

Towards a Grand Convergence for child survival and health

A strategic review of options for the future building on lessons learnt from IMNCI: Country Assessment

India



ANMS and AWWs trained in IMNCI in 2008-10 with IMNCI modules
District Gaya District, Bihar

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Abbreviations

ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BCG	Bacillus Calmette Guérin
BCPM	Block Community Programme Manager
CDPO	Child Development Project Officer
CHC	Community Health Centre
CRS	Civil Registration System
CSSM	Child Survival and Safe Motherhood
DLHS	District Level Household Survey
DPT	Diphtheria, Pertussis, and Tetanus
EPI	Expanded Programme of Immunization
FBNC	Facility Based Newborn Care
FIMNCI Illnesses	Facility Based Integrated Management of Neonatal and Childhood Illnesses
GDP	Gross Domestic Product
GOI	Government of India
HBNC	Home Based Newborn Care
HMIS	Health Management Information System
ICATT	IMNCI Computerized Adaptation and Training Tool
IMCCI	Integrated Management of Common Childhood Illnesses
IMCI	Integrated Management of Childhood Illnesses
IMNCI	Integrated Management of Neonatal Childhood Illnesses
IMR	Infant Mortality Rate
MDG	Millennium Development Goals
NHA	National Health Account
NHM	National Health Mission
NRHM	National Rural Health Mission
NSSK	Navjaat Shishu Suraksha Karyakram
NUHM	National Urban Health Mission
ORT	Oral Rehydration Therapy
PGIMER	Postgraduate Institute of Medical Education and Research
PSBI	Possible Serious Bacterial Infection
RCH	Reproductive and Child Health
RKSK	Rashtriya Kishor Swasthya Karyakram
RMNCH+A	Reproductive Maternal Newborn Child Health and Adolescent
SAKSHAM	Special Attention and Kind Care for Sick, Healthy and malnourished newborns and Children
SDG	Sustainable Development Goals
SRS	Sample Registration System
UNICEF	United Nations Children's Fund
SWACH	Survival for Women and Children Foundation
TFR	Total Fertility Rate
TOR	Terms of Reference
TT	Tetanus Toxoid
U5MR	Under Five Mortality Rate
UIP	Universal Immunization Programme
WCD	Women and Child Development
WHO	World Health Organization

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I. Introduction

India, officially the Republic of India is a country in South Asia. It is the seventh-largest country by area, the second-most populous country (with over 1.2 billion people), and the most populous democracy in the world.

Table: Demographic and health statistics of India

Indicator	Value (mean) (Source)
Total population	1227012000 (CRS, 2013 ¹)
Total under-five population	116566140 (SRS 2013 ²)
Annual births	24810183 (CRS 2013), SRS 2013)
Neonatal mortality rate (per 1000 live births)	28 (SRS 2013)
Annual neonatal deaths	6,5,852 (UNICEF Global Database, 2015 ³)
Average annual rate of U5MR reduction, 2000-2013 (in per 1000 live-births)	2.8 (SRS statistical reports ⁴)
Under-5 mortality rate (per 1000 live births)	49 (SRS 2013)
Annual child deaths	12,00,998 (UNICEF Global Database, 2015)

India witnessed a decline in under-five mortality rate (U5MR) from 190 per 1000 live births in 1968-70 to 118 in 1990 and 49 in 2013. The decline has been by 44 points since 2000 (49 in 2013 against 93 in 2000)⁴. The Infant mortality rate has also declined from 50 per 1000 live births in 2009 to 40 in 2013. The decline has been largely due to a reduction in the mortality rate in the post neonatal period. The reduction in neonatal mortality rate has been steady since 1990 but slower as compared to post neonatal mortality. This has resulted in an increase in the proportion of neonatal to infant deaths from 60% in 90s to close to 70% currently. The rate of decline in child, infant and neonatal mortality has gained momentum only in the last decade. There has been a relative reduction in infant mortality by 37% between 2000 and 2012 compared to 25% between 1990 and 2000.² The figures stand at 32% and 17% for neonatal deaths for respective years⁴.

Male-female mortality differential with regards to child mortality has narrowed down over the years, (from 84 in 2000 to 47 in 2013 among males and 95 in 2000 to 53 in 2013 in females [reduction has been greater for girls by 5 points, yet the gap remains significant] However, for infant and neonatal deaths as well. The annual rate of decline from 2007 to 2012 is higher for males (5.9%) compared to females (4.8%).⁵

There is a wide gap in under-five mortality between urban (29) and rural areas (55). On an average there is a 20 point difference between rural and urban incidence of infant deaths. Within the country large variations exist, for example, Kerala has an under-five mortality rate of 12 while Assam stands at 73⁴.

Currently only 65% of the children aged 12-23 months are fully immunized. Among 6.5% of children 0-59 months who reportedly had diarrhoea, only 54.4% were given Oral Rehydration Solution (ORS) or recommended home fluid and 12.6% advised to take zinc along with ORS. On similar lines, out of 8.6% of children who had pneumonia 15 days prior to survey, 76.9% sought advice or treatment. Exclusive breast feeding was practiced by 64.9% among infants less than 6 months of age while it was initiated by only 44.6% of newborns within 1 day of birth⁶.

Currently Reproductive, Maternal, Newborn and Child Health plus Adolescent health (RMNCH +A) is the main programme driving all child health programmes along the lines of a continuum of care approach. RMNCH+A approach essentially looks to address the major causes of mortality among women and children as well as the delays in accessing and utilizing health care and services. The RMNCH+A appropriately directs the states to focus their efforts on the most vulnerable population and disadvantaged groups in the country. It also emphasizes on the need to reinforce efforts in those poor performing districts that have already been identified as the high focus districts⁷.

