

Inter-sector coordination

Traditionally in Bhutan, maternal nutrition has been viewed as an intervention that concerns only the MoH. At the service delivery level, however, the district Multi-Sectoral Task Force (MSTF) and Community Based Support System (CBSS), comprising relevant agencies in the districts and communities, have been coordinating and delivering multiple interventions, including advocacy for maternal nutrition interventions, for many years. It is therefore not uncommon to see non-health officials promoting ANC and PNC care at the sub-national level.

The importance of a cross-sector approach in improving nutrition is increasingly recognised at the national and policy level; as seen, for example, in the recent combining of nutrition targets in the agriculture sector's five-year plan (2019–2023). A formal inter-sector coordinating mechanism is being developed to implement the updated *Food and Nutrition Security Strategy and Action Plans*.

Data for decision-making

Data for decision-making on maternal nutrition interventions are generated through the health system's routine data and information system and through routine periodic surveys. Maternal nutrition indicators, including IFA supplementation (antenatal and postnatal); calcium supplementation (antenatal); postnatal vitamin A supplementation; nutrition counselling; and weight monitoring during pregnancy, are recorded on a web-based District Health Information System (DHIS2). This enables each district health office to generate data that can be aggregated at the national level and used to track coverage; the MoH publishes an *Annual*

Health Bulletin based on this information.

The recent introduction of an online MCH tracking system will also enable decision-makers to access real-time data that can be used for improving MCH programming. The system has been piloted in over 50 health facilities and is due to be scaled up to all health facilities in Bhutan by 2020.

Remaining challenges

The integrated approach in delivering maternal nutrition as part of the MCH service packages has had immense benefits, especially in terms of resource-sharing and programme coverage. However, there are remaining challenges to be addressed, since just two out of five pregnant women complete the recommended eight ANC visits and the odds of a child being malnourished in Bhutan rises inversely with the number of ANC visits⁶. Efforts are underway, including advocacy campaigns involving the community to improve the coverage of MN services. Proposals for utilising the conditional cash transfer scheme are being considered, through increased coverage of ANC, PNC and infant and young child feeding counselling.

Next steps

The upcoming *Food and Nutrition Security Strategy (2019–2023)* will give increased focus to the multi-sector approach to improve maternal nutrition interventions by providing a platform for greater involvement by other sectors. In addition, ongoing efforts to develop a preconception care package for women that includes all the vital services, such as health screening, supplementation and counselling, aim to improve maternal nutrition and birth preparation. Government workers are now entitled to extended maternity benefits (six months paid maternity leave with flexi-time working thereafter). The enabling environment is mostly in place: the next step for Bhutan is to continue improving the quality and coverage of existing maternal nutrition interventions.

⁴ National Statistics Bureau of Bhutan. *Bhutan Living Standards Survey Report (BLSS 2017)*. 2017.

⁵ Nutrition Programme. *National Nutrition Survey (NNS)*. Ministry Of Health; 2015.

⁶ Aguayo VM, Badgaiyan N, Dzied L. *Determinants of child wasting in Bhutan. Insight from nationally representative data*. *Public Health Nutrition*. 2016;20(2):315–24.



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Frontline workers have helped to increase uptake of iron and folic acid supplementation in Nepal

Nepal's success story: What helped to improve maternal anaemia?

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Introduction

The nutritional wellbeing of women in Nepal remains a challenge. Undernutrition (body mass index $<18.5 \text{ kg/m}^2$) among women of reproductive age (15–49 years) is declining and currently affects 17%, while prevalence of overweight among women in this age group is steadily increasing and is now at 22%¹. Prevalence of anaemia is of moderate public health significance; 20% of non-pregnant women in this age group are anaemic. However, there has been a significant reduction in prevalence of anaemia among pregnant women over the past two decades. In 1998 it was alarmingly high with 75% of pregnant women with anaemia; by 2016 this had decreased to 46% prevalence of anaemia among this same group¹.

This article explores Nepal's success in achieving a significant reduction in maternal anaemia and in the increased uptake of iron and folic acid (IFA) supplementation by pregnant women between 2002 and 2016. A number of factors played a role in this story, including government commitment to address the problem, an increase in health facilities and antenatal care (ANC) coverage, mobilisation of frontline workers and strong, decentralised governance structures.

Maternal anaemia in Nepal

The prevalence of anaemia in women of reproductive age varies by regions in Nepal. It is highest in



Nepal Fact Sheet

Women's nutrition 15-49 years

THINNESS (2016) Women who are thin (BMI $<18.5 \text{ kg/m}^2$)



OVERWEIGHT OR OBESE (2016)
Women who are overweight or obese (BMI $\geq 25 \text{ kg/m}^2$)



ANAEMIA (WRA) (2016) Anaemia among women of reproductive age



239 MATERNAL MORTALITY (2016) per 100,000 live births

21.1 NEONATAL MORTALITY (2016) per 1,000 live births

¹ Nepal Demographic Health Survey (NDHS) (2016).

the low-lying area in the south of the country known as the Terai (58%) and lowest in Gandaki Pradesh province (28%), which has mountainous and hilly areas. Pregnant women who are not educated are almost twice as likely to be anaemic (40%) compared to those who are educated (22%), and only 49% of women are currently meeting the recommended minimum dietary diversity².

Distribution of IFA tablets among pregnant and postpartum women was initiated in the 1980s to improve micronutrient status and reduce the prevalence of anaemia; however, by 1997, only 10% of pregnant women were found to be consuming IFA tablets and just 2% of women consumed at least 90 tablets (the recommended quantity)³. Research carried out by the Ministry of Health and Population (MoHP), Micronutrient Initiative (MI; now Nutrition International (NI)) and UNICEF showed that lack of awareness and limited access to IFA tablets were key barriers to improving coverage and utilisation⁴.

A national strategy for anaemia control

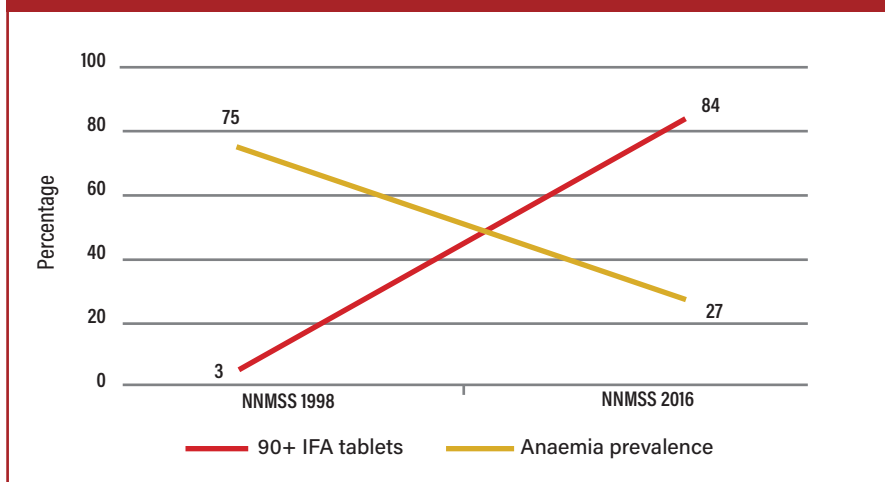
In 2002 the Government of Nepal launched a national strategy for controlling anaemia among women and children. This included increasing the coverage of and adherence to IFA supplementation among pregnant women; promoting dietary modification, with an emphasis on foods containing bio-available iron; and food fortification initiatives to increase dietary iron intake. The main delivery platforms for IFA supplementation in the strategy were: health facility antenatal and postnatal clinics; outreach clinics (maternal and child health workers and village health workers); and female community health volunteers (FCHVs).

By 2016 there had been a sharp increase in IFA tablet coverage (at least 90 tablets consumed), with 90% of women aged 15–49 years receiving some IFA tablets and a decrease in anaemia among pregnant women².

