



ROADMAP

FOR STRENGTHENING THE ROLE OF MEDICAL COLLEGES & HOSPITALS

*Integrating and promoting
a maternal, infant, and young
child nutrition (MIYCN)
program and policy agenda*

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Nutrition is an important indicator of human development, national development and growth. Globally, evidence substantiates increased morbidity and mortality rates in undernourished populations especially in the most vulnerable populations of women and children. Under-nutrition accounts globally for half of deaths of children under five and a third of maternal deaths.¹

The causes, consequences, and preventive pathways for undernutrition among mothers, infants and young children are well established (Lancet 2008,² 2013). The Lancet 2013³ series recognizes optimal infant and young child feeding and maternal nutrition interventions

as the most effective in reducing child deaths and disease, preventing malnutrition, and playing a major role in determining the nutritional status of the child.

The government of India has accorded high priority to the health and nutrition of women and children through various schemes and programs. Examples include Mother's Absolute Affection (MAA), Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), Janani Suraksha Yojna (JSY), and Pradhan Mantri Matritva Vandana Yojana (PMMVY). Even with these programs in place, the nutritional status of women and children in India continues to be compromised.



Under-five mortality rate (U5MR) is 43/1000 live births
(SRS 2015)



38% of children under 5 years are stunted
(NFHS 4, 2015-16)



36% of children under 5 are underweight
(NFHS 4, 2015-16)



One in every two pregnant women are anaemic
(NFHS 4, 2015-16)



45% of adolescent girls have low Body Mass Index (BMI) < 18.5
(RSOC, 2013-14)

The recent launch of the POSHAN Abhiyan (the National Nutrition Mission) by the Government of India demonstrates political will and commitment at the highest levels of policy making. Addressing the burden of undernutrition in India is a historic moment for public health and nutrition in the country. POSHAN Abhiyan aims to reduce undernutrition in pregnant women, lactating women, and children under six years of age. It utilizes a time-bound, phased manner, based on a life-cycle approach and a results-oriented strategy that promotes convergence across schemes.

Potential of medical colleges and hospitals in advancing MIYCN

In India, the policy framework for addressing maternal, infant, and young child nutrition (MIYCN) exists, albeit accountability is spread across a myriad of schemes in multiple government departments. Furthermore, last-mile delivery of critical MIYCN interventions has been a sustained challenge for Indian public health programs. While around 79% percent of babies are now delivered in health facilities, not even half are breastfed within an hour of birth (NFHS 4, 2015-16).

Among the array stakeholders, medical colleges and hospital are strategically placed in the health care delivery system to lead the policy and program advocacy agenda on the 1,000-day window of opportunity (conception until the child is two years of age). Through their academic, research, services, and public health linkages, these institutions can play a significant role influencing the MIYCN content of medical teaching curricula and creating future generations of well-trained practitioners. They can also aid in generating evidence to inform policy decisions, developing best practice models, and supporting public health and nutrition systems through capacity building, quality assurance, and monitoring.

In the past, medical colleges and hospital have played a crucial role in facilitating evidence-based policy-making and strengthening public health delivery of maternal, newborn and child health care (MNCH) services.⁴ Encouraging examples of premier medical colleges include the All India Institute of Medical Sciences (AIIMS), Vardhman Mahavir Medical College, Safdarjung Medical College, Lady Hardinge Medical College, and Kalwati Saran Children's Hospital. The Postgraduate Institute of Medical Education and Research in Chandigarh, plays a leading role as a national level resource centre and centre of excellence for continued capacity building, mentoring, quality assurance, and review of MNCH services for state health systems across the country.⁵

Similar initiatives at the state level have also taken place but are often fragmented across various components of public health and nutrition programs. For example, the Centre for Policy Research on Anaemia has been housed in the All India Institute of Medical Sciences (AIIMS)- Bhopal under the joint

initiative of Ministry of Health & Family Welfare (MoHFW) and the Madhya Pradesh State Health Mission.

