HOW TO SCALE UP MATERNAL NUTRITION

A Successful Operational Approach Based on WHO's Antenatal Care Guidelines and Alive & Thrive's Implementation Framework

MATERNAL, NEWBORN AND CHILD HEALTH (MNCH) PROGRAM MANAGERS AND IMPLEMENTERS HOLD THE KEY TO DELIVERING PROVEN NUTRITION INTERVENTIONS AT SCALE AS PART OF A COMPREHENSIVE ANTENATAL CARE STRATEGY.

Until now, little experience or evidence has existed on how to mainstream maternal nutrition at scale. WHO's 2016 Antenatal Care (ANC) Guidelines includes nutrition interventions that are proven to support a healthy pregnancy and birth experience.[1] And now, new results from a feasibility study conducted by Alive & Thrive (A&T) in Bangladesh shows that integrating maternal nutrition into MNCH programs is both effective and attainable.[2] This brief outlines how to deliver nutrition interventions as key components of MNCH programs, including a summary of the operational strategy used to achieve scale and impact in Bangladesh.

WE KNOW WHAT TO DO

Evidence-based Maternal Nutrition Interventions

WHO's new ANC guidelines identify evidence-based nutrition interventions and practices that improve maternal health outcomes and lead to a positive pregnancy experience. The guidelines were informed by technical consultations and a systematic compilation of women's views.

To design an implementation strategy for the interventions, A&T adapted the same framework it used to implement its infant and young child feeding programs at scale during 2009–2014. This led to an operational plan for maternal nutrition that was implemented in 2015–2016. Results from the study show clearly that a package of nutrition interventions in WHO's ANC Guidelines can be implemented at scale.

The interventions were designed and implemented over a period of 21 months and achieved:

- More than 128,900 pregnant women reached through home visits by community health workers.
- More than 64,000 husbands participated in community forums.
- More than 334,000 in-home demonstration sessions (284,400 in households with pregnant women, and 50,200 in households with postpartum women).

The table on the following page shows the nutrition interventions in the WHO ANC Guidelines that were selected for the Bangladesh program, followed by the coverage reached and how the high coverage was achieved.

"A POSITIVE PREGNANCY EXPERIENCE is defined as maintaining physical and sociocultural normality, maintaining a healthy pregnancy for mother and baby (including preventing or treating risks, illness and death), having an effective transition to positive labor and birth, and achieving positive motherhood (including maternal self-esteem, competence and autonomy)."

-WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience

WHO'S RECOMMENDED NUTRITION AND HEALTH SYSTEMS INTERVENTIONS FOR ANC, A&T RESULTS AND PROGRAM APPROACH

WHO ANC GUIDELINES	A&T RESULTS	A&T APPROACH
NUTRITION INTERVENTIONS		
Counseling on healthy eating (dietary diversity, balanced protein energy intake, and food quantity)	• Messages on eating five varieties of food increased by 50 percentage points • Counseling on measuring weight increased to 60% • Counseling on amounts of foods to be consumed increased significantly	• Home-based counseling and coaching, with emphasis on practical demonstrations by health workers and volunteers • ANC providers given hands-on training on how to conduct the demonstrations • Husbands and mothers-in-law included in demonstrations on food varieties and amounts available in the home • Unique benefits of each food group emphasized
Daily oral iron and folic acid supplementation	• Counseling to take iron-folic acid (IFA) increased to 90% • Women taking IFA increased to 99% • Number of IFA tablets consumed during pregnancy increased to 139 tablets (45 tablets above baseline)	• Women counseled on IFA supplementation (benefits, managing side effects, how and when to take) • Women offered free IFA during ANC home visits • Women reminded to take supplies by husband, family members, and health workers
Daily Calcium supplementation	• Counseling to take calcium increased by 45 percentage points • Women taking calcium increased to 99% • Number of calcium tablets consumed during pregnancy increased to 140 tablets (almost 60 tablets above baseline)	• Women counseled on calcium supplementation (benefits, how and when to take) • Women offered free calcium supplements during ANC home visits • Women reminded to take supplies by husband, family members, and health workers
Measuring weight	• Weight measurement increased 38 percentage points to 98%	• Weighing scale maintained in each community • Pregnant women weighed at every ANC contact by health worker who recorded the weight in a register • An illustrated 'family wall chart' was maintained in the home and weight was graphed on the chart
Breastfeeding promotion and support[1]	• Counseling on early initiation increased to 79% • Exclusive breastfeeding practice increased by 30 percentage points over baseline to 78%	• ANC providers and volunteers trained in position and attachment skills; incorporated breastfeeding messages into home visits • Volunteers received cash incentives for initiating breastfeeding within one hour after delivery
ASSESSMENTS AND HEALTH SYSTEMS INTERVENTIONS		
Adequate number of ANC contacts starting in the first trimester during pregnancy	• More than 90 % of all pregnant women in the program received four or more ANC visits • Almost two-thirds of pregnant women received their first ANC visit in the first trimester • The number of ANC contacts increased from 2.4 to 6 visits during pregnancy in program intensive areas, compared with an increase of 2.4 to 3.7 visits in non-intensive areas	• Feasible case load allocated per ANC provider • Support provided at community and household levels by recruiting volunteers with paid cash incentives (e.g. for each woman enrolled in ANC in the first trimester) • Home visits used as the primary strategy to deliver ANC, reducing logistics and transportation needs of pregnant women
Recruitment and retention of staff and task-shifting of components of ANC	• Drop outs were less than 10% during the program • Task shifting was done to reduce the ANC provider's workload, such as follow up home visits in between ANC contacts and maintaining a weighing scale shifted to the community volunteer	Improved timeliness and quality of ANC contact were encouraged through: • Feasible case load allocation • Building confidence through hands-on training • Simplified job aids • Frequent supportive supervision visits, and refresher training • Monthly meetings to discuss results and troubleshoot challenges
Community-based interventions to improve communication and support	• Participation of influential family members and community opinion leaders increased at edutainment events • Over 60% of husbands attended at least one forum conducted specifically to discuss the importance of maternal nutrition and their role in procuring the right foods • Participation of pregnant women in video shows increased; recall of messages ranged from 40% to 58% depending on the video topic	• Husbands' forums with video screenings and discussions on topics including support for pregnant women, locally available nutrition foods and the importance of early and exclusive breastfeeding • Separate orientations held for local opinion leaders • Mass communication through community events and popular theater reinforced counseling messages and expanded scale and reach

1. Early breastfeeding initiation is already part of WHO recommendations for newborn care (WHO recommendations on postnatal care of the mother and newborn 2013. Geneva: World Health Organization). According to the Lancet (2016), early initiation of breastfeeding reduces neonatal and early infant mortality both through increasing rates of exclusive breastfeeding and by additional mechanisms.

WE KNOW HOW:

Designing Maternal Nutrition Interventions

Nutrition health systems and interventions in WHO's 2016 ANC Guidelines are based on the science behind healthy pregnancies and services that women want.

Among several recommendations, the following formed the basis of the Bangladesh program:

Nutrition interventions:

- Counseling for dietary diversity and adequate amounts of food to ensure protein and energy intake
- IFA and calcium supplementation
- Preparation for early and exclusive breastfeeding

Assessments and health systems interventions:

- Counseling at each ANC visit, including weight monitoring
- Recruitment and retention of staff and task-shifting of components of ANC among workers, such as follow up support by community volunteers
- Financial and support interventions for performance and retention of workers
- Community-based interventions, such as home visits and social mobilization through community forums, to improve communication and support

High coverage and impact can be achieved through focused health systems strengthening in MNCH services. This involves capacity development of frontline workers in nutrition counseling, using data to prioritize activities, tracking progress in coverage and behaviors, using tailored problem-solving (e.g. filling supply gaps), and making continuous adjustments for program quality and impact. Additionally, layering multiple communication channels with community mobilization is needed to shift social norms and enable pregnant women to make full use of the services provided, including practicing the recommended nutrition behaviors. This involves engaging family members and community influentials to provide specific types of support.