Increase in health facilities

Over the last decade the MoHP has focused on upgrading health facilities and ensuring that quality health services are provided to mothers and children at

FIGURE 1 Relationship between 90+ IFA tablet intake and reduction in anaemia prevalence among pregnant women in Nepal



the community level. This has resulted in increased service utilisation. For example, antenatal care (ANC) coverage more than doubled between 2001 (40%) and 2016 (84%)¹. The increase in uptake of IFA between 1990–2016 closely correlates with a dramatic change in the proportion of women receiving at least four ANC visits (an increase from 14.3% in 2001 to 69% in 2016)¹, suggesting that access to ANC platforms is a driving factor in uptake of IFA.

The role of female community health volunteers (FCHVs)

FCHVs are the building block of Nepal's public health system, bridging the gap between communities and families, and the formal health system. By mobilising this near 52,000-strong cadre recruited from the communities in which they work, the government was able to bring the supplements closer to the household level. As part of the intensification of the IFA tablet distribution programme, FCHVs received specific training on IFA distribution, as well as on counselling to increase adherence to IFA and the importance of dietary diversity and foods rich in iron. FCHVs also play a key role in promoting utilisation of available maternal and child health services and raise awareness on IFA and other health and nutrition programmes through monthly mothers' groups and one-to-one counselling during household visits. The distribution of IFA is reinforced by other frontline workers

through primary health centres and outreach and ANC clinics.

Government ownership

Nepal has been through numerous programme phases for anaemia control. In 2005–2006 the first five-year plan of action was prepared and gradually scaled up to all 75 districts by 2012, with training and capacity-building support from donor partners such as Micronutrient Initiative (65 districts), UNICEF (seven districts) and others (three districts).

One of the main contributions to the programme's success is the high ownership by the government. The MoHP has allocated budget for the procurement of IFA as an essential medical supply since 2004/2005, with 130 million tablets being purchased in 2016/2017. This commitment has helped to prevent supply gaps and enabled the delivery of IFA to FCHV level as an integral part of the public health system. After the recent devolution and decentralisation of procurement functions, any shortfall in supplies has also been effectively managed at the local level.

In 2016 the MoHP began weekly IFA supplementation for adolescent girls (10–19 years of age), using existing school health and nutrition platforms. School teachers and students are mobilised to detect pregnant women in the community and to encourage them to visit

² Nepal National Micronutrient Survey (NNMSS) (2016).

³ NNMSS (1998).

⁴ Malla (2001) Anaemia in Nepal Report. Micronutrient Initiative

FCHV's house to collect IFA tablets. The FCHV network is also being used to reach adolescent girls who are out of school, identifying them through child clubs and peers. The aim is to reach 1.38 million adolescent girls by 2021: nearly 1.2 million in this group have been reached by 2018⁵.

Nutrition-friendly local government initiative

Strong local governance and social accountability at the village development committee level⁶, through which the FCHVs provide maternal and child care services, are other factors that supported the IFA intensification programme between 2002–2016.

Following Nepal's decentralisation in 2017, local governments of 308 rural and urban municipalities signed a declaration to eliminate malnutrition within the next five years and develop their local government as 'nutrition friendly', with effective implementation of the national multi-sector nutrition reduction plan. Many local governments promote four or more antenatal checkups during pregnancy and adherence to the consumption of at least 180 IFA tablets⁷ through various incentives, such as provision of eggs and iodised salt packs. With support from the Ministry of Federal Affairs and General Administration, there are plans to develop indicators for nutrition-friendly local governments, including coverage of IFA and dietary diversity.

Challenges with adherence and coverage

The percentage of pregnant women who consume at least 180 IFA tablets varies by age and geography. Adherence during pregnancy is lowest among the age group 40–49 (26%) compared to women aged 20–29 years (44%); in the Terai region (37%) compared to the mountains (49%); among women who are not educated (28%) compared to women with secondary education or more (59%); and in rural areas (38%) compared to urban areas (44%)¹.

Although there was a significant decline in anaemia between the late 1990s and 2006, anaemia among pregnant women increased to 48% in 2011 and was reported at 46% in 2016. The prevalence of anaemia among breastfeeding women has also increased, from 40% in 2006 to 46% in 2016. Next steps are to better understand the reasons for the gaps in coverage and compliance in different target groups, ecologies and provinces. Further analysis of the NNMSS 2016 is underway to better understand the factors contributing to anaemia among women in Nepal.

Lessons learned and next steps

Although country experiences need to be contextualised, there are a number of factors that contribute to the increased coverage of IFA supplementation in Nepal that could be applied elsewhere.

These include: bringing maternal nutrition services closer to the community via community-based health worker networks, underpinned by strong social mobilisation, integration and reinforcement through all possible platforms; including IFA in the essential nutrition supplies of the government and ensuring uninterrupted supplies; reporting using the existing sector management information system; strong monitoring and periodic assessments to review the situation; and strong support and collaboration from development partners.

However, it is likely that a combination of strategies is needed to further reduce anaemia among women in Nepal. The MoHP plans to include other components in its updated national nutrition strategy, such as improving the coverage of and adherence to IFA supplements, particularly in low coverage and compliance areas and target groups; improving iron fortification in line with international standards, as well as improving access to calorie-adequate, diverse and nutrient-rich diets; infection control programmes with continued deworming; and improving household and environment sanitation.

⁵ HMIS target, MoHP 2018/2019

⁶ Since 2017 VDCs have transitioned to *gaupalikas* (rural municipalities) under the new federal local governance structure.

⁷ 180 tablets is the recommended dose during pregnancy (from Week 16 until delivery).



Pregnant and lactating women are given incentives to attend antenatal clinics



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Delivering care to address a double burden of maternal malnutrition in Sri Lanka

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Introduction

Sri Lanka is an island in the Indian Ocean, with a population of 21.2 million and a birth rate of 16.9 per 1,000 population¹. The country has made some impressive gains in improving maternal health, including reductions in maternal mortality. However, the double burden of malnutrition among women of reproductive age and maternal anaemia remain public health concerns, adding complexity to the nutrition challenges in the country.

Sri Lanka's healthcare system is increasingly under pressure from the high burden of diet-related non-communicable diseases (NCDs) among the general population and the Government is currently undertaking primary healthcare reforms in response. This article assesses how the country's service delivery platforms and packages are adapting to the double burden among pregnant women.

Shift from undernutrition to overweight/obesity

Sri Lanka faces a rising double burden of maternal malnutrition. Prevalence of low body-mass index (BMI <18.5kg/m²) among pregnant women in their first trimester has decreased from 23.8% in 2012 to 18.8% in 2016². In contrast, there has been a marked increase in overweight (BMI >=25 kg/m²) from 16.2% to 23.7% during the same period (see Figure).



Sri Lanka Fact Sheet

Women's nutrition 15-49 years

THINNESS (2016) Women who are thin (BMI < 18.5kg/m²)



OVERWEIGHT OR OBESE (2016)
Women who are overweight or obese (BMI ≥ 25 kg/m²)



ANAEMIA (WRA) Anaemia among women of reproductive age

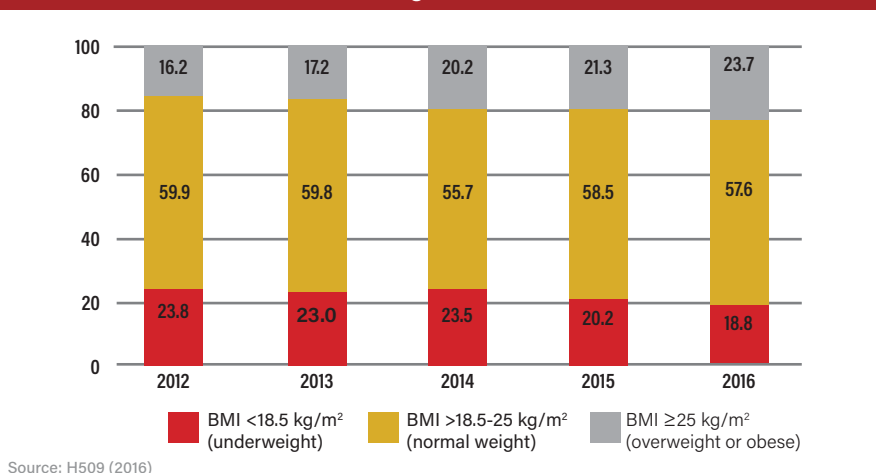


39 **MATERNAL MORTALITY** (2017) **6.3** **NEONATAL MORTALITY** (2017)
per 100,000 live births per 1,000 live births

¹ Sri Lanka Census (2016).