With this perspective and the background, Alive & Thrive (A&T) as a knowledge partner⁶ to the Bill & Melinda Gates Foundation aims to strengthen the role of medical colleges in integrating and promoting the MIYCN agenda in the curricula and services of medical colleges. The goal is to develop an evidence-based model for the effective integration of MIYCN in medical college so that these institutions can support health systems in the delivery of nutrition programs at scale. In Uttar Pradesh (UP), A&T has forged strategic partnerships with the following four government medical colleges with signed letters of collaboration under the supportive leadership of the State Directorate of Medical Education:

- ***Motilal Nehru Medical College Allahabad,***
- ***Kannauj Government Medical College,***
- ***GSVM Medical College, Kanpur and***
- ***Baba Raghav Das Medical College, Gorakhpur***

Similarly, A&T has fostered collaborative efforts with four medical colleges in Bihar;

- ***Patna Medical College and Hospital,***
- ***Darbhanga Medical College & Hospital,***
- ***Sri Krishna Medical College and Hospital, Muzzaffarpur and***
- ***Anugrah Narayan Magadh Medical College and Hospital, Gaya.***

A&T and its partner organizations, John Snow India (JSI) and Deepak Foundation conducted a visioning exercise (2017) and baseline assessment (2017) to understand the status of the MIYCN component in the selected medical colleges in UP and Bihar pertaining to teaching, research, and service provision, as well as the current engagement of medical college in supporting state health system for effective planning and implementation of public health nutrition programs. The following roadmap is based on findings from the baseline assessment (visioning exercise and baseline survey) and developed in consultation with key stakeholders from the state government, medical colleges and hospitals, and development partners in UP and Bihar.

Recommendations for strengthening the role of medical colleges and hospitals in integrating and promoting MIYCN programs and policies



1. Reinforcing MIYCN knowledge and skills in the undergraduate medical teaching curriculum

Health professionals (physicians and nursing staff) play a key role in the delivery of evidence-based nutrition interventions. However, during clinical practice, physicians are often less inclined to address nutritional requirements as they either perceive it be outside their mandate or have inadequate knowledge to provide nutrition counselling.

Historically, nutrition education has been underrepresented in most medical colleges and post-graduate residency programs. The existing undergraduate medical curriculum lacks focus in MIYCN with maternal nutrition being a major missing link, evident from the findings of the baseline survey (2017) conducted by A&T in the selected medical colleges in UP and Bihar. As per the survey, less than half the faculty (48.5 percent) stated that IYCF topics are adequately covered in the curriculum and only 40 percent mentioned that maternal nutrition topics are adequately covered in the curriculum.

The findings reiterate the gaps in the knowledge and skills related to MIYCN, especially concerning maternal nutrition, among the undergraduate and post-graduate students. While 90 percent of students had correct knowledge about early and exclusive breastfeeding, only 17 percent had correct knowledge about the dosage of iron-folic acid (IFA) supplements during pregnancy.

The Government of Maharashtra led a UNICEF-supported partnership to strengthen the maternal and child nutrition content of the state's pre-service and in-service training curricula for medical doctors. In 2012-2013, the Academic Council of Maharashtra University of Health Sciences approved the revised curricula for integration in the pre-service training of undergraduate and post-graduate medical students. Similarly, UNICEF has also supported the state Directorate of Medical Education in Uttar Pradesh (UP) in strengthening the infant and young child nutrition content of the undergraduate medical curricular.

Nursing curricula lacks adequate attention to MIYCN topics, even though nurses are the first point of contact, and in many cases the only contact for pregnant women, new mothers, and children 0-23 months old.

Furthermore, the 2017 visioning process revealed limited opportunities for enhancing the skills and knowledge of the faculty and students on the latest global evidence on MIYCN-related national programs and interventions.

There is an urgent need to entrench nutrition knowledge and skills in academic studies of all health care professionals to ensure improved understanding and application to all aspects of health care.