Both state and central governments finance maternal and child health programs.. India has seen an increase in public health expenditure from 0.9% to 1.4% of Gross Domestic product. Out of the central government's total allocation on health in 2009, 52.2 percent was allocated to National Rural Health Mission (NRHM). Most of the activities related to the maternal and child health are supported through the NRHM, which has been in operation since 2006. According to the National Health Accounts (NHA) 2009, based on 2004–2005 data on public healthcare expenditure, 18 percent of the total revenue is allocated to programs on reproductive and child health. Maximum expenditure for RCH-related activities (43.55 percent) comes from the central government⁸. Countrywide, 70 percent of health expenditure is out-of-pocket.⁹

In this report we seek to understand the role of Integrated Management of Childhood and Newborn Illnesses (IMNCI) strategy in the larger context of child health, the strengths and challenges towards its implementation. The country assessment is done under the aegis of the Strategic review, which aims to take stock of the IMNCI implementation and latest evidence on expanding coverage of high quality case management for sick children, to improve utilization of services at the national and global level. Two main methods were used for country assessment:

- A desk review, drawing on published and unpublished reports, Government reports and data from surveys
- In country data collection in the form of key informant interviews at national, district and facility levels

II. Evolution of child health programmes (1978-2013)

Following the Alma Ata declaration of 1978, the Government of India envisaged a national goal for attaining an Infant Mortality Rate (IMR) of 60 by 2000. Realizing the significant contribution of diarrhoea to child mortality, and the possibility of preventing large number of childhood diarrheal diseases through simple measures such as ORS, the national diarrhoeal disease control programme began in 1978.

In view of large mortality due to vaccine preventable diseases, in 1979, the Expanded Programme of Immunization (EPI) was established to provide the tetanus toxoid (TT) vaccine to pregnant women, and the BCG, DPT, polio and measles vaccines to children. The programme was further strengthened and scaled up to Universal Immunization Programme (UIP) in 1985. In the same year, oral rehydration therapy (ORT) was initiated, followed by the Safe Motherhood Programme initiated during the Eighth Plan. Further recognition of the Acute Respiratory Infection (ARI) Control programme was established in 1990.

Till the 1990s, the child health programmes were largely vertical, focusing on one disease (such as diarrhoea) or one intervention (such as immunization). In the early 1990s, these vertical programmes (UIP, Diarrheal Disease Control programme, Safe Motherhood Programme, and ARI Control Programme) were integrated and further

strengthened to shape the Child Survival and Safe Motherhood (CSSM) Programme. In 1997, the CSSM Programme was further expanded to the Reproductive and Child Health (RCH) programme, with a larger basket of services and greater focus on reproductive rights of women.

In early 2002, Government of India constituted a National Adaptation Group (NAG) of experts in collaboration with UNICEF, WHO, academic institutions and major stakeholders like the Department of Women and Child Development, National Anti-Malaria Program (NAMP) and professional organizations like National Neonatology Forum (NNF) and Indian Academy of Pediatrics (IAP). The group recommended and formulated an adapted version of IMCI renamed as IMNCI (Integrated Management of Neonatal and Childhood Illnesses) giving more thrust to neonatal component, the most critical period affecting IMR in India.

The main adaptations to the package were: (i) the insertion of the algorithm for identification, classification, referral, and treatment of disease conditions affecting the newborn 0-7 days old in addition to the entire period 0-5 years covered; (ii) inclusion of 50% of training time of workers for case management of young infants (0-2 months); (iii) reducing training duration to 8 days with separate training materials for physicians and frontline health workers (In addition, a three-day package on follow up trainings (supervision) was also provided to the supervisors); (iv) adjusting case management protocols consistent with the current policies of the MoHFW, MWCD, and NAMP; and (v) adding home-based care of newborns by health workers. During these visits, the frontline worker supports the mothers and families on adoption of appropriate newborn care practices such as breastfeeding and keeping the baby warm, assesses the babies for illnesses, manage local infections and refer the severe illnesses.

The Reproductive and Child Health program (RCH II, 2005-10) visualized skilled care at birth, Integrated Management of Neonatal and Childhood Management (IMNCI) and immunization as the core strategies for newborn and child health.

In 2005, the Government of India launched NRHM, and the second phase of RCH (RCH II) programme was initiated. This paradigm shift was supplemented with significantly increased funding, introduction of clear strategies for maternal health, child health, family planning and adolescent health and promotion of decentralized and flexible planning and management. There was also a clear focus on reaching the marginalized population. For the first time, community-based frontline workers were clearly sought to be engaged in promoting child health. RCH-II was subsumed within the NRHM.

The neonatal period was chosen as the focus of IMNCI, since gestation and delivery were covered under the services provided by the Reproductive and Child Health (RCH) programme and the Integrated Child Development Scheme (ICDS), India's existing child survival initiatives. Instead of creating a new vertical structure in which to deliver the IMNCI programme, it will function as an extension of the ICDS and will be integrated within the RCH programme along with linkages with strengthening of the health care infrastructure and referrals.

Under National RCH-II Project Implementation Plan (NPIP), it was envisaged, to implement a comprehensive IMNCI approach by 2010,

- At all sub-centers, PHCs, CHCs and FRUs
- In at-least 125 districts at the household level in rural and periurban settings (through AWWs/ LVs/ ASHAs)

III. IMNCI implementation

IMNCI was launched in the country in 2003 and the operational guidelines were adopted by MOHFW, GOI in 2007 **(I0526a)**. As per the NRHM report¹ 211316 health functionaries have been trained in IMNCI so far. Advanced IMNCI implementation has been achieved (at least 50% of training load completed) in 84 districts by 2009.

For the purposes of depicting the status of IMNCI implementation, districts were classified based on training load completed.² Year-wise distribution of number of districts implementing IMNCI in India is as below

Year	Districts implementing IMNCI
2005	18
2006	29
2007	35
2008	205
2009	230
2010	-
2011	338

Based on the reports of National review and PGIMER (National Institute coordinating reporting and review of IMNCI) the following lessons have been drawn since the initiated IMNCI in the year 2005. Till Dec 2011, 74% of the districts (338 out of 455) were implementing IMNCI in the country. Majority of them were either in the early implementation or expansion phase.

A. Political will and coordination

IMNCI since its inception was managed by the Child Health division under the Ministry of Health and Family Welfare; however no designated *post* as the focal for IMNCI exists within the division. There were several cross cuttings themes like human resources, drugs, logistics that run across all national programmes and all of those were taken care of by NRHM, as expressed by a national key informant. States actively involved in IMNCI implementation mentioned that the timing of introduction of IMNCI into the national programme was incorrect because the system itself was struggling on various fronts because of weak health system. Commitment to implement IMNCI with quality was inadequate in most of the states.