² Sri Lanka Field Handbook (2016).

Figure 1 Percentage distribution of pregnant mothers with BMI status at first booking visit (before 12 weeks) (2012-2016)



The prevalence of underweight is highest in younger women and declines with age (22.9% in women aged 15-20 years and 6.2% in women aged 40-49 years); whereas overweight increases with age (20.9% in women aged 15-20 years and 52% in women aged 40-49 years). Women living in the estate sector³ are more likely to be underweight (22%) compared to those living in urban (5.6%) and rural (9.1%) areas. Those living in urban areas are more likely to be overweight (55.8%), followed by rural areas (44.2%) and estate sector (23.4%)⁴.

Policies and programmes

Sri Lanka has a strong policy framework for maternal nutrition, set out most recently in the *National Strategic Plan on Maternal and Newborn Health (2017-2025)*. In the last 10 years, overweight and obesity has emerged as an issue demanding greater attention. This is reflected to some degree in the plan's targets for increasing the proportion of pregnant women screened for hyperglycaemia by 2025, and activities to implement appropriate behaviour change communication and nutrition targeting at all stages of the life cycle.

The maternal nutrition programme response in Sri Lanka is primarily from the health sector through a package of nutrition-specific interventions that are delivered via antenatal care (ANC) and postnatal care (PNC) platforms. The Ministry of Health also manages the Thripasha food supplementation programme (see below). However, the social protection scheme which provides cash allowances to pregnant and lactating women is a joint programme between the Ministry of Social Welfare (the implementing agency) with Health Ministry support to identify beneficiaries.

High coverage of maternal care package

Sri Lanka has achieved a high population coverage of its package of evidence-based interventions offered to all pregnant women, starting in early pregnancy. Public health midwives are an essential part of the health unit network, visiting pregnant women at home and registering them for ANC, thereby

³ The estate sector is a third sub-division of population in Sri Lanka and is predominantly made up of Tamil workers who work in tea plantations and are among the most disadvantaged groups, with average life expectancy below the national average and an infant mortality rate higher than the national average.

⁴ Sri Lanka Demographic and Health Survey (DHS) (2016).



providing a critical link to the health system. Two thirds of pregnant mothers are registered for ANC before eight weeks of pregnancy and more than 95% are registered before 12 weeks⁴. In 2018 the average number of field clinic visits was 6.5 per pregnant woman⁵. The early gestational age at the first ANC registration, combined with the high number of ANC visits, are two reasons why coverage of maternal nutrition interventions is high in the country.

The maternal care package includes anthropometric assessment at the first visit through measuring height, weight and calculating BMI, as well as monitoring weight gain during pregnancy. Hyperglycaemia in pregnancy (including both chronic diabetes and gestational diabetes mellitus) is an emerging issue in Sri Lanka, and universal screening of pregnant women for blood sugar levels has been part of the maternal care package since 2014. Other interventions in the package include: screening for anaemia, with full blood count and management of identified cases, including referrals; micronutrient supplementation (iron folic acid, calcium and vitamin C) for all pregnant women; deworming for pregnant women when required; and dietary supplementation and nutrition counselling based on their nutritional status.

Nutrition counselling

In line with WHO recommendations⁶, nutrition advice delivered by midwives has been tailored for women during ANC visits, based on BMI status in the first trimester. From that point onwards, pregnant women with a BMI ≥ 25 kg/m² are counselled on healthy eating and keeping physically active to stay healthy and prevent excessive weight gain during pregnancy. Midwives also counsel pregnant women and their extended family during home visits, addressing cultural norms such as the belief that pregnant requires eating for two.

During the postnatal period, micronutrient and food supplementation continues for six months after delivery and appropriate nutrition counselling continues. Home visits by the public health staff, postnatal clinic and immunisation and family planning clinics are used to deliver nutritional services for women after delivery.



© WHO/Hemachandra

As part of antenatal care, midwives make home visits in Sri Lanka

Developing a pre-pregnancy care package

As part of a preventative approach, newly married couples are invited to a pre-pregnancy care programme when they first register their marriage. The programme provides biomedical, behavioural and social health interventions to couples before conception occurs, including education on achieving a healthy weight via diet and exercise before becoming pregnant. Coverage for the initiative is currently at 50% across the country, but it is being scaled up and there are plans to extend the programme to include inter-pregnancy counselling.

Remaining challenges

Some maternal nutrition interventions have been slower to adapt to the double burden among pregnant women. Thriposha is a fortified supplementary food (made of maize, soya, milk and a vitamin and mineral premix), originally created in Sri Lanka in 1973 to address maternal and child undernutrition. A daily ration of 50g (providing 206Kcal of energy) is distributed free to all pregnant women and lactating women (up to six months) to prevent underweight/micronutrient deficiencies and as a social transfer (food transfer) intervention. However, the rising prevalence of overweight and obesity among women of reproductive age has raised concerns over blanket supplementation of Thriposha. The Ministry of Health has initiated discussions about moving towards a targeted approach for supplementation and it is proposed that overweight or obese women be given nutritional advice, rather than Thriposha.

Nutrition allowance for pregnant and lactating women

Since 2015 the Government has provided every pregnant mother registered in the maternal care programme with a cash voucher worth SLR2,000 (USD11.45) per month for 10 months, covering the last six months of pregnancy and first four months following delivery. The objective of this allowance is to enable pregnant and lactating women to obtain nutritious food from pre-assigned retail outlets during this important period in life. The programme is implemented by the Ministry of Women's Affairs. As with Thriposha, concerns have been raised that this allowance should be targeted to vulnerable women, such as those with low BMI and those of low socioeconomic status.

Lessons learned and next steps

Sri Lanka has been successful in ensuring access to and demand for early and frequent ANC visits which ensure maternal nutrition interventions reach women in a timely manner. In addition, the Government recognises the growing problem of diet-related NCDs in women of reproductive age and is in the process of reviewing the package and targeting of maternal nutrition interventions to address this growing concern. Currently, tailored nutrition advice is offered by midwives at ANC visits, but there are plans to scale up the preconception care programme for wider coverage. The way forward for existing food supplementation programmes is to implement targeted interventions at a local level, instead of blanket coverage.

⁵ Field Handbook (2018)

⁶ WHO recommendations on antenatal care for a positive pregnancy experience (2016).



Pregnant women enjoying a hot meal and conversation in the Mathrupoorna scheme

© UNICEF/2018/RaghuNandan

Combining a mid-day meal, health service package and peer support in Karnataka State, India

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Background

Karnataka is a Southern Indian state with a population of 68.7 million and one of the highest economic growth rates in the country¹. Paradoxically, the state continues to have high rates of maternal mortality²; over 21% of women of reproductive age (WRA) are too thin (low body mass index); and 40% of WRA are anaemic³. Karnataka is also the second-largest drought-prone area, with nearly 60% of the state affected by recurring drought each year during the past decade⁴, aggravating food and water security crises, increasing migration and disrupting routine services. Data shows that the diets of women in the state are deficient in essential nutrients, with low daily consumption of milk, pulses, green leafy vegetables and animal foods³.

Nutrition services for women are delivered largely through the flagship programmes of two state departments: Women and Child Development (WCD), and Health and Family

India/Karnataka Fact Sheet

Women's nutrition 15-49 years		
India		Karnataka
22.9%	Women who are thin (BMI < 18.5 kg/m ²) (2016)	20.7%
20.7%	Women who are overweight or obese (BMI ≥ 25 kg/m ²) (2016)	23.2%
53%	Anaemia among women of reproductive age (non-pregnant) (2016)	44.8%
130	MATERNAL MORTALITY (2016) per 100,000 live births	133
25	NEONATAL MORTALITY (2015) per 1,000 live births	25

¹ www.census2011.co.in/census/state/karnataka.html
² Special bulletin on maternal mortality in India 2014-16 sample registration system, Office of Registrar General, India, May 2018. www.censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR%20Bulletin-2014-16.pdf
³ International Institute for Population Sciences (IIPS) and Macro International. 2015-16. National Family Health Survey (NFHS-4), 2015-16. http://rchiips.org/nfhs/NFHS-4Report.shtml
⁴ Karnataka State Natural Disaster Monitoring Center, 2017. Report of Drought assessment in Karnataka. www.ksndmc.org/PDF/DVI_REPORT_KARNATAKA_2017.pdf

Welfare (MoHFW). However, there is evidence that only just over one third of women are receiving the full antenatal package³. To improve the situation for women in Karnataka, a scheme was launched that focused on layering interventions, including a hot cooked meal, health services and counselling, to deliver maternal nutrition in one platform. This article describes the launch of the Mathrupoorna ('complete motherhood') programme in Karnataka and lessons learned for scaling up Karnataka's nutrition services for women.