Recommendations for moving forward

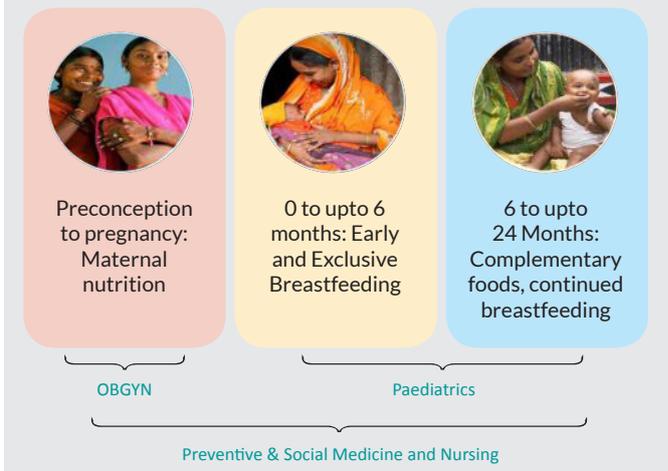
- Strengthen the existing undergraduate curricula for medical students and nursing students through the inclusion of uniform, standardized content on MIYCN. It is essential that curricula constitute a mix of theory and practical sessions which are spread throughout the course period and transacted by the Paediatrics, Obstetrics & Gynaecology, and Community Medicine departments in an integrated manner. Ensure that the course content is linked to assessment, emphasizing its relevance.
- The state Directorate of Medical Education and State Medical Council need to play a proactive role in ensuring the adoption of MIYCN content into the undergraduate medical and nursing curricula.
- Develop medical colleges as MIYCN knowledge hubs, providing opportunities for knowledge enhancement of both undergraduate and post-graduate students through regular seminars and symposiums to share updates on scientific evidence around MIYCN and effective strategies for MIYCN program delivery (including updates on national public health nutrition programmes).

2. Strengthening MIYCN services at various service delivery contact points in medical colleges and hospitals

In India, medical colleges are attached to hospitals, as well as Urban & Rural Training & Health Centres. These facilities are usually high case load tertiary care health facilities, offering a range of services from antenatal care (ANC), immunization etc., to sophisticated and emergency health care services like management of obstetric emergencies, and management of sick newborns. Although the impact of nutrition practices in promoting morbidity and mortality reduction is established, the integration of nutrition services at service delivery contact points in most medical colleges and hospitals continues to remain a challenge.

The visioning exercise showed a lack of coordination amongst the key departments of Paediatrics, Obstetrics & Gynaecology (OBGY), and Community Medicine which is critical to making MIYCN an institutional priority in the medical colleges and hospitals. Despite availability of national guidelines on MIYCN (e.g. infant and young child feeding (IYCF), IFA and calcium supplementation during pregnancy), the implementation of guidelines at various medical colleges and hospitals is suboptimal. Counselling is also a weak area due to high workload, lack of necessary counselling skills in existing staff, availability of few trained counsellors, and limited health communication resources for counselling and information sharing. The baseline survey reiterated the gaps in MIYCN knowledge and

FIGURE 1: Role of relevant medical colleges and hospitals across the 1000-day window of opportunity



skills among the nursing staff and doctors. Knowledge on maternal nutrition was especially suboptimal.

Key stakeholders from the medical colleges and hospitals shared the need for improving the quality of MIYCN service delivery, through the institutionalisation of supportive supervision and the monitoring of service provision to ensure that the knowledge of the hospital staff translates into counselling skills.

Furthermore, visioning exercise at the medical colleges reflected inadequate systems for data collection, recording, compilation, analysis and use in tracking the quality of services being provided and improving health service delivery -especially related to MIYCN.