“We used to get several requests from the states requesting for funds solely for training purposes. But we have stopped receiving such requests since the past 3-4 years” said a national key informant. “We do not know whether the states are implementing IMNCI at all. We do not have any separate budget line for IMNCI. Health is a state subject. It is up-to them to adapt the package and implement in their own ways”. (I0526b, I0526c). However, there is no current data available on the training and coverage of home-visits conducted under IMNCI.

A key informant mentioned “Partners failed to support the states to include it in PIPs and it remained as a UNICEF strategy instead of Government strategy”. (I0526a)

¹ www.mohfw.nic.in/nrhm/Documents/Executive_Summary- August 09.pdf, accessed November 09

² Introductory Phase = 0-3 months after inclusion in state's PIP; Early implementation phase = up-to 50% training load completed and from 03- 12 months; after inclusion in PIP (ideally it should be between 3 months to 1 year); Expansion phase = 50% - 90% training load completed; Consolidation Phase = More than 90% training load completed

Coordination with WCD - Inter-sectoral coordination between health and DWCD department is pivotal to the success of IMNCI. While in some states such as Gujarat, inter-sectoral coordination was significantly higher, in others there was limited ownership of the program by the DWCD department. In the field, the effective coordination of the ANM of health department and AWW of ICDS for IMNCI was found effective in most states. Involvement of ICDS functionaries such as Lady Health visitors / Health Supervisors (LHV/ HS) and Child Development Programme Officers (CDPOs) in monitoring, supervision as crucial link was demonstrated well in select states. Gujarat did well in IMNCI because it had good linkages with WCD. **(I0526c, I0526d)**

“Not enough advocacy on IMNCI was done at the national level. Subsequently the other key components like health system strengthening got subsumed under NRHM and IMNCI was viewed only as a training package”, said a respondent. (I0526b)

However when AWWs were gradually withdrawn, there was no directive sent to the states, lead to in confusion and ownership to implement IMNCI by front-line workers, then the newly introduced ASHAs. Nevertheless the pool that has been created over the period of years is nothing but wastage of resources. Independent assessments conducted in Odisha and Bihar concluded that AWW driven IMNCI has a lot of potential and scope as a comprehensive community-based child-survival programme. **Error! Bookmark not defined.** *It recommends a tilt in the state health policy of continuing IMNCI activities with AWWs.* Detaching the WCD department, the controller of AWWs, from child survival-related programs due to lack of fund support for IMNCI implementation seriously hamper the inter-sectoral collaboration with department of Health and Family Welfare at the state level.

“There is good coordination with WCD at district level and below but lack of convergence at the highest (national) level finally affects implementation of programs” mentioned by a respondent (I0530h).

Introduction of ASHA program- With the introduction of HBNC, there was confusion in the field and the linkage between community and facility got diluted. **(I0526d)** The Government was not very supportive of the programme initially and a lot of advocacy had to be done by UNICEF at the state level for the continuation of the programme.

They said very categorically that "IMNCI itself did not die, it died because of lack of attention". (I0526d)

B. Implementation

Front-line workers- All districts have trained large number of frontline workers, supervisors and doctors. AWWs were the frontline workers engaged in the program implementation in most of the districts/states during the initial implementation excepting Rajasthan and Chhattisgarh where the state took a decision to train ASHAs (ASHA-Sahyoginis and Mitans respectively) instead. Later in the implementation with introduction of ASHAs their role in IMNCI remained unclear.

Home-visits - In all districts, trained workers were reported to be making home visits to about 60-77.4% of all newborns within first 24 hours with a range of 34.8% (Uttar Pradesh) to 99.8% (Tamil Nadu). About a similar proportion 72% reported visiting them three times within 10 days with a range of 50.8% (Rajasthan) to 89% (Tamil Nadu). When compared with data for the year 2010, it was seen that 63% of all newborns were visited within the first 24 hours and 66% were visited 3 times within 10 days in 2010.

There was an increase in home visits within 24 hours of birth by 14% within a year's time. About 5-30% newborns so assessed are being referred for severe illness.

While large numbers of older children were also seen and managed by the trained workers, there is not enough information on the proportion of all childhood illnesses that they were seeing or managing. Neonatal and infant deaths reported by the trained workers appear to be under-estimates. Additional home visits as part of IMNCI (also known as IMNCI plus) was implemented with additional home visits by ASHAs at 3rd, 6th, 9th and 12th month in 13 districts of four states (MP, Odisha, Rajasthan and Bihar). The innovation was evaluated by INCLEN with good results. In MP, this innovation has got fund approval in current PIP as well. **(I0526a)**

Quality of care - *"The quality has not been assessed well, so cannot comment (I0604p)* was the response. They receive a modular training through HBNC and get a kit that contains drugs including co-trimoxazole and amoxicillin, yet they are not permitted to use these and indeed ASHAs have never been promoted as care providers. The future role of ASHA as mobilizer, care provider or a mix is an unresolved issue. This issue is important for IMNCI as well because, child care must be centered on clearly defined roles for ASHAs, ANMs and physicians of different types; clinical care requires predictable access to a care provider who is available at fixed time, in a fixed place.

"ANM is the clinical provider at sub-centres, but their availability, skills are both in question, and the lack of branding as a place of quality outpatient care results in low care seeking for sick under-5 children", mentioned a respondent. **(I0604p)**

C. Training

Pace of training - Slow pace of training compromised the enthusiasm and quality of program. About 600-700 workers could be trained per year per district with support and coordination. This has been possible by engaging more trainers, more paramedical trainers and more training sites (Gujarat). Two-three training centres per district were found optimal to ensure pace as well as quality of training. Districts which had to manage with a single training centre took longer to make IMNCI operational in the field due to a lack of critical mass of trained personnel.

Funds for training- Practically, the states receive funds only after August and they have to exhaust it before March. Therefore a major chunk of the trainings happen during the last quarter of the year. **(I0526c)** With the aim to complete the committed numbers, and parallel programmes happening in the states, the right kind of people were not sent for IMNCI training. **(I0602m)** This also could have affected the implementation. This concern was raised emphatically by a national key informant as well as key informants from the districts. **(I0527f, I0602n, I0602o)**

Quality of training seems to be fair across the districts. Experience of training the AYUSH doctors and nurses has been limited and a systematic involvement needs to be planned. Setting up of quality assurance cells e.g. Bihar is a step forward to ensure the quality of trainings during the state scale up.