The Anganwadi services scheme⁵ is a nationwide programme with six mandated basic services, which are modified in various states. Every state receives some central government funding for the scheme, but also contributes its own resources. Under the WCD, the Anganwadi services scheme provides a balanced energy protein supplementary food for pregnant and lactating women for 25 days a month. The supplement is intended to provide 600 kilocalories, 18–20 grams of protein and 50% of the recommended dietary allowance of nine essential micronutrients.

The MoHFW aims to deliver a number of interventions to pregnant women via its monthly facility and community outreach antenatal care (ANC) sessions, including: micronutrient supplements (iron and folic acid and calcium); deworming; weight-gain monitoring; medicated mosquito nets (in malaria-prone areas); and counselling.

Integrating services

In spite of these efforts, data shows that just 33% of pregnant women received the full antenatal service package; 45% consumed at least 100 iron and folic acid (IFA) tablets in pregnancy³; and, more encouragingly, 62% of pregnant women received supplementary food³. The challenge faced by the state was universalisation of coverage of the supplementary food services (which was being provided as a dry ration at that time) and combining this with the delivery of health services in one platform.

Such integration had already been accomplished in the neighbouring states of Telangana and Andhra Pradesh in programmes that replaced the dry supplementary food with a cooked

meal alongside the provision of IFA supplements after the meal under supervised conditions. This 'one full meal' scheme had also provided an amalgamated platform of nutrition services (food, micronutrient supplementation, deworming, gestation weight-gain monitoring and fortnightly nutrition health education) to pregnant women, helping reduce the intra-household distribution of the supplementary food and promoting participation in self-help groups. In both states, improvements were observed in reach of counselling and supplementation services⁶.

Launching the Mathrupoorna scheme

To address the coverage challenges in delivery and uptake of supplementary food services, Mathrupoorna began as a pilot in four districts of Karnataka in order to generate learning to inform scale-up of the programme in the state. An estimated 5,000 women took part in the pilot.

The scheme, which is self-selective, includes a daily mid-day meal to be eaten at the Anganwadi centre by pregnant and lactating women (PLW) at a fixed time (normally between 11 am and 2 pm), for 25 days a month. The meal meets 40–45% of recommended daily caloric, protein and calcium requirements, at a daily cost of INR21 (USD0.3) per person.

After each meal women are administered a supervised dose of IFA or calcium. Counselling sessions on various themes, from diet to health services, entitlements and family planning, are delivered by the Anganwadi worker at least once every two weeks. The platform is also used for gestational weight-gain tracking of each pregnant woman and provision of health services such as blood-pressure monitoring; tetanus toxoid vaccination; deworming and assessing other signs of nutritional and health risks through clinical and anthropometric measures (height, weight, MUAC and clinical signs) once a month as part of four ANC checkups. The Anganwadi worker keeps a record of services received by the women in the programme, their pregnancy weight gain and the weight of their children at birth.

Lessons learned through pilot testing

An evaluation of the pilot scheme helped to identify a number of issues that needed to be addressed before scaling up the programme.

1. Objections to the replacement of the dry take-home ration with the mid-day meal at all levels (village, block, district) resulted in some reluctance to participate in the scheme.

Discontinuing the dry ration was not popular initially with beneficiaries for many reasons, including time constraints and preference for a take-home ration. There were also political reasons to support continuation of this supplement that needed to be addressed by consensus-building at state and district level. Furthermore, the Anganwadi workers and helpers, who are the main implementers in the delivery of the scheme, needed their concerns to be addressed before rolling it out.

2. Institutional and human resource capacity constraints can limit the roll-out of a complete package of services.

Anganwadi workers at smaller centres without helpers found it challenging to cook the mid-day meals in addition to their other responsibilities. Additional help with meal preparation required an extra INR500 (USD7.2) per month to incentivise helpers.

3. A customised menu was needed to encourage consumption of the cooked meal.

One of the most common reasons women refused a hot cooked meal was the lack of variety in taste. Wide variation in taste preference across the region needed to be addressed, and districts were therefore given the autonomy to modify the menu according to local needs, provided the nutritive value was not affected.

4. Community participation was essential for improving participation in the scheme.

In Karnataka, *Balvikas Samithis* (child

⁵ An Anganwadi is a type of rural childcare centre in India, which provides basic healthcare in a village.

⁶ http://unicef.in/Uploads/Publications/Resources/pub_doc10151.pdf

⁷ ICDS is a government programme in India that provides food, pre-school education, primary healthcare, immunisation, health checkup and referral services to children under six years of age and their mothers.

Figure 1 Coverage of selected services under Mathrupoorna scheme, Karnataka, 2017 and 2018

Indicators	In 2017	In 2018
Number of pregnant women covered (per month)	348,158	329,923
% Mothers who registered in the first trimester	32%	34%
% Mothers who consumed iron folic acid for 100 days or more while pregnant	52%	63%
% Mothers who took an intestinal parasitic drug while pregnant	61%	84%
% Mothers who attended at least two counselling sessions	65%	73%
% Mothers who ate one full meal for at least 21 days a month	65%	71%

development committees) consisting of representatives from the village already existed within the Integrated Child Development Services (ICDS)⁷. These committees were restructured to include mothers as chairs, and wider membership of PLWs, grandmothers and fathers of children coming to Anganwadis.

The Samithis are responsible for:

- Ensuring demand and supply of food, such as rice, pulses, oil, eggs, chikki⁸, milk and vegetables at the Anganwadi;
- Supporting Anganwadi workers to mobilise all eligible beneficiaries to attend the centre;
- Ensuring the quality and hygienic preparation of the meals;
- Ensuring the availability of basic services, such as safe drinking water, a toilet etc.

5. Convergence across at least three government departments (WCD, Department of Health (DoH) and the Department of Rural Development and Panchayati Raj) was essential to ensure availability of supplies and services.

WCD issued multiple instructions through government orders for the effective implementation of the Mathrupoorna scheme, such as a joint order with the DoH to ensure the availability of relevant micro-nutrient supplements at the Anganwadis.

6. Overcoming sociocultural issues and superstitions is important to ensure uptake of the scheme.

Counselling is one of the main tools to address deeply entrenched beliefs regarding nutrition in pregnancy and lactation, caste and wealth-related discrimination. While initially most of the pregnant women would face the walls to eat in order to avoid the 'evil eye'⁹, within a few days they had turned around and started eating together facing each other. The state has introduced the Mathrupoorna counselling flip-book to strengthen advice. This covers such topics as the importance of early pregnancy registration, ANC, anaemia prevention and treatment, food taboos and myths and dietary diversity.

Scaling up the scheme

Following review, the scheme has now been scaled up to 65,911 Anganwadi centres and reaches over 629,000 PLWs every month. Programme data comparing the year December 2017 with December 2018 shows that the reach of the Mathrupoorna service package increased by 11% for consumption of at least 100 IFA tablets, 23% for administration of single-dose deworming tablets, 8% for participation in at least two counselling sessions, and 6% for eating one full meal per day for at least

21 days at the Anganwadi centre.