Baseline assessment survey (2017) findings

MATERNAL NUTRITION PRACTICES

22%

of nursing staff from Obstetrics & Gynaecology departments were aware about the national recommendation for iron-folic acid (IFA) tablet consumption throughout the pregnancy

12%

had knowledge about the correct dosage of calcium supplements during pregnancy

34%

knew about the optimal weight gain during pregnancy

46%

of the pregnant women received IFA supplements

37%

of the pregnant received calcium supplements.

INFANT AND YOUNG CHILD FEEDING PRACTICES

14%

of outpatient antenatal care nursing staff

15%

of post-graduate resident doctors

25%

of nursing staff in postnatal wards provided demonstrations to recently delivered mothers on the correct positioning and latch for breastfeeding.

40%

of the post-graduate residents in postnatal wards provided advice on exclusive breastfeeding during discharge.

76%

of nursing staff from the Paediatric department had correct knowledge about exclusive breastfeeding

18%

of nursing staff from the Paediatric department had correct knowledge about complementary feeding.

97%

of nursing staff are aware of the criticality in the gap in knowledge and practice for the early initiation of breastfeeding only

41%

of the recently delivered women reported early initiation of breastfeeding.

82%

of women with infants below 6 months received messages on exclusive breastfeeding during a visit to outpatient Immunization/Paediatric departments

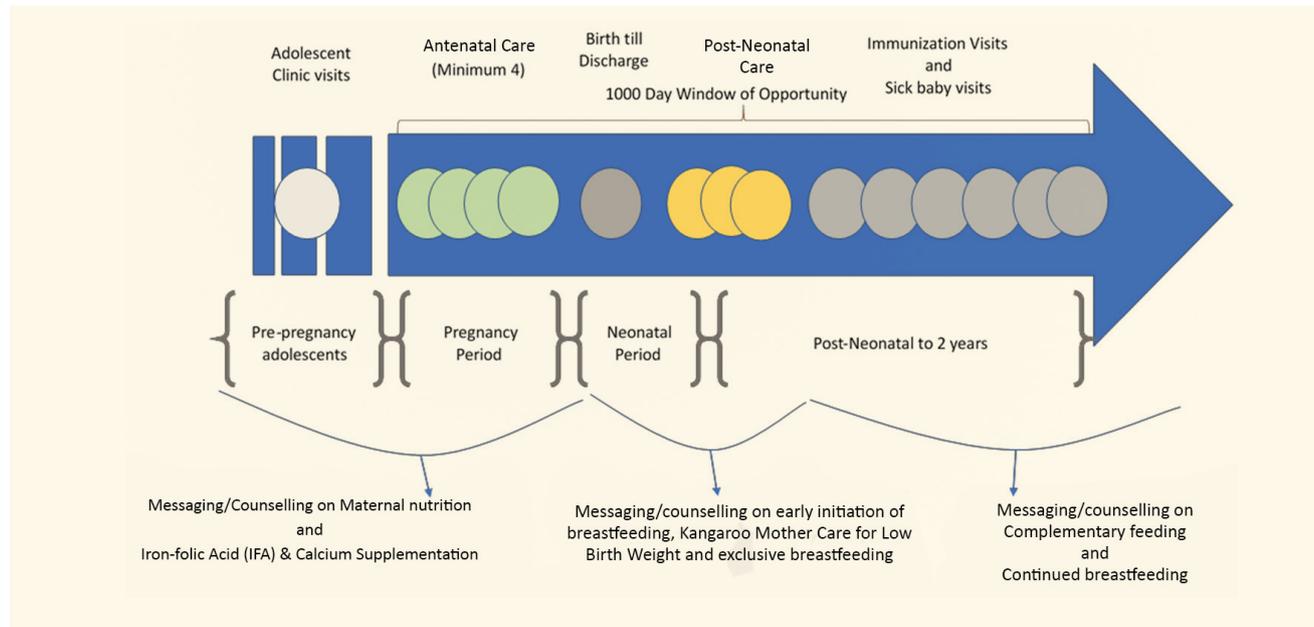
46%

of women were advised on continued breastfeeding during



In Bihar, the State Health Society, with support from UNICEF, established IYCF -Counselling Centres (IYCF-CC) in medical colleges and hospitals in high priority district and first referral units in locations that have a high caseload. Services of the existing Reproductive, Maternal, Newborn and Child Health Plus Adolescents (RMNCH+A) counsellors and Mamta workers were extended to provide IYCF counselling in the centres.