Another key lesson was on the importance of supportive supervision, on-the-job training, and monitoring of newly-trained community workers. Where supervisory staff was in short supply within the existing system, a monthly review meeting provided community workers the opportunity to seek clarifications and advice on problems in the field (Orissa).

Status - As per 2011 report - almost 65% of the frontline workers were trained. AWWs (47.1%) constituted the maximum number of trained personnel followed by ASHA/Link Worker (30.1%). Supervisors contributed only 3.9% to the total trained personnel.

Few examples of training **adaptation** at the state level –

- *In UP, IMNCI included 2 days of training in maternal health followed by 8 days of IMNCI and was launched as the Comprehensive Child Survival Programme (CCSP) was rolled out (I0531i).*
- *IMNCI training has been adapted by the state of Chhattisgarh to focus on the family behaviors. The 8 day training is administered in two divided trainings of 5 and 3 days respectively. (The adaptation for the existing modules involved 1. All yellow classifications are referred as red classification by the workers; 2. Including nutritional intervention e.g. meal to mother etc. as part of training and 3. Special focus on skill package- hand washing, wrapping the neonate, temperature, breathe counting etc.)*

All the key informants echoed that IMNCI is a very comprehensive, scientific, evidence based package that enables one to approach a child holistically by every category of health care provider (doctors, nurses, frontline workers). With IMNCI there ushered a new era of imparting good quality trainings and this impacted all other trainings as well.

Health workers response - The frontline workers in one of the states visited recalled the training as one of its kind and expressed that such trainings along with refresher trainings should be organized more often. They continued to implement IMNCI for 2 years after their training but later discontinued because they were never asked to report about the programme.

“We were given forms and medicines in adequate quantities after the training but were never replenished. No one asked us about the progress. However, we have preserved the IMNCI chart booklet and use it whenever we have to assess a sick child”, said a field level functionary. (I0602n, I0602o)

Partner support - As the initial handholding was done by UNICEF to promote trainings and IMNCI was therefore looked upon as a *partner driven training focus initiative. (I0526a)* After few start up trainings that took place in tertiary care hospitals in Delhi with dedicated trainers, good clinical case load and fully supported by UNICEF, the cascade of subsequent trainings were organized in the states. In the absence of good cases to demonstrate clinical signs, long duration of trainings and dearth of experienced trainers, the quality of trainings also suffered. **(I0526a, I0530g, I0527f)**

Some support was provided to start with but necessary skills and capacity were never transferred to the states and states therefore lacked an ownership. Although IMNCI trainings caught up in the country in a big way, enough preparations were not done that finally impacted the results. Some key informants were of the opinion that IMNCI was meant to be introduced in a moderately strong health system **(I0526a)** while others opined that IMNCI was a strategy to strengthen the health system. **(I0526d)** While one of them mentioned that it was prematurely introduced in India without introspection on whether it could be implemented, **(I0526a)** others felt that it was prematurely withdrawn before the results could be felt. A respondent said “*IMNCI could not succeed because there was lack of efforts to make a weak system perform*”. **(I06530g)** There was a lack of political will to support the programme at the highest level.

“There was no planning that in how many districts it was supposed to be implemented. Different documents gave different figures. Some said 125 districts while some other documents mentioned it as two-thirds of all districts. No set criteria were decided in terms of implementation.” mentioned a key informant. (I0526a)

Pre-service education - A couple of key informants highlighted that IMNCI was a part of the teaching curriculum for doctors and should be included in the teaching curricula of alternative medicine, nurses and ANMs. **(I0526c, I0527e, I0527f)** An abridged version of the package (5 days) was developed by IGNOU but it never got recognition because of lack of advocacy. Since the time IMNCI was introduced in the country, it was viewed as an excellent training package. It was –one of the best training packages that India has ever produced; it has effectively influenced other training programmes as well. With more paediatricians involved in the trainings and an apparent lack of willingness and proactiveness on the part of public health professionals including the Departments of Community Medicine of Medical Colleges, scaling up was a big setback, as expressed by some key informants. IMNCI was the largest pre-service training package and it got expanded to 70 medical colleges in the country. But public health system of India and Medical Education fall under different departments. “A system to **converge the two departments** for the purpose of training, monitoring and referral could have supported the implementation of the programmes in a better way”, mentioned few respondents. **(I0527f, I0527e, I0602m)**

D. Supervision

Supervision was the weakest component of program implementation. In most districts, there was limited supervision following the training. However few districts put in innovative systems for supervision.

- ✓ Joint supervision by health and ICDS supervisors in Gujarat
- ✓ Use of trainers as supervisors in Orissa
- ✓ Use of home science graduates from educational institute as supervisors in Rajasthan
- ✓ Use of peer supervisors in Gujarat

In Odisha, UNICEF engaged civil society for supervision of the programme in early implementation years but it also stopped after few years. E-jan Swasthya (based on IMNCI components) was initiated in one PHC in Barmer district in Rajasthan. After initial successes, Government has taken it up as ANMOL and scaled it up in 10 districts; it helped increase the motivation of frontline workers, increased the reporting. Its main focus is on the young infants (0-2 months). **(I0526d)**

E. Logistics

Few states provided “IMNCI Kit” for the trained workers, however most relied on the supplies of Kit A and Kit B. Erratic supply of Kit A and Kit B led to shortage and stock-outs of the required drugs for IMNCI and affected the workers performance. Other supplies included weighing scales, recording registers and reporting formats. In many states, digital watches for counting respiratory rate and thermometers for measuring body temperature were also supplied to the frontline workers right after the training by the trainers. There was also no clear system of replenishing the drugs and supplies subsequently. Some districts, weighing scale, thermometers and formats are supplied during their follow-up visits to the sector review meetings assist in replenishing the supplies.

F. Counselling and Communication

While AWWs and ASHAs were counseling families on key newborn and child health practices, the counseling continued to be more generic, and not specific to the child’s context. Some states such as Rajasthan and Uttar Pradesh developed counseling aides

to assist the frontline workers in counseling. It was iterated that many childcare practices were dependent on social norms and besides interpersonal communication (IPC) with families; other channels of communication to reinforce messages delivered by the ASHAs were required. Most of the districts did not have any innovative ways to promote communication efforts for newborn and child health.