In order to enhance the quality of care and optimise the contact opportunity, a number of new activities have been introduced to assess nutritional status, such as monitoring upper arm circumference (MUAC) and weighing machines for pregnant women and height measurement for children. Supervisors and Anganwadi workers visited the homes of PLWs in slums and migrant communities to encourage this hard-to-reach group to enrol in the programme and thus increase coverage. Provision has now been made for a family member to take the hot cooked meal home in situations when women were advanced in their pregnancy and for the first 45 days following delivery. Meal timings were also adjusted to times that were convenient for the women in the scheme to access, and Anganwadi workers and helpers are now provided with hot meals for their own consumption.

Lessons learned

An external evaluation carried out in March 2019 found the Mathrupoorna scheme was being utilised by the community and awareness levels are fairly high among women being served. While Anganwadi workers were supportive of the scheme, they were also concerned that time spent on it may be detracting from their other activities, such as pre-school education. Many workers were also concerned about food waste, due to uncertainties regarding the demand for meals on the day. The need for additional personnel at Anganwadis to help implement the scheme in order to avoid over-burdening already-busy frontline workers is a key learning point.

Way forward

The Mathrupoorna scheme has emerged as a promising platform for delivering a combination of services to the most disadvantaged. Some challenges remain. These include reducing the burden of frontline workers by engaging more with women's self-help groups, and maintaining demand and increasing uptake and coverage for the programme.

⁸ Peanut brittle made with jaggery (dark brown sugar made from sugarcane).

⁹ The superstitious belief that someone seeing how much you eat may lead to the child failing to grow well or dying.



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Providing maternal nutrition services at sub-national level in Punjab Province, Pakistan

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Introduction

Pakistan is the sixth-largest country in the world, with a population of more than 200 million, and projected to be the fourth-largest by 2050¹. The nutritional status of the population is generally poor throughout the country, especially among children under five years old, women of reproductive age and the elderly. About 9% of adult Pakistani women are thin or undernourished (BMI <18.5 kg/m²), while overweight or obesity among women has increased from 40% in 2012–13 to 52% in 2017–18². Micronutrient deficiencies are also endemic among Pakistani women and almost 50% of women in Pakistan suffer from anaemia³.

The country has a decentralised government administration, with programme implementation and spending on health services devolved to provincial level. This article describes how maternal nutrition policy and programme action have been enabled within this devolution framework in the country's largest province, Punjab.

National-level policy and antenatal care

The Government of Pakistan is committed to improving health outcomes in reproductive, maternal, new-born and child health across the country. While the national health policy has clear provisions for addressing maternal health,

¹ Pakistan Bureau of Statistics

<http://www.pbs.gov.pk/content/population-census>

² Pakistan Demographic and Health Survey (2017-2018)

<https://dhsprogram.com/pubs/pdf/SR257/SR257.pdf>

³ 2016 <https://data.worldbank.org/indicator/SH.ANM.ALLW.ZS>



Pakistan Fact Sheet

Women's nutrition 15-49 years

THINNESS (2018) Women who are thin (BMI < 18.5kg/m²)



OVERWEIGHT OR OBESE (2018)

Women who are overweight or obese (BMI ≥ 25 kg/m²)



ANAEMIA (WRA) (2011) Anaemia among women of reproductive age



276 **MATERNAL MORTALITY (2006)**
per 100,000 live births

42 **NEONATAL MORTALITY (2018)**
per 1,000 live births

it lacks comprehensive provisions for addressing maternal nutrition, apart from micronutrient supplementation during pregnancy and lactation.

The lack of a robust and coherent policy response to maternal nutrition challenges in the country translates to significant gaps in the public service delivery of recommended, evidence-based maternal nutrition interventions and sub-optimal coverage. To address these gaps, Pakistan is in the process of developing a national adolescent and maternal nutrition strategy, which is expected to be released by the end of 2019. This will be followed by the development of provincial action plans.

Delivering maternal services

Notwithstanding these policy constraints, opportunities offered by decentralisation have led to improvements in service delivery at the sub-national level. The Government of Pakistan has mandated the provision of free antenatal care (ANC) services, including iron folic acid (IFA) supplementation. These services are available at both government-run health facilities and at community level, where they are delivered by lady health workers (LHW), Pakistan's cadre of salaried community health workers. Despite availability of

these services, low consumption of IFA supplements (44%) persists throughout the country³.

According to the most recent Pakistan Demographic Health Survey (DHS) (2017–2018), there have been some improvements in the utilisation of maternal health services. In the last five years, provision of ANC by skilled healthcare providers increased from 73% to 86%, while attended births at health facilities increased from 48% to 66%². This is yet to translate into improvements in maternal nutrition coverage indicators, however, and tracking of progress remains impeded by measurement gaps in national data systems. For example, maternal nutrition micronutrient deficiency-related indicators at provincial level, such as anaemia, have yet to be measured under the forthcoming National Nutrition Survey (NNS 2018–2019), since this type of biochemical data is not collected in the Pakistan DHS.

Developing an integrated programme at sub-national level

The decentralised context of public service delivery in Pakistan has led to some positive improvements in the health planning processes and prioritisation of the delivery of integrated programmes. In Punjab, the provincial administration

recognised the similarity and frequent overlap in the service delivery mechanism across different programmes and programme components, such as the maternal, newborn and child health; nutrition; reproductive health; and LHW programmes.

In 2013 the Government of Punjab took the decision to bring these four programmes under the same umbrella to ensure greater coordination and collaboration, thus creating the province's Integrated Reproductive, Maternal, Neonatal, Child Health and Nutrition (IRMNCH&N) programme. Maternal nutrition is one of the 10 components of the IRMNCH&N and aims to develop and implement preventive and curative nutrition services for mothers and children through its nutrition service delivery model.

To operationalise the programme, a provincial IRMNCH&N action plan for Punjab province has been developed in line with the priority areas envisaged in the Ten Point National Vision on RMNCAH & Nutrition formulated by the Ministry of National Health Services Regulations & Coordination. Its alignment with the Punjab Health Sector Strategy (2012–2020) has also been ensured, with one of the key objectives in the strategy being to institutionalise the

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A lady health worker counsels a pregnant woman in her health house

quality of care in the nutrition services delivery system.

Strengthening support for maternal health and nutrition

The IRMNCH&N is a vertical programme that uses existing governance and implementation structures at province level to deliver maternal nutrition interventions. Currently, the IRMNCH&N is implemented throughout Punjab with a workforce of over 55,000 health workers. The programme for family planning and primary healthcare (the LHW programme) has 44,500 LHWs and 1,800 lady health supervisors (LHS), with an additional 3,000 community midwives trained through the maternal and neonatal child health programme. LHWs are based in the community and conduct home visits for health promotion and supplementation activities (mainly IFA), acting as a bridge between community-based and facility-based services.

The IRMNCH&N programme has been further strengthened through ongoing 24/7 primary healthcare with the support of 4,000 lady health visitors (LHVs) for maternal health and nutrition care. LHVs are stationed mainly at health facilities and assist medical doctors in performing maternal and child health-related duties.

The initiative to address maternal nutrition at sub-national level has a unique approach under the IRMNCH&N programme as it has engaged different ongoing programmes (as described above) in a single platform to 'deliver as one'. The health workforce at facility level, such as LHVs responsible for maternal health, has a strong referral link with the community workforce (i.e., LHWs and community midwives).

Improving outcomes for women

These efforts have brought considerable improvements in maternal health and nutrition status in Punjab. Out of Pakistan's six provinces, Punjab has the highest percentage of women receiving antenatal care from a skilled provider (92.3% in 2017-18). The proportion of deliveries assisted by a skilled birth attendant increased from 52.5% in 2012-13 to 71.3% in 2017-18 and the proportion of facility deliveries also saw a considerable rise (from 48.5% in 2012-



A session on maternal health, delivered by a lady health worker

UNICEF/2018/Pirozzi

13 to 69% in 2017-18)⁴.

Moreover, through the integrated service delivery model, approximately 1.9 million pregnant and lactating women are being screened by LHWs in covered areas and around 17,701 are referred for the treatment of maternal undernutrition annually. About 0.3 million pregnant women were provided with IFA tablets and approximately 1.1 million pregnant and lactating women were counselled on dietary diversity⁵.