FIGURE 2: Integration of MIYCN practices into service delivery points



Recommendations for moving forward

- Establish a nutrition committee of members from the Paediatrics, Obstetrics & Gynaecology and the Community Medicine departments to facilitate collaboration and coordination of MIYCN service delivery. The committee would also assist in institutionalizing best practices and utilizing robust monitoring and review practices, as well as coordinating MIYCN academics and research efforts on common platforms and at regular intervals. The team would work towards the college becoming a model institution that inspires the district and state level public health programs to routinely engage with the college faculty for their expertise in policy dialogue and program monitoring.
- Integrate and prioritize the delivery of quality MIYCN services at various existing service delivery points (antenatal care, labour and delivery, postnatal care, and outpatient visits) through skill enhancement and continued supportive supervision and mentoring of service providers, ensuring adherence to standard protocols.
- Establish /integrate MIYCN into skill labs and demonstration units for hands-on pre-service training and in-service skill enhancement.
- Integrate MIYCN counselling into existing counselling centres in the medical colleges (Integrated Counselling and Testing Centres (ICTC) (for HIV/AIDS), Family Planning Counselling Centres, etc.) including skill enhancement of existing counsellors on MIYCN.

- Deploy dedicated counsellors as sustained measure at outpatient antenatal departments for counselling on maternal nutrition (especially diet counselling (diversity & quantity), counselling on iron-folic acid and calcium compliance, counselling for early initiation of breastfeeding) with support from the National Health Mission (NHM) or restructure the role of existing counsellors (family planning/RMNCH+A counsellors) to include MIYCN counselling.
- Create a formal referral linkage system between the physicians and the dietitians/counsellors so that those requiring specific dietary and feeding related counselling can be referred to qualified nutritionists or IYCF counsellors who have specialized knowledge and additional skills in this area.
- Integrated a robust health information system into the colleges for yielding high quality data. This data can strengthen decision making and support performance improvement of providers on MIYCN service delivery.

3. Strengthening research capacities that focus on MIYCN

Research activities are an integral part of any medical college's functioning and are expected to provide an optimal enabling environment to students and faculty to conduct research activities and bring deeper insights into disease epidemiology, treatment, and prevention. Although sufficient evidence shows the impact of MIYCN interventions on health, wellbeing, and survival, gaps still exist in the operational elements for the effective integration of MIYCN service delivery leading to at scale impact and sustainability.

The visioning exercise indicated that most medical colleges lack MIYCN-oriented research skills using interventional and scientific methods. Research work is mostly undertaken by post-graduate students as part of compulsory thesis writing and undergraduate students are not involved in any research activity. Research and evidence orientation in the colleges is weak due to a lack of institutional mechanisms to motivate and support the students. Activities are often dependent on external funding or inspiring mentors who can motivate the students to undertake the studies.

Findings from the baseline survey showed that only 22.5 percent of faculty published any papers on MIYCN topics

Recommendations for moving forward

- Encourage and guide post-graduate students in choosing MIYCN topics for research work with mentoring support from faculty.
- Increase the capacity of medical colleges to conduct operational/implementation research to inform policy and program decisions on MIYCN at the state and national level and at the facility level itself.
- Promote a nutrition-relevant research grant program to support faculty members from different medical colleges with clinical research interests in applied nutrition including facilitating support from the State Health mission
- Create opportunities for the dissemination of evidence generated through publication in scientific journals.

in the past two years and 25 percent of the post-graduate students presented their research at conferences or published in journals.