G. Review and reporting

Program review - The program was often not reviewed at the national and state level, as compared to, for example, the immunization program. At the district level program reviews were usually inconsistent or not held. In some districts, the program was reviewed in the district health society meetings.

Recording and reporting - In most districts, recording and reporting was poor. At the ground level, regular recording was hampered by availability of forms and registers, and by absence of supervision. At the district and state level, since the indicators to monitor the program performance are not included in the HMIS, the information flow was not regular. There was no reporting of the implementation status after this period. The Health Management Information System (HMIS) does not have indicators that are suggestive of the implementation of IMNCI.

One of the key informants mentioned that “inbuilt mechanism of reporting was missing and it is very easy to miss out something that is not regularly measured and monitored” (I0530g)

H. Referral for sick children

Under the program, health workers refer those children to the health facilities who are identified as severely ill. About 5-30% of newborns visited by the health workers were reported to be referred across different districts. While districts did not have exact information on compliance with referrals, there was an evidence of increasing admissions of newborns in district and sub-district hospitals following IMNCI implementation. Many districts in response to the increasing referral of newborns set up a Special care Newborn Unit (SCNU) at the district hospital. In some of these, stabilization units are also being set up at sub-district hospitals to take care of sick newborns. In Madhya Pradesh, besides setting up the SCNU, a referral transport system was also set up to transport women and newborns to the health facilities. During year 2011; 11% of sick young infants and 8% of sick children were reported referred.

I. Role of private sector

Private Also, a great majority of patients visit private doctors. Although difficult, they should be sensitized and involved in programmes. They may not be available for 8 days or 5 days but at least they should be sensitized because they are catering to more than 80% of case load. (I0527f) Private sector flourished because of under-funded and understaffed public sector. (I0530h) Respondents at the district levels mentioned that funding is not a major issue currently but implementation is. This is attributable to the shortage of human resources across the health sector. (I0526d, I0602m)

“Almost 50% of the sanctioned positions for nursing staff are vacant in our Medical College” mentioned a district level key informant. (I0602m)

Barriers for adopting IMNCI	Barriers for scaling up
Lack of clear road map at National level	WHO/UNICEF failed to impress for continued IMNCI implementation as a strategy to strengthen health systems; Introduction of NRHM was mistimed.
Training was over-emphasized, initial trainings conducted in Delhi in tertiary hospitals with good infrastructure, trainers and clinical cases	Skills not transferred to the states to manage trainings independently without compromising on the quality
Passive role of the state machinery for implementation as UNICEF supported the trainings	Competing programs like HBNC, and FBNC brought the focus on newborn care at the highest level
Early lessons of implementation were not disseminated. No review meetings at national or state level discussed IMNCI	No inbuilt mechanism to monitor the progress and implementation, no indicators pertaining to IMNCI implementation in the routine health management system
AWWs were the backbone of IMNCI to start with but inclusion of ASHAs into the system led to confusion	AWWs were delinked from IMNCI as a policy decision. ASHAs are trained using a different package
ANMs were seen as supervisors of AWWs during the initial phases of implementation without any defined guidelines	A system of supportive supervision was not worked out and hence never implemented

IV. Assessments and Evaluation of IMNCI

The IMNCI programme was evaluated through a cluster randomized trial (covering 60702 live births) in Haryana between 2008 and 2010. Community health workers were trained to conduct postnatal home visits and women's group meetings. Evidence showed that neonatal mortality rate beyond 24 hours was significantly lower in the clusters where IMNCI was implemented as compared to the controls. (Adjusted hazard ratio 0.86; 0.79 to 0.95).¹⁰ The neonatal mortality rate was found to be significantly lower in the intervention clusters among those born at home. Though the effect of the intervention was seen only among home births, the intervention led to a reduction on post neonatal mortality rate both among home births (adjusted hazard ratio 0.73; 0.63-0.84) and facility births (0.81;0.69-0.96).

There was no systematic assessment of IMNCI to evaluate the processes or the impact of the programme. The data of DLHS 2 and DLHS 3 were compared to assess the difference between IMNCI and non IMNCI districts. The assessment showed that home-visits under IMNCI reached only 64% of births and those newborns not reached were likely to be the ones who were most vulnerable. The reasons attributed to why home-visits did not reach about one-third of all newborns were absence of workers in several villages, poor supervision, lack of motivation of the workers for this additional task. On the positive side quality of home visits was found to be satisfactory. More than 80% of the sick children were correctly classified and treated. Several reports exist on the retention of skills of the doctors and nurses. Skills on assessing and classifying illnesses based on guidelines were conflicting in different studies conducted in Haryana, Gujarat, West Bengal and Maharashtra.¹¹

The authors concluded that **training without effective implementation plans will not result in long term skill retention**.^{12,13,14,15} However, a recent assessment in some districts from Odisha showed that the workers do retain the skills and knowledge if the quality of training is good, as highlighted by a key informant. (I0526d)

Independent assessments done in Odisha and Bihar showed that retention of skills were good for AWWs especially for the 0-2 month age group. ^{16,17,18}

An assessment by PGIMER in four states (Punjab, Gujarat, Haryana and Tamil Nadu) in 2014 revealed that overall; IMNCI implementation was good to start with but later waned off. A plan for supportive supervision was available in Haryana and Tamil Nadu. Important IMNCI indicators were included in HMIS. No major issues were observed in terms of equipment or logistics.¹⁹

V. Child health programs 2013 - 2016

During this period, newborn programs came into high focus for implementation and scale up. IMNCI took shape of the newer initiative/program – Home Based Newborn Care (HBNC) through ASHAs. Facility based newborn care (FBNC) drew the attention of the policy makers and program managers at the state level and IMNCI lost its prominence and got merged within the larger child health agenda of the country. F-IMNCI is the integration of the facility-based care package with the IMNCI package, to empower the health personnel with the skills to manage newborn and childhood illness at the community level as well as at the facility. However the implementation of F-IMNCI in the country has been slow²⁰.