Training frontline workers

Capacity-building initiatives for community and facility-based health workers on maternal nutrition has improved the coverage of maternal nutrition interventions. To date in the province, 600 healthcare workers have been trained as master trainers and 43,000 LHW/LHS have been trained using a Punjab-specific nutrition manual (developed in 2018), which includes maternal nutrition as an integral part of the curriculum.

Challenges with multi-sector coordination

The IRMNCH&N programme has a number of potential options for building linkages with other sectors to address underlying causes of maternal malnutrition, via both the multi-sector nutrition centre (MSNC) led by the Planning and Development Department, and through the Policy and Strategic Planning Unit within the Punjab Health Department. However, despite these existing mechanisms for inter-sector

coordination and planning, the role of various line departments, such as education, agriculture, labour and industry and water and sanitation, in contributing towards the health and nutrition outcomes of women is almost negligible. Multi-sector engagement for maternal nutrition service delivery is still not well connected and requires greater effort in the province.

Next steps

The Government of Punjab has launched several new initiatives to improve maternal nutrition, the most important one being the integration of a number of overlapping programmes and initiatives under one umbrella. The key lesson learned in Punjab province is that maternal nutrition services are best delivered through the primary healthcare system with the involvement of community health workers. Next steps are to finalise the sub-national development of health services packages for secondary and tertiary care level.

An integrated Punjab Health Information System has been developed for effective monitoring and evaluation and is being rolled out. Finally, maternal nutrition will be further strengthened with the adoption of the national adolescent and maternal nutrition strategy, currently being formulated. This strategy will be used to inform existing and future planning of maternal nutrition interventions in the province.

⁴ Multiple Indicator Cluster Survey, Punjab (2017-2018) and Punjab Health Survey.

⁵ IRMNCH&N programme data (2018).



Counselling on family planning is part of a holistic approach to maternal health and nutrition

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Integration of maternal nutrition into Nepal's health service platforms: What's happening?

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Nepal Fact Sheet

Women's nutrition 15-49 years

THINNESS (2016) Women who are thin (BMI < 18.5kg/m²)



OVERWEIGHT OR OBESE (2016)
Women who are overweight or obese (BMI ≥ 25 kg/m²)



ANAEMIA (WRA) (2016) Anaemia among women of reproductive age



239 MATERNAL MORTALITY (2016) per 100,000 live births

21.1 NEONATAL MORTALITY (2016) per 1,000 live births

Introduction

Although maternal undernutrition in Nepal has greatly reduced over the last two decades¹, the 2016 Nepal Demographic and Health Survey (NDHS) revealed that the proportion of women of reproductive age (WRA) who are too thin has remained at around 17% and 12% of children are born with low birth weight, while the proportion of WRA who are overweight or obese has increased from 9% in 2006 to 22% in 2016².

The Government of Nepal (GoN) was one of the first countries to join the global Scaling Up Nutrition (SUN) Movement, creating an enabling environment for scaling up nutrition in the country. Several policies, including the Nepal Health Sector Strategy (2015-2020) and the Multi Sector Nutrition Plan (MSNP) (2012-

¹ Cunningham K, Headey D, Singh K, Karmacharya C, Pandey Rana P, et al 2017. Maternal and Child Nutrition in Nepal: Examining drivers of progress from the mid-1990s to 2010s. *Global Food Security* 13 (2017) 30-37, www.elsevier.com/locate/gfs

² Government of Nepal, Ministry of Health and Population, 2016. Nepal Demographic and Health Survey 2016.

2022), recommend specific steps to reduce the maternal malnutrition burden, including delivery of multi-sector interventions. This article highlights early learning and experiences from the implementation of a large-scale, multi-sector programme that addresses maternal nutrition in Nepal and supports integration of maternal nutrition interventions in GoN's health and nutrition systems.

Multi-sector programming at scale

Various initiatives and stakeholders, including donors and non-governmental organisations, support the GoN's efforts to reduce undernutrition. One such initiative, a USAID-funded multi-sector programme called *Suaahara II* (meaning 'good nutrition'), has invested USD63 million for a five-year period (2016–2021) to support rollout of nutrition-specific and nutrition-sensitive strategies in 42 of 77 districts (3,353 of 6,741 wards)³. The programme focuses on improving health and nutrition, particularly among households, during the 1,000-day period between a child's conception and second birthday. *Suaahara II*'s primary focus areas are: 1) improving household nutrition, health and water, sanitation and hygiene (WASH) behaviours; 2) improving the use of high-quality nutrition, health and family planning services; 3) promoting production and consumption of diverse and nutritious foods; and 4) strengthening nutrition-related governance structures and policies.

Household and community-level social and behaviour change (SBC) efforts engage all household members, not only women, with the aim of improving knowledge and practices related to nutrition and, in turn, increasing demand for health and nutrition services. *Suaahara II* also works at local and national levels to build government frontline-worker capacity, strengthen government systems and support nutrition policies and programmes at all levels of government. Using a continuum-of-care model, specific interventions are designed for particular stages of the 1,000-day period: pregnancy, birth and post-natal care, early childhood, and adolescence.

Integration of maternal nutrition interventions in the health system

To facilitate integration of maternal nutrition interventions in antenatal care (ANC) platforms, *Suaahara II* worked with the GoN to update the Maternal, Infant, and Young Child Nutrition (MIYCN) training package based on global evidence (for example, inclusion of adolescent nutrition), and to integrate nutrition assessment and counselling services into the MIYCN manual for all health workers. Using adult-learning principles, the training focus was more about building skills for nutrition counselling rather than just knowledge transfer, particularly during ANC visits. New protocols and job aids were also developed and rolled out to ensure health workers have up-to-date materials for conducting quality nutrition assessment, counselling and support for pregnant women.

Following the GoN's cascade approach to training, the focus was placed on enhancing the competencies of female community health volunteers (FCHVs) on the importance of referral of maternal malnutrition cases to facilities, distribution of iron and folic acid (IFA) tablets, and counselling mothers on the importance of dietary quality and rest during pregnancy. *Suaahara II* field staff continue to support healthcare providers in facilities and FCHVs with post-training follow-up and on-site coaching.

Suaahara II's SBC efforts support GoN health system efforts to improve service utilisation and quality of care. For example, targeted text messages encourage households to attend ANC. Furthermore, to enhance the engagement of men in maternal care, *Suaahara II* designed a motivational 'Letter to the father' from the unborn baby, which is given to the household during ANC and explains what role the father can play during pregnancy and in raising a healthy and well-nourished young child.

Social and behaviour change strategies

The primary SBC approaches involve: interpersonal communication, community events, mass media and an SMS messaging campaign. Interpersonal

communication primarily involves *Suaahara II* frontline workers making home visits to counsel households on nutrition, health and WASH. Community events include food demonstrations and key life events celebrating the start of pregnancy, delivery and a child turning six months of age. *Suaahara II* mass media output is primarily a weekly radio drama, *Bhanchhin Aama* ('Mother knows best'), that features storylines on health and maternal nutrition, and accompanying call-in weekly audience response programme, as well as social media output, including YouTube and Facebook, to share *Bhanchhin Aama*. A text message campaign is the newest addition to these outreach efforts.

For all these household and community activities, *Suaahara II* field staff collaborate with the GoN's cadre of FCHVs, based in each local community, to motivate families to adopt healthier practices. This collaboration happens naturally, given that both cadre are located in the same communities, and that *Suaahara II* uses existing government platforms such as the FCHV monthly meetings at the health facility, monthly Health Mothers' Group meetings, and vitamin A distribution campaigns. *Suaahara II* field staff and FCHVs often conduct joint home visits for counselling and co-lead community events, including food demonstrations and key life events.

Linkages across sectors and levels of government

Beyond specific sectors and programmes, *Suaahara II* staff coordinate on a continual basis with government line ministries and divisions across all relevant sectors: health, agriculture, livestock, education, and WASH, as well as multi-sector platforms and networks in order to reinforce linkages. This includes collaboration with newly elected political leaders on nutrition issues, participating in regular, provincial-level multi-sector meetings, and supporting the Nutrition Technical Committee at the federal level and Nutrition and Food Security Steering Committees at municipal and ward levels.

³ With the recent shift to a federal system in Nepal, there has been a structural transition from district, village development committee and ward levels to province, rural and urban municipality, and ward levels.