Administrative leadership and support of the State Department of Medical Education (and Research) and the State Health Mission is critical for creating an enabling environment for medical or nursing colleges to conduct nutrition research activities that are successful and relevant for policy/program decisions. During the consultative meeting held in Uttar Pradesh (UP), officials from the National Health Mission offered grant support for conducting implementation research on critical and relevant MIYCN issues and reiterated the need for evidence sharing and policy linkages.

4. Expanding the role of medical colleges and hospitals in influencing public health and nutrition program planning and implementation

Medical colleges can play a major role in the effective adoption and rollout of MIYCN programs by the state health system through technical capacity building of the public and private health and nutrition work force. They can help support on-the-job mentoring for performance improvement to health and nutrition service providers, and the monitoring and review of MIYCN program delivery. One of the critical barriers in successful implementation of health programs is the lack of robust mechanisms of supportive supervision and monitoring, leading to low coverage and suboptimal quality. In the past, there have been encouraging examples of how the medical colleges, especially community medicine departments, effectively aiding the strengthening of the supportive supervision system and facilitating actions for improving immunization and other services in Andhra Pradesh, Haryana, and West Bengal.



The baseline assessment (2017) in Bihar and UP shows that a considerable proportion of faculty (61 percent) are engaged in supporting at least one process (planning, training, monitoring and evaluation) with the Department of Health and Family Welfare, but that only around 18 percent are engaged with the Integrated Child Development Scheme (ICDS) in the state. Over half of the faculty are also involved in capacity building of health service providers, however, representation in expert committees is only 22 percent.

Creating a policy-programmatic platform within the state health system for the effective engagement with medical colleges in MIYCN through a state level steering group would be important as a sustainable mechanism for the long-term focus and investment in MIYCN

- In Maharashtra, a medical college faculty member is appointed as Officer on Special Duty (OSD). The OSD guides the district officials in planning, capacity building, and supportive supervision of the health care providers for implementation of IYCF programs in the high focus districts.
- In Bihar, Nalanda Medical College and Hospital (NMCH) is being developed as a model for a centre of excellence for promoting IYCF practices. The work is based on the Baby Friendly Hospital Initiative (BFHI) guidelines and the UNICEF-supported establishment of Patna Medical college as a centre of excellence for severe acute malnutrition (SAM). NMCH will also act as a State Resource Centre for the Mothers' Absolute Affection (MAA) program.
- In Uttar Pradesh (UP), Baba Raghav Das Medical College at Gorakhpur is playing a critical role as a state level resource centre for IYCF and extending valuable capacity-building support to the district health systems.

Recommendations for moving forward

- Engage medical colleges to lead supportive supervision and monitoring processes to ensure quality implementation of national public health nutrition programs. Actions can include providing support to state/district health systems in the orientation and training of the supervisory cadre on supportive supervision and in analysing and using the data for decision-making and guiding program improvements.
- Create technical expert committees of champions and experts in the field of MIYCN from each of the medical colleges in the state, who can contribute to evidence-based policy decisions and guideline formulation.
- Facilitate and establish critical program linkages between the National Health Mission and medical colleges under the Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), Mothers' Absolute Affection (MAA) programs, and the Lakshya initiative. Foster comprehensive lactation management efforts, including development of human milk banks (HMBs).
- Guide medical colleges in promoting the Infant Milk Substitutes (IMS) Act and monitoring to ensure its compliance.
- Engage experts from medical colleges to provide capacity building support training. These experts can offer onsite, hands on mentoring to the health and nutrition service providers in the districts. NITI Ayog, under its National Nutrition Strategy, has planned to formalise a national and state level mentoring group of experts and practitioners. Teams of 2-3 mentors would be assigned to support identified districts, especially those with a higher burden of maternal and child undernutrition.



Building partnerships to take MIYCN programs at scale

Partnerships between medical colleges and key stakeholders (State/District Health Missions, State/District ICDS, professional associations development partners, and technical agencies) has the potential to take the MIYCN program at scale and lead to the adoption of healthy nutrition/ feeding practices in communities and the population at large. State leadership from the Directorate of Medical Education and the State Health Mission, along with investments to strengthen/maximize the capacity (both human resource and infrastructure) is crucial to this process.