In 2013, the Ministry of Health and Family Welfare released the RMNCH+A strategic document with additions in RCH strategy⁷. In 2015 the government launched the National Urban Health Mission (NUHM) which along with NRHM subsumed under National Health Mission (NHM)²¹. The 12th Five Year Plan has defined the national health outcomes and the three goals that are relevant to RMNCH+A strategic approach:

- Reduction of Infant Mortality Rate (IMR) to 25 per 1,000 live births by 2017
- Reduction in Maternal Mortality Ratio (MMR) to 100 per 100,000 live births by 2017
- Reduction in Total Fertility Rate (TFR) to 2.1 by 2017

The priority child health interventions that currently implemented include

1. Home Based Newborn Care (HBNC) and prompt referral by ASHAs
2. Navjaat Shishu Sureksha Karyakaram (NSSK) for Delivery points (Essential newborn Care and resuscitation)
3. Facility based care of sick newborns for SCNUs
4. First level care (IMNCI) and referral level care (F-IMNCI or facility based IMNCI)
5. Child nutrition and essential micronutrient supplementation,
6. Immunization and
7. Rashtriya Bal Swasthya Karyakram (RBSK) - Early detection and management of defects at birth, deficiencies, diseases and disability in children (0-18 years).

Currently Newborn and child health is a high priority in the health sector. There is a separate division managing the programmes across the country with appropriate division of responsibilities. Most of the activities related to the maternal and child health are supported through the NRHM, which has been in operation since 2006. Allocation of funds for child health programmes is found to be optimal for the current efficiency of the public health system **(I0526b)**. Over a period of time there is a marginal increase in the amount of money allocated and released as a part of NRHM and so has been the utilization rates.²

VI. Moving Ahead

The respondents are in agreement that IMNCI will remain the core strategy driving all child health programmes in the country. According to RMNCH+A strategy, IMNCI will be provided at all levels of care: at community (ASHA package), first level care (IMNCI) and referral level care (F-IMNCI). IMNCI would address various aspects of child nutrition, immunization, and elements of disease prevention and health promotion.

A. Scope of Child health program

As lauded by all of the key informants, the strength of IMNCI programme is its integrated approach, methodically built algorithm, simplicity of the contents. The newly launched interventions should build upon the core of IMNCI strategy of integrated case management. The strategy includes a range of other preventive and curative interventions, which aim to improve practices both in the health facilities and at home.

The combination of interventions that make up the IMNCI can be modified to include conditions that for which additional programs are being implemented. The new analysis of the global burden of childhood disease and evidence of child health research needs to be incorporated in the current package.

The contents of IMNCI should be revisited in the light of newly launched interventions and other programmes and its training and implementation should be redesigned as per the current requirements of health care strategies and present state of health care system.

One of the key informant said *“If we dissect IMNCI pedagogically and redesign properly, it will be a success”*. (I0527e)

The strategies and programmes for the newer initiatives in future should not be competing but complementing. There was an agreement among all the respondents that the **scope of IMNCI** should be expanded. “Antenatal care, intra-partum care and care at birth should find a place in the package. Also, care of healthy children and of children beyond 5 years till 9 years should have a place within the range of child health programmes. Beyond this, Rashtriya Kishor Swasthya Karyakram (RKSK) can take over”, said one of the key informants. (I0530g)

The Government of India has recently advocated IM injection plus oral Amoxicillin based regimen by an ANM where referral is not possible for cases of Possible Serious Bacterial Infection (PSBI). “In practice the ANM’s availability at sub-centres is not predictable, so why should anyone go to them”, mentioned an informant (I0604p). In effect, the treatment for PSBI is only available at hospitals.

*“Research findings on simple regimens have found little acceptance in India, possibly because **lack of research, demonstration projects in India** but even if accepted, health system constraints would need to be addressed. Even more disappointing is the assessment and care for children older than 2 years, we most go to private sector and ASHA/ANM’s contribute mainly through facilitating referral, and pre-referral dose for small number who visit them”*, a respondent highlighted.

B. Harmonization of the various trainings in Child Health catering to different levels of care

The various training packages on child health that are currently available are: Navjaat Shishu Suraksha Karyakram (NSSK), Facility-based IMNCI (F-IMNCI), Facility-Based Newborn Care (FBNC), HBNC and IMNCI. Given the overlaps between the training packages and lack of clear cut guidelines, the Ministry has taken an initiative to **harmonize all the child health packages. (I0526a, I0526b)**. The training package is proposed to be renamed as **SAKSHAM** (Special Attention and Kind Care for Sick, Healthy and malnourished newborns and Children).

Since the launch of IMNCI, the country's child health strategy has come a long way and along the journey, various competing programmes have stepped in. In some ways it has led to confusion at the grass-root level. For instance, ***“the antibiotic policy for HBNC and IMNCI is at variance, with Amoxicillin and Co-trimoxazole being supplied, one for IMNCI and the other for HBNC”***, a respondent remarked. **(I0604p)**

The nutritional component of care of sick children is still weak and not well conceived in IMNCI, said a respondent **(I0604p)**. Implementation research is needed on various fronts. The use rate of zinc is always much lower than ORS. Issues like these must be addressed and resolved for future gains.

Harmonization of child health programmes, that is currently underway, will help avoid the duplication and reduce the training burden. In addition, it should also sort out the variances observed in the existing programs. Also, in the light of the above and launch of various new programmes within a short span, the Terms of References (TORs) or job responsibilities of the health care workers, especially the ASHAs and ANMs, should also be synchronized and redefined. Besides, the role of AYUSH doctors in IMNCI and other medical care using modern system of medicine remains an interesting source. **(I0604p)** While introducing and rolling out the newer child health strategies or programmes, it should be thoughtfully looked into that strategies and programmes are not competing but complementing. Political and partner's interest should not be limited only to the launch of the programme but it's on ground implementation should also be backed up with same vigour.