Efforts are paying off in terms of building shared ownership among diverse stakeholders and spurring local investments in nutrition. The GoN has increasingly assumed responsibility for institutionalising and funding some *Suaahara II* initiatives, such as key life event celebrations, food demonstrations, letter to the father, egg distribution for newly pregnant women, and the Self-Applied Technique for Quality Health (SATH) approach for increasing demand for health and nutrition services. This government-led adoption and scale-up of better practices and innovations from *Suaahara II* increases programme reach and sustainability. As a result of *Suaahara II* and other nutrition stakeholders' intensive advocacy efforts with newly elected local leaders in intervention areas between June 2017 and July 2018, local leaders committed USD3.5 million (nearly 400 million Nepalese rupees) for nutrition-specific activities in *Suaahara II* programme districts.

Early indications of improvement

Using *Suaahara II*'s 2017 and 2018 annual monitoring surveys (using a cross-sectional, multi-stage random sampling with a sample of 3,500+ households with a child aged 0–5 years, collected by an external survey firm), positive trends in service utilisation outcomes were found. (It should be noted that figures must be treated with caution in the absence of control groups, and that attribution needs to be confirmed through a more rigorous evaluation.) Births receiving at least four

ANC visits increased from 73% to 77%; pregnant women being weighed during ANC increased from 87% to 93%; women consuming all 180 IFA tablets during pregnancy increased from 52% to 59%; and women consuming a minimally diverse diet (5+ of 10 food groups) increased from 36% to 42%⁴; however, numbers of married women who reported using a modern method of family planning (about one in three) remained unchanged.

Challenges and lessons learned

Challenges for *Suaahara II* and similar programmes are numerous. A programme covering more than half the communities in a country, some quite remote, requires significant investment in personnel and resources for programme operations, in addition to skilled technical staff. Assuring quality of implementation is a challenge, given the breadth of interventions, sequencing of programme activities and context. Overcoming long-standing gender and socio-cultural norms in order to create optimal nutrition, health and WASH practices requires significant investments of time and trust-building. Setbacks like frequent health worker turnover, however, constrain long-term progress.

Utilising multiple communication channels and reaching multiple household members likely increases the chances of desired behaviour changes. Focusing on a limited number of priority behaviours is important, since both households and frontline workers can be overwhelmed if the programme fo-

cuses on numerous behaviours at once. Moreover, explicit targeting of disadvantaged households was found to help narrow the equity gaps within the same communities⁵.

What next?

Scaling up best practices for multi-sector nutrition approaches implemented through facility and community workers will require building sustained technical and management capacity at all levels. Quality assurance of these activities requires regular on-site coaching and mentoring. Given the continued low proportion of pregnant women who consume the recommended dose of IFA and poor dietary diversity in Nepal, who are also particularly lacking in consumption of animal-source foods, *Suaahara II* will continue to prioritise maternal nutrition and work with the GoN to mainstream integration efforts further and improve coverage. This could include a comprehensive nutrition training package for mid-level managers and health workers, ensuring that adolescent nutrition is mainstreamed in a life-cycle approach so that adolescents are not lost in the gap between child and adult services, along with rigorous research to generate evidence of best practices and effective interventions.

⁵ Suaahara II Good Nutrition Programme 2018. Annual Survey Year 2, 2018.

⁶ Cunningham K, Singh A, Pandey Rana P, Brye L, Gautam B, Lapping K, Alayon S, Underwood C, Klemm Rolf DW et al 2016. Suaahara in Nepal: An at-scale, multi-sectoral nutrition program influences knowledge and practices while enhancing equity, DOI 10.1111/mcn.12415



The Government of Nepal has increased funding for community events, such as key life event celebrations

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Bangladesh Fact Sheet

Women's nutrition 15-49 years

THINNESS (2014) Women who are thin (BMI < 18.5kg/m²)



OVERWEIGHT OR OBESE (2014)
Women who are overweight or obese (BMI ≥ 25 kg/m²)



ANAEMIA (WRA) (2011) Anaemia among women of reproductive age



176 MATERNAL MORTALITY (2015)
per 100,000 live births

17 NEONATAL MORTALITY (2017)
per 1,000 live births

Strengthening nutrition information systems to improve maternal nutrition in Bangladesh

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Introduction

Bangladesh has made considerable progress in improving nutrition over the last two decades. The reduction in the prevalence of stunted children under five years old, from 55% in 1997 to 41% in 2011 and 36% in 2014, is one of the most sustained reductions in child stunting in the world¹. However, the underlying nutrition context in Bangladesh continues to be characterised by poor status of women's nutrition, contributing to poor maternal and child health outcomes, including a high prevalence of low birth weight infants in the country.

Gaps in the public health service delivery system contribute to the sub-optimal coverage and quality of maternal nutrition interventions in Bangladesh. This is compounded by weaknesses in information systems, which are critical in guiding the planning and monitoring of health service delivery. This article highlights the country's efforts to improve evidence-based planning and data-driven decision-making through strengthening its nutrition information systems (NIS) and how the NIS is influencing the scaling up of maternal nutrition services in turn.

Mainstreaming and scaling up nutrition interventions

In 2011 Bangladesh introduced its first integrated plan for nutrition, the National Nutrition Services Operational

Plan (NNS-OP), to deliver nutrition-specific interventions to address maternal and child nutrition challenges. In order to accelerate progress, the Government of Bangladesh committed to scaling up the delivery of essential nutrition interventions.

The Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) of the Ministry of Health and Family Welfare (MoHFW) are both now delivering nutrition services through their own networks of health facilities and health workers. In the past, neither directorate had a standardised system for data collection and reporting on nutrition interventions. In the absence of a harmonised set of nutrition indicators, common indicator definitions and systems to aggregate the coverage data from both directorates, the MoHFW did not have data to accurately assess the coverage of essential nutrition interventions. There were also issues with the quality and use of data for decision-making.

The challenges were highlighted in an assessment of the effectiveness of the delivery of the NNS strategies and actions, which identified a number of shortcomings in the governance and institutional arrangements, service delivery and monitoring of the operational plan². The assessment made recommendations to strengthen the programme's

record-keeping and reporting through existing data portals and to review the existing NNS indicators, with the prioritisation of a set of indicators that are indicative of extent and quality of service delivery². Moreover, a critical need was identified for a web-based data system for data visualisation in order to analyse and review performance at district and sub-district level.

A nutrition information and planning unit

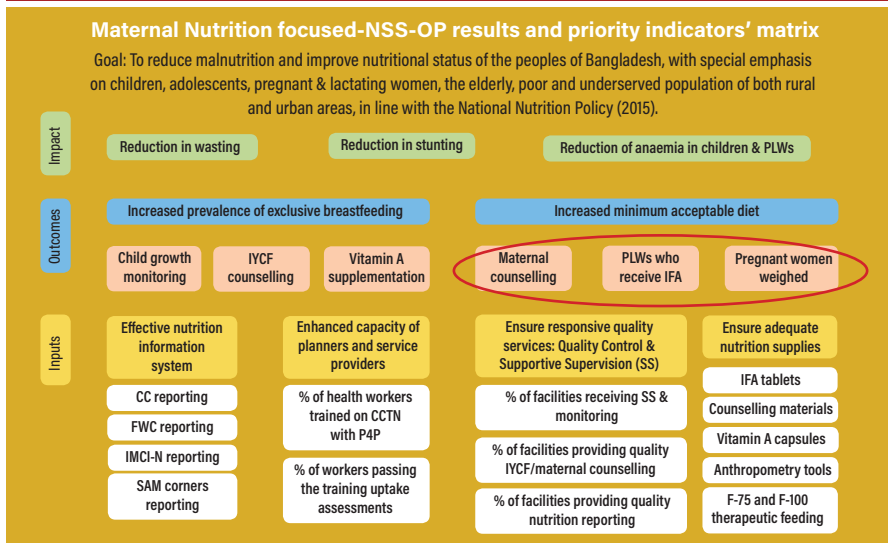
To address the governance and institutional gaps identified in the assessment of the NNS-OP, the Government established the Nutrition Information and Planning Unit (NIPU) as part of the Institute of Public Health Nutrition in the MoHFW. The unit is staffed by six people and co-funded by the Government of Bangladesh and UNICEF.