Acknowledgements

This discussion paper draws from the reports, 'Visioning exercise and interactions for creating centres of excellence on maternal infant and young child nutrition in medical colleges' and 'MIYCN-Policy and Programmatic Framework' developed by John Snow India (JSI) and A&T, as well as the findings from the baseline assessment conducted for A&T by the Deepak Foundation. We deeply thank and appreciate the insights shared by the participants from the following institutions and organisations who contributed during the consultative meetings held in Uttar Pradesh (UP) and Bihar and especially the support and guidance provided by the senior officials from the Health Department and the State Health Society in the two states.

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2. Maternal Health Division, State Health Society, Bihar
3. Child Health Division, State Health Society, Bihar
4. Lady Hardinge Medical College & Kalawati Saran Children's Hospital, Delhi
5. AIIMS, Patna
6. Patna Medical College and Hospital, Patna, Bihar
7. Darbhanga Medical College & Hospital, Darbhanga, Bihar
8. Sri Krishna Medical College and Hospital, Muzzaffarpur, Bihar
9. Anugrah Narayan Magadh Medical College and Hospital, Gaya, Bihar
10. ICDS Systems Strengthening & Nutrition Improvement Program (ISSNIP), ICDS Bihar
11. CARE-State RMNCH+A Unit, Bihar
12. UNICEF, Bihar
13. CARE, Bihar
1. Child Health Division, State Health Mission, UP
2. Maternal Health Division, State Health Mission, UP
3. Directorate of Medical Education & Training, UP
4. Member - National technical board, National Nutrition Mission
5. AIIMS, Delhi
6. Benares Hindu University (BHU), Varanasi, UP
7. King George Medical University (KGMU), UP
8. Motilal Nehru Medical college, Allahabad, UP
9. Kannauj Medical College, Kannauj, UP
10. GSVM Medical College, Kanpur, UP
11. Baba Raghav Das Medical College, Gorakhpur, UP
12. UP Technical Support Unit
13. UNICEF, Uttar Pradesh
14. RGMVP, Uttar Pradesh
15. PATH
16. Sambodhi, Uttar Pradesh
17. Nutrition International, Uttar Pradesh
18. GHS, Uttar Pradesh

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3. The Lancet Maternal and Child Nutrition Series, 2013, <https://www.thelancet.com/pb/assets/raw/Lancet/stories/series/nutrition-eng.pdf>
4. Integrated Management of Neonate and Childhood Illness (IMNCI); Navjat Shishu Suraksha Karyakram (NSSK); capacity building on Infant & Young Child Feeding (IYCF), Basic and Comprehensive Emergency Obstetric Care, Life Saving Anaesthetic Skills for Obstetric emergencies; setting up of Sick New Born Care Units (SNCU), MCH wings and Obstetric High Dependency Units; development of evidence-based program guidelines on IFA and calcium supplementation and deworming during pregnancy, management of gestational diabetes mellitus; maternal death surveillance and review and Polio Eradication
5. MoHFW is increasingly engaging with premier institutes like AIIMS as the anchor institution to support quality roll-out and review of newer initiatives like Anaemia free India or setting up National level Centre of Excellence on IYCF at RML Hospital, New Delhi in collaboration with development partners. National Reference Centre for Comprehensive Lactation Management Centres (CLMC) is being established at 'Vatsalya Maatri Amrit Kosh' the 'National Human Milk Bank' at Lady Hardinge Medical College and associated Smt. Sucheta Kriplani and Kalawati Saran Children's Hospital, New Delhi.
6. A&T's role as a knowledge partner is to facilitate knowledge sharing (i.e. a convening role), generate knowledge, synthesize scientific and program evidence for advocacy, and provide technical assistance to drive the development of evidence-based policy and program design and implementation.