C. Leveraging additional and new technology

Training

Newer techniques of making it simulation based training is also underway. **(I0526a)** Imparting training through distance education mode can be adopted as it reduces the duration of onsite training. **Refresher trainings** at regular intervals and on site/on the job training should also be imparted to strengthen the skills of health care workers, as expressed by the functionaries at the field level. **(I0527e, I0530h, I0531i, I0602n)**

Imparting training through distance education mode can be adopted as it reduces the duration of onsite training. The training of child health care programmes should be standardized and made part of the course curriculum of the under-graduate medical and nursing students to maintain the uniformity of the assessment and treatment protocol across both public and private sector and reduce the training load. Trainings should not be made just a mere ritual instead its quality should be maintained equally till the grass-root level by rationally selecting the quality trainers. Refresher trainings at regular intervals and on site/on the job training should also be imparted to strengthen the skills of health care workers. **(I0527e, I0530g)**

For in-service trainings, an incremental modular approach can be adopted wherein each component of the harmonized package is taken up at a time. **(I0526b, I0530g)** However, the modalities have to be worked out. A recent directive has been circulated by the Ministry which mentions that ASHAs are supposed to follow up the babies at 3, 6, 9 and 12 months. Their specific functions during each visit are also elucidated. **(I0526a)**

To address the problem of long duration of training, it was suggested that these should get incorporated into the **pre service trainings** for long term sustainability. **(I0527e, I0527f)**

Supervision

A separate cadre of ASHA supervisors have been created that are different from ANMs. In the state of UP, this cadre by the name of ASHA Sahayogini is functional. For every 20 ASHAs there is a Sahayogini and in one block, a Block Community Programme Manager (BCPM) is responsible for supervising the Sahayoginis. **(I0531i)** Every visit is incentive based. A programme manager of a district visited said, “Our Chief Medical Officer reviews this programme every month. This has improved the performance of the child health programmes”. **(I0531j)** A commitment to improve the implementation of programmes should percolate from top to down.

To aid in the supervisory mechanism, a system of reporting can very well be established **using technology**. **(I0530g)** SWACH Foundation is piloting an innovation in which ASHAs have been provided with a SIM with preloaded software that contains the key monitoring variables. The reports are generated every month by the Foundation and that helps to keep track of their activities. A parallel reporting system exists through this very method and the reports get submitted to the state government. But there exists no method to monitor the activities at the district or the state level.

Newer technologies should be adopted for better implementation of the programme. **(I0531i)** Use of mobile technology can be explored as a mean to improve the follow-up and supervisory mechanism. Online reporting and monitoring mechanisms should be devised using smartphone/tablets; **(I0530g)** use of ICATT should be initiated with thoughtful strategies and its applicability on ground level. **(I0526a, I0527f)** Multi-media should be used to create awareness, thus by increasing the uptake of services. **(I0527e)**

Various models for supportive supervision using Child development project Officer (CDPO) and students of Home Science College was tried out in Haryana with successful results **(I0531h)**

Mentoring mechanism should be created and Medical Colleges should be weaved into to provide mentoring and support. The departments of Community Medicine and Paediatrics should be allied and their expertise should be explored and utilized in upgrading the various aspect of implementation of child health programmes in the community/district/state. **(I0527e, I0527f)** The retasking of Ayush doctors role, is widely accepted but needs more clarity. If the PHC's become better for clinical outpatient care, then people may seek care more often from this source. Similar considerations apply to CHC's where the quality of clinical provider by MBBS doctors is of variable quality; it is neither viable for inpatient care (usually 10-20 beds), nor a comprehensive, quality outpatient care place. **((I0604p)**

Reporting

The **reporting** format for child health programmes provided by the Centre is quite elaborate. Efforts have been taken up by the states to improvise it and make it more user friendly. For instance, the format has been simplified in UP that has a mention of the number of supervisory visits made along with the key programme relevant process indicators only. **(I0531j, I0531k)**

Health system

The cross cutting issues like **human resources and logistics** are being taken care of NHM. There is a national free drug policy where 50 essential drugs are included and will be implemented in the next 2 years, as mentioned by a respondent. National Ambulance Services is a big step to take care of referrals which will support all child health programmes. **(I0526c)**

As expressed by one of the key informants, “**We are experiencing poverty among plenty**”. **(I0530g)** When health care programmes or strategies are conceptualized, they are meant for all but their implementation in field reflects the inequitable utilization of the services. Efforts should be channelized to achieve equity in terms of service utilization and coverage.

Nearly 25% of places are difficult from an access point of view and with much higher U5MR. The health system aspects of child care in such places needs a different strategy, different roles for ASHAs, different design for sub centres and PHC as places of outpatient care excellence. IMNCI needs a health system strategy to succeed in such locations. An expanded clinical role for ASHA's in such places and telemedicine based IMNCI are the potential solutions. **(I0604p)**

The programme needs some immediate amendments in terms of reduced duration of training, strengthening the logistics supply, reporting system, supportive supervision and monitoring and referral system on one hand. On the other hand, periodic review of the performance at block, district, state and national level is required to keep the focus alive.

The issue of equity needs to be brought to the centre stage in the political agenda. Two things can change the child health scenario in the country: equity and quality. **(I0530g)**

*“We should **adopt an approach similar to what we did for polio eradication**. Only then child health programmes will succeed”, mentioned a respondent. **(I0526a)***

VII. Case Studies

Case Study I - IMNCI through the eyes of a middle-class mother in Andaman Islands



*“**Chitra**, a young mother of two at Bathuvasti village in the outskirts of Port Blair, capital of the Andaman and Nicobar islands, would qualify as “educated, middle class” in the Indian context”*

Chitra credits anganwari workers for the robust health of her 2 month old

By Patralekha Chatterjee

Port Blair: Chitra, a young mother of two at Bathuvasti village in the outskirts of Port Blair, capital of the Andaman and Nicobar islands, would qualify as "educated, middle class" in the Indian context. She has a post-graduate degree in library science; her husband is a senior clerk at the Central Agricultural Research Institute and she lives in a housing complex meant for government employees. But till recently, the 25 year-old was not that different from the average unlettered rural woman in the country on one score: No one had shown her how to hold a baby to ensure effective breastfeeding nor impressed upon her the importance of giving only breast-milk first 6 months in a baby's life.

Her older son, five year-old Akash, suffered from a variety of infections when he was two months old, Chitra recalls. The baby in her lap, in sharp contrast, has not been ill so far. The young mother credits the robust health of her two month old to regular post-natal visits, systematic monitoring of the baby's well-being, and breastfeeding tips by an Anganwadi worker, recently trained in the Integrated Management of Neonatal and Childhood Illness (IMNCI).

"I visited the house soon after the newborn baby arrived from the hospital – my first post-natal visit. The grandmother was about to give the baby water mixed with honey when I intervened. I told the mother not to give any food or fluids to the baby apart from breast milk and then demonstrated the correct way of feeding a child. I also showed her, illustrations from my health worker's chart booklet. I explained to the grandmother and other family members why a baby should not be given anything but breast milk for the first six months and the harm and infections that come strike the child if other fluids are given at this stage," recalls C P Nalini, the Anganwadi worker.