NIPU has coordinated the review, standardisation and streamlining of indicators under the NNS-OP. This has led to development of a single information system, underpinned by a common nutrition indicator framework, to guide information collected by the data systems of the two directorates, to enable

¹ Headey et al (2015). The Other Asian Enigma: Explaining the Rapid Reduction of Undernutrition in Bangladesh. www.sciencedirect.com/science/article/pii/S0305750X14002873?via%3Dihub

² Saha et al (2015) Bangladesh NNS: Assessment of implementation status. <https://openknowledge.worldbank.org/handle/10986/22377>

Figure 1 NNS-OP results on maternal nutrition and priority indicators



integration of data into one portal and to strengthen monitoring and reporting of nutrition services at district level.

Identifying missed opportunities

As a result of NIPU's efforts, reporting has improved dramatically in the past three years, with an increase in reporting rates from 4% to 91% for all nine nutrition-related indicators.

This enhanced NIS has enabled identification of important gaps in provision and utilisation of nutrition services. An NIPU country-wide review of two maternal nutrition indicators – maternal counselling and iron and folic acid (IFA) distribution – revealed gaps in the services delivered through public delivery platforms. For example, of the approximately 13 million women who received IFA supplements from health facilities in the past two years, only three million also received nutrition counselling at the same. This means that only 30% of antenatal clinics and postnatal clinics provided maternal counselling, resulting in a missed opportunity and contributing to poor coverage of maternal nutrition services.

Data-driven service prioritisation

In October 2017 over 400 stakeholders made a call to action (#Unite4Nutrition) to address undernutrition collectively. At the meeting stakeholders agreed on the need to identify priority indicators for the NNS-OP as part of a wider World Bank Pay for Performance (P4P) health sector financing for results initiative, with a focus on two divisions with the

worst maternal and child health indicators, Chittagong and Sylhet. Of these indicators, three maternal nutrition services were prioritised – weight monitoring of pregnant women, nutrition counselling and IFA distribution – that together constitute one maternal result, and all government facilities were mandated to provide these services as part of antenatal care. The maternal result is linked with a USD34 million disbursement on meeting nutrition results against a set annual target.

The P4P initiative is being rolled out in 3,179 community clinics in the 15 focal districts of Chittagong and Sylhet divisions. Now in its third year of implementation, the original target was 10% but, due to an intensive effort, 29% of registered pregnant women have received all three maternal nutrition interventions in one visit. As part of the initiative, innovative tracking mechanisms through an individual tracker application have been adapted to enable monitoring of the services received by each pregnant woman and the quality of care provided.

Strengthening systems and accountabilities

In line with efforts to strengthen NIS for maternal nutrition, the Government has introduced a country-wide data visualisation platform to report and track the performance of priority nutrition results in all 64 districts. Health facilities have also started registering pregnant women and recording services provided during each antenatal care visit, including nu-

trition services. This individual tracking system enables systematic reporting of the P4P maternal nutrition services in Chittagong and Sylhet. In all districts, the online dashboard visually describes the number of registered pregnant women in the tracker, then the number of interventions each woman has received at any given visit, and the data can be filtered by division, district and upazilla (sub-district) level.

This tool has been a huge boost to districts in enabling them to visualise their performance, easily identify low-performing districts, sub-districts and facilities, and target mentoring and follow-up support where needed. The dashboard also serves as a scorecard. Text messages are sent to sub-districts to share the status of programme implementation, which triggers analysis of performance and actions on how to further improve the coverage of services.

Lessons learned and next steps

Changes to the NIS in Bangladesh – brought about by prioritising and harmonising nutrition indicators, integrating data portals and transforming reporting into data visualisation – have resulted in a clearer picture of programme implementation and coverage. However, there is still a need to ensure this data is used to increase the coverage of maternal nutrition interventions with equity, as only one in three registered pregnant women receive all three maternal nutrition services and there are geographic variations of 20-44% between different divisions.

There is also still no information on the quality of services in the current system, such as adherence to IFA supplementation and the quality of the nutrition counselling offered. The focus should now be on including indicators that assess the quality of service provision for pregnant women in the NIS.

Other concerns focus on overloading frontline workers with record-keeping, including current issues with NIS efficiency; at present, data entry is only possible when the health worker is logged into the system online, which is a huge challenge given internet connectivity. Further work is needed to address capacity gaps for effective use of the data visualisation tools.

RESOURCES

Global guidance

WHO (2016) WHO recommendations on antenatal care for a positive pregnancy

https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/anc-positive-pregnancy-experience/en/

UNICEF-WHO (2019) Low birthweight estimates. Levels and trends 2000-2015 www.unicef.org/media/53711/file/UNICEFWHO%20Low%20birthweight%20estimates%202019%20.pdf

Regional reports

Stop Stunting / Power of Maternal Nutrition

The report from the conference on Scaling up the Nutritional Care of Women in South Asia, 7-9 May 2018, Kathmandu, Nepal, summarises findings from this event, attended by countries and experts in the region: <https://wcmprod.unicef.org/rosa/reports/stop-stunting>

Policy and programme landscape

Currently in press, this policy and programme landscape review examines the extent to which national policies in South Asian countries are in line with the 2016 World Health Organization (WHO) recommendations on maternal nutrition, and provides insights on the health system bottlenecks that are constraining the translation of these policies to programme action.

UNICEF (2019). Nutritional care of pregnant women in South Asia: Policy environment and programme action. UNICEF Regional Office for South Asia: Kathmandu. Contact UNICEF ROSA rosa@unicef.org for the report.

Published literature

Maternal and Child Nutrition provides an invaluable source of up-to-date information for health professionals, academics and service users, covering topics such as pre-conception, antenatal and postnatal maternal nutrition, and women's nutrition throughout their reproductive years. Two recent supplements on South Asia have highlighted the importance of maternal nutrition.

Stop Stunting supplement

Stop stunting: Improving child feeding, women's nutrition and household sanitation in South Asia. *Maternal & Child Nutrition*, 12(Suppl 1), <https://onlinelibrary.wiley.com/toc/17408709/2016/12/S1>

- Vir SC. (2016). Improving women's nutrition imperative for rapid reduction of childhood stunting in South Asia: Coupling of nutrition specific interventions with nutrition sensitive measures essential. *Maternal & Child Nutrition*, 12(Suppl 1), 72-90. <https://doi.org/10.1111/mcn.12255>



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Higher Heights supplement

Higher heights: A greater ambition for maternal and child nutrition in South Asia. *Maternal & Child Nutrition*, 14(Suppl 4)

<https://onlinelibrary.wiley.com/toc/17408709/2018/14/S4>

- Goudet S, Murira Z, Torlesse H, Hatchard J, & Busch-Hallen J. (2018). Effectiveness of programme approaches to improve the coverage of maternal nutrition interventions in South Asia. *Maternal & Child Nutrition*, 14(Suppl 4), <https://doi.org/10.1111/mcn.12699>

Nguyen *et al.* (2017). Integrating Nutrition Interventions into an Existing Maternal, Neonatal, and Child Health Program Increased Maternal Dietary Diversity, Micronutrient Intake, and Exclusive Breastfeeding Practices in Bangladesh: Results of a Cluster-Randomized Program Evaluation. *Journal of Nutrition*

www.ncbi.nlm.nih.gov/pmc/articles/PMC5697969/

'How to' guide

Results from a feasibility study conducted by Alive & Thrive (A&T) in Bangladesh shows that integrating maternal nutrition into maternal, newborn and child health (MNCH) programmes is both effective and attainable. This brief outlines how to deliver nutrition interventions as key components of MNCH programmes to achieve scale and impact in Bangladesh.

- A&T (2018). How to scale up maternal nutrition: A successful operational approach based on WHO's antenatal care guidelines and Alive & Thrive's implementation framework, which describes lessons learned from work in Bangladesh.

www.aliveandthrive.org/wp-content/uploads/2018/07/How-to-scale-up-maternal-nutrition-brief.pdf



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