The **primary audience** for this intervention is pregnant women and postpartum mothers. The **secondary audience** is all the individuals that surround and influence their nutrition–related decisions, including family members (husband, parents, in-laws); social influencers; and health care providers.

The implementation framework used to design the maternal nutrition approach is based on the socio-ecological model of behavior change. The framework has four operational components *(Figure 1)*:

- **Interpersonal communication and community mobilization** to deliver a package of maternal nutrition interventions; improve awareness, confidence and skills of pregnant women; engage family members; and generate demand for improved maternal nutrition.
- **Policy advocacy** with stakeholders at the national, district and sub-district levels to raise the priority of maternal nutrition in MNCH services and at the community level, and build a harmonized program across stakeholders.
- **Mass communication** to reinforce messages for mothers and frontline workers, and to involve families and social influencers through public awareness events.
- **Strategic use of data** to track the progress of intervention delivery and impact on coverage and practices; develop and test appropriate behavior change strategies and communication materials; and generate evidence from innovation testing for informed decision making.

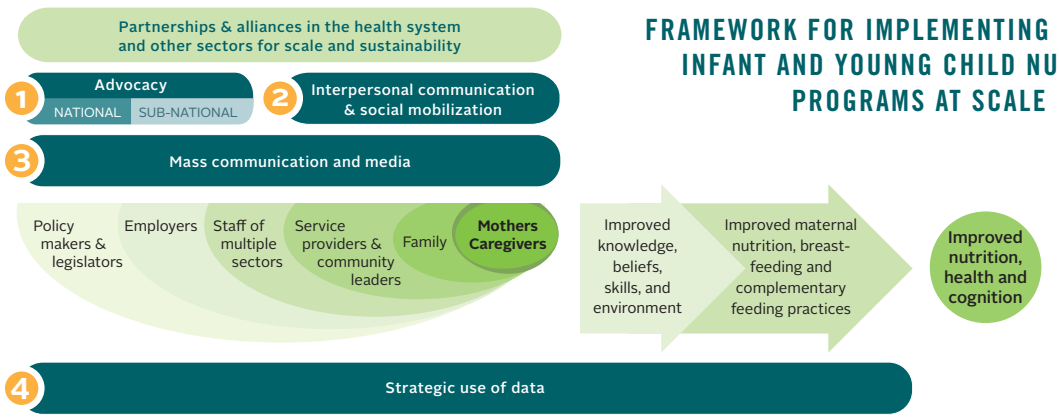

FIGURE 1

Ultimately, working with both primary and secondary audiences, the aim is to shift the determinants of key behaviors. Pregnant women require specific knowledge about what they should do and reinforcement by those around them. From health workers they need to understand and believe in the benefits of the recommended nutrition action, and receive micronutrient supplements and results of weight assessments. From family members and community influentials, they need reassurance that they can carry out the action successfully and that it's an accepted social norm. And finally, they need an enabling environment for their actions, including access to purchased supplements and specific foods.

Inherent to this framework is the recognition that a comprehensive, multi-component approach requires partnerships with many stakeholders to help each activity achieve scale and impact.

CLEAR TEAM ROLES AND RESPONSIBILITIES ARE CRITICAL TO SUCCESS.

In Bangladesh, the Government provided policies and guidelines, and BRAC served as the implementing partner with its extensive MNCH program and network of staff and volunteers at the community level, including frontline health workers and managers. A&T managed the coordination of the project, including development of the communications approaches and materials for interpersonal counseling, community mobilization and mass media interventions. A&T facilitated reviews of monitoring data from a 3-tiered system.

HOW TO SCALE UP:

Implementing Maternal Nutrition Programs

The following four steps outline the major activities required to scale up maternal nutrition within MNCH platforms. Additional tools to support implementation, including a detailed operational manual and a catalogue of available implementation materials (job aids, etc.), are available at www.aliveandthrive.org.

A PREGNANT WOMAN RECEIVING ANTENATAL CARE IN A COMMUNITY CLINIC

STEP 1

CONDUCT FORMATIVE WORK TO INFORM PROGRAM DESIGN AND DEFINE COORDINATION MECHANISMS

Designing the program requires making strategic choices about which interventions to scale up and in what sequence. This should be determined based on what local data says about which nutrition practices will have the greatest potential to benefit or opportunity for impact.

Once interventions have been selected, determine milestones and targets and the resources and tools needed to achieve them. During this critical initial stage, a diverse team of managers and specialists conducts formative research and needs assessments; take steps to fill systems gaps such as information, education, and communications (IEC) materials and supplies for frontline providers; design and test monitoring and record–keeping formats; identify training needs; schedule supervision; develop monitoring and performance improvement activities; define advocacy 'asks'; procure social mobilization expertise; and develop materials, tools and processes.

The key to success is developing a shared timeline, identifying the roles of different stakeholders and having a plan in place to phase in different activities. Consultations are valuable to inform the behavior change and scale strategy based on emerging data in close collaboration with stakeholders and partners.

STEP 2

PROVIDE PROGRAM ORIENTATIONS TO MANAGERS, SUPERVISORS, TRAINERS, MONITORS, AND COMMUNITY ORGANIZERS, AND DESIGN A PERFORMANCE IMPROVEMENT STRATEGY FOR FRONTLINE WORKERS

Ultimately, success relies on skilled, dedicated and respected staff to lead implementation. It also requires that staff at all levels of the MNCH program are sufficiently well informed and motivated. In this program, in addition to national program staff, key personnel at the community level include:

- **District Manager:** Supervises activities and personnel at the district level, including sub-district managers; coordinates and advocates for the program with government and other stakeholders at the sub-district level, and liaises between sub-district programs and headquarters
- **Sub-district Manager:** Supervises program organizers and coordinates activities at the sub-district level; manages supplies
- **Program Organizer (MNCH):** Supervises frontline health workers and provides on-the-job mentoring and training; manages distribution of supplies; encourages recommended diet and supplement intake at household level
- **Program Organizer (Social Mobilization):** Arranges and conducts husbands forums; organizes and facilitates orientation sessions with local opinion leaders; conducts follow-up visits at household level to ensure involvement of husbands
- **Program Organizer (Quality Assurance):** Identifies and troubleshoots challenges faced by frontline health workers in providing services, including for technical issues; monitors online recording system and ensures quality of data; ensures quality of husbands forums and provides on-the-spot feedback
- **Frontline Health Workers and Volunteers:** Conduct household visits to provide ANC (trained health workers) and counsel pregnant women on maternal nutrition and early initiation of breastfeeding; demonstrate preparation of balanced diet and proper quantities to family members; ensure supplies and adherence to IFA and calcium supplementation protocols; mobilize husbands to attend forums; measure and record weight of pregnant and postpartum women
- **Monitors –** Carry out sample surveys to validate routine service records, collect data to identify bottlenecks and conduct special studies

With the right workforce in place, the work turns to continuous performance improvement steps for ensuring coverage and quality of interpersonal communication to promote correct practices; addressing difficulties, myths and misconceptions; providing demonstrations of good dietary practices; and earning the confidence of pregnant women and their family members. Doing this effectively requires more than training. A common curriculum is used for different types of staff and workers and includes modules, job aids, guides, learning videos and social and behavior change materials. Multiple training venues are used simultaneously to reduce time taken to scale up, and multiple facilitator teams are fully prepared to provide instruction. Videos are used to standardize information, and the very first task assigned to monitors is to document the orientation sessions.

HEALTH WORKER WEIGHING A PREGNANT WOMAN

STEP 3

IMPLEMENT AND SCALE UP THE PROGRAM AT THE COMMUNITY LEVEL

Interpersonal Communication

Following orientations and training, home visits by frontline health workers become the centerpiece of interpersonal communications efforts. These are reinforced through encouragement from family and community members who receive coaching and demonstrations during the first rounds of home visits. During home visits, frontline health workers provide timely counseling and practical demonstrations; they personalize the message for each situation, assessing unique barriers for specific households and ways to overcome them, identify two to three key practices and work directly with the mother and family members to follow them; and offer ongoing encouragement and support. The main focus of home visits is to promote the five key behaviors of maternal nutrition: food diversity; food quantity; IFA and calcium supplementation; weight measurement; and early initiation and exclusive breastfeeding.

Community Mobilization

Each category of influentials is selected based on formative research—and data is used to determine how best to reach them with high coverage and frequency. Specific tasks and relevant motivations facilitate their engagement to perform key roles, and high coverage of influentials is achieved through special events and various channels of communication.

- **Husbands' forums:** Husbands are invited to forums hosted by community health workers and program organizers to discuss how maternal nutrition affects maternal and child health outcomes, as well as their responsibility to provide specific foods and ensure micronutrient supplies. Also discussed are birth planning; pregnancy care (antenatal care, delivery and postnatal care); risks and danger signs during pregnancy, delivery and postpartum; care of neonates; and early initiation of breastfeeding and exclusive breastfeeding. Commitments to take care of their wives are taken, and husbands are reimbursed for transport and lost wages. Vegetable seed packets are distributed for immediate planting.
- **Local opinion leader orientation:** To reach local elites and social influencers, members of local and municipal councils are invited to watch short video films and TV commercials and make commitments to encouraging husbands to support maternal nutrition. In addition, orientations for specific audiences (formal and informal health care providers, village doctors, local pharmacists, religious leaders, local leaders and teachers) are also held.

Mass Communication

In addition to reinforcement at the individual, household and small group levels, new social norms require broader community awareness and endorsement. This is achieved through:

- **Community events:** This form of edutainment is provided through community events conducted by experienced rural marketing firms. Village elders, pregnant women, their husbands and family members are invited to attend, and the crowd is engaged through video films followed by discussion, Q&A and quizzes. National TV was used in a previous (IYCF) program, but to avoid potential spill-over effects of national TV in the study's control areas, short video films were prepared and shown only in intervention communities.
- **Popular theatre:** To create broad public awareness about maternal nutrition, interactive village/street theatre teams are hired to raise broad public awareness of optimal maternal nutrition practices, their critical life-saving importance, and the role of husbands.

START-UP COSTS include formative research to understand barriers and motivations related to each intervention; development and testing of tools and materials; initial training/orientation of ANC providers, community volunteers, supervisors, managers and monitors; and advocacy to obtain the commitment of MNCH policy makers for integrating intensified nutrition interventions.

RECURRENT PROGRAM COSTS include performance improvement strategies to ensure ANC providers focus on key nutrition interventions, which are are needed to maintain high coverage and behavior change. These include monthly and quarterly meetings, supportive supervision and incentives to volunteers; community mobilization and family engagement activities; and providing adequate IFA and calcium supplements.

FIGURE 3

STEP 4

MAINTAIN PROGRAM PROGRESS THROUGH MONITORING AND ADJUSTMENTS

In addition to careful planning, follow up of activities is key. The first question is whether all eligible pregnant women are enlisted in the program as seen in the frontline workers' registers and lists. A calculated estimate based on the area population is compared with the actual lists and any discrepancy followed up to ensure no cluster of homes or hamlets are being left out. Husbands of all pregnant women are also enlisted and specially invited by supervisors and forum organizers to participate.

From a monitoring perspective, another important question is whether frontline health workers are performing their tasks correctly and with the intended coverage so that behaviors are improving. Several channels and tools were used to assess this:

- **Monthly performance checklist:** Program organizers, district and sub-district managers use an observation/supervision checklist during visits to selected program sites to assess the quality of contacts with pregnant women and provide feedback. A similar checklist is used to assess the work of the program organizer. Any gaps in knowledge or skill becomes the focus of monthly meetings and refresher trainings.
- **Registers:** Health workers maintain a register that indicates the dates of home visits and shows whether they visited households with appropriate frequency, timeliness and the correct services based on the mother's stage of pregnancy. Each mother/baby is tracked until 42 days after delivery.
- **Sample surveys:** A random sample of supervisors and frontline workers is selected for ongoing verification of records through interviews with households and a review of health provider registers. This is conducted by non-service delivery staff.
- **Quality assurance system:** An independent group of workers who are not directly involved in implementation make visits to observe frontline health workers and provide immediate feedback for course corrections; following this they report feedback to headquarters.

HUSBANDS FORUM

Discussions among implementing agencies are held to triangulate different sources of monitoring data and decisions about mid-course corrections. As important as monitoring is the continued focus on performance improvement among frontline workers *(see Figure 4)*. If needed, the schedule of incentives for volunteers is revised, additional IEC tools are introduced or existing tools revised. In this pilot, an interest in maternal health outcomes led to exploring the use of routine records for surveillance and pilot testing of hand-held digital devices for monitoring data. The program is encouraged to innovate and evolve continuously.

IMPROVING THE PERFORMANCE OF FRONTLINE WORKERS TO DELIVER MATERNAL NURTITION

- Workload is re-allocated as needed across staff and workers to facilitate the required contacts with pregnant women and communities
- In addition to 3- to 5-day basic orientations for different categories of staff, refresher trainings (1–2 days) are ongoing each quarter
- Simple and appealing job aids that are carefully field tested are provided
- Supportive supervision and monitoring results are discussed and concerns addressed monthly
- Staff are paid fixed salaries, volunteers earn cash based on performance criteria in line with norms in the existing system

FIGURE 4

A NEW GENERATION OF YOUNG WOMEN IN BANGLADESH RECEIVING NUTRITION COUNSELING AND SUPPORT

CONCLUSION:

WE KNOW WHAT WORKS AND HOW TO DO IT

Bangladesh achieved rapid gains in coverage of proven maternal nutrition interventions over a short period of time. As a result of this intervention[2]:

- Pregnant women who received counseling on diet diversity increased from 29.5 percent to 82.3 percent.
- Women receiving free IFA supplements increased from 44.8 percent to 96.5 percent, and those receiving calcium supplements increased from 31.5 percent to 96.3 percent.

Women who had their weight measured during pregnancy increased from 60.6 percent to 98.2 percent.

Following this initial program, the government and implementing partners and agencies are integrating the maternal nutrition guidelines within their MNCH programs. The result has the potential to strengthen the life-long health and wellness of women and their children on a large scale for generations to come.

A more complete summary of results and Alive & Thrive's complete operational guidelines for implementing maternal nutrition at scale are available at: **www.aliveandthrive.org**.

ADVOCACY TO IMPLEMENT, SUSTAIN AND SCALE UP NUTRITION PROGRAMS

Advocacy is essential to building support at all levels for maternal nutrition programming. In Bangladesh, seminars were organized with Members of Parliament and policymakers to share the critical importance of maternal, infant and child nutrition and also to demonstrate the program approach and successes. Participants shared their support and commitment to nutrition—particularly during the 1,000 day window of opportunity. At the local level, elected representatives on union councils were also engaged through video screenings and discussions to share the current nutrition situation, approaches to strengthening nutrition locally, and to motivate them to become change agents in their own communities.

1. World Health Organization, "WHO recommendations on antenatal care for a positive pregnancy experience," 2016.
2. Alive & Thrive & IFPRI, "Assessing the operational feasibility of strengthening maternal nutrition interventions in a Maternal, Neonatal and Child Health (MNCH) platform in Bangladesh: Preliminary Results," December 2016.

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