Ironically it was a natural calamity that ushered in the newborn-centric child survival strategy in the islands. UNICEF did not have an office in the Andaman and Nicobar Islands when the tsunami struck in December 2004. However, it was the first humanitarian agency to arrive in the disaster zone and establish its presence across the archipelago consisting of 572 islands of which only 38 are inhabited. With much of the health infrastructure decimated and traumatized medical staff coping with their own personal losses, there was a need to strengthen community-level health care. The tsunami recovery program turned out to be an unique launching pad for IMNCI which equips village-based Anganwadi (nutrition) workers and auxiliary nurse and midwives (ANM) with a set of skills to assess and classify sick infants and children below five, provide the first level of treatment when doctors are not available and refer the child to the nearest healthcare facility as soon as it displays clinical signs of danger. IMNCI was launched in June 2005 in Car Nicobar, the worst-affected. In the next stage, all the health and nutrition workers in Andaman are being trained.

Access is a big issue in many of the islands in the archipelago. In these far-flung islands, the major challenge in ensuring survival of a child is to reach all newborns.

"IMNCI is the first program that I know where the Anganwadi worker will be treating the patient. They have been given the necessary drugs to deal with coughs, fever, respiratory infections. Tribal populations in remote areas do not usually bring their infants to hospitals. The first hurdle is identification of the illness. A baby may be acutely ill, and not suckling. But the mother does not necessarily understand the significance of the situation and therefore does not do anything till it is too late. Then there is the topography of these islands --- to get from one place to another is often not easy. Anganwadi workers and ANMs trained in IMNCI are now able to identify the problem, and assist the child by bringing the first level of treatment to the door step, " says a senior official at the Directorate of Health Services, Andaman and Nicobar.

It is too early to gauge the impact of IMNCI on the infant mortality rate of the islands, but there are encouraging indicators. For example, promotion of correct breast feeding practices among middle class women like Chitra as well as among tribal mothers in the far-flung islands. "Now, the Anganwadi worker is empowered. Because she has the necessary skills to save a baby. The IMNCI training has taught her not only how to treat the baby at home, but also to detect early signs of danger and to refer a baby to a health facility when it is beyond home-based care. In the traditional health delivery system in the country, an anganwadi worker did not send a baby to a health facility with a referral slip. But that is happening now after the launch of IMNCI. Many

babies have been saved due to timely referrals in the Nicobar. " adds the health official at Port Blair.

Accessed on 10.06.2016: <http://unicef.in/Story/584/IMNCI-through-the-eyes-of-a-middle-class-mother-in-Andaman-islands#sthash.XHjhdHzS.dpuf>

Case study II- Public-Private partnerships bring Kangaroo Mother Care to Karanjberi



"No one had heard about "Kangaroo Mother Care" in Karanjberi till Paru Ben, the village anganwadi worker, showed rural mothers how this practice of holding a newborn, skin-to-skin against the parent's"

Paru Ben, the village anganwadi worker, guiding rural mothers how "Kangaroo Mother Care" could help pre-term, low birth-weight babies survive

By Patralekha Chatterjee

Valsad: No one had heard about "Kangaroo Mother Care" in Karanjberi till Paru Ben, the village anganwadi worker, showed rural mothers how this practice of holding a newborn, skin-to-skin (against the parent's chest) could help pre-term, low birth-weight babies survive in this tribal village in Valsad district, southern Gujarat.

The practice that originated in Bogota, Colombia, in the late '70s and adopted worldwide ever since, is a key component of the training package of Integrated Management of Newborn and Childhood Illness (IMNCI) – a new, nation-wide child survival strategy being implemented by the government in around 25 districts across India, and supported by UNICEF.

Valsad was among the first 5 pilot districts selected to implement the initiative whose key component is home-based care for newborns and low birth-weight babies during the most vulnerable period of their lives – the first 28 days.

The first batch of health and nutrition workers in Valsad district was trained in the IMNCI approach in July 2004.

Two and half years on, Karanjberi is at the cusp of change.

Ashaben Jadav, a 19 year-old mother, speaks animatedly about how she used "kangaroo care" to save her son, born prematurely and just 1.3 kg, following the advice of Paru Ben. The anganwadi worker made half a dozen post-natal home -visits the first month. Each visit involved a systematic examination of the baby, as recommended under IMNCI protocol, counselling the mother on Kangaroo Mother Care and exclusive breastfeeding, jotting down the increase in weight, monitoring general progress and checking if the mother was following her directives. Within two weeks, the baby who was inactive and not suckling properly had started responding. The weight had risen to 1.8 kg. Today, a smiling Ashaben cradles her 5 month old son, now almost 5 kg and thanks the community worker for helping her child survive and thrive. And Paru Ben's confidence has surged witnessing the results of her newly acquired skills

As a pilot IMNCI district, Valsad had its share of teething problems. In the early days, one critical area was firming up logistics for the training sessions. District authorities along with UNICEF staff forged strategic partnerships with the private sector to surmount the hurdle of arranging adequate number of cases of sick newborns for the trainees.

"The idea is to develop the skills of health and nutrition workers in newborn care. It is absolutely essential to make sure there are an adequate number of cases of sick newborns during the clinical sessions and community visits which are part of the IMNCI training. In Valsad, the district hospital could not provide enough of a case load. So, we tied up with Medicare, a private hospital, run by Dr Shirish Dave, a leading local pediatrician as well as

with Kasturba Hospital run by a charitable trust,” says Dr Vijay Godbole, part of UNICEF’s field staff in Gujarat.

The out-of-the-box thinking is also evident in the state Health Department’s innovative approach of bringing in experts from medical colleges, and positioning them as key health administrators overseeing IMNCI training in the state. “We accepted that the level of understanding about what was killing children was poor within the administrative system. We also accepted that those who understood the key issues underlying neonatal and child survival in general were in the medical colleges. So the next step was to seek out those who have stature in medical colleges and get them into the system where they can have a greater impact. This was a new thing because teachers had not been made health administrators earlier,” says Dr Amarjit Singh, Commissioner of Health and Secretary Family Welfare, Government of Gujarat.

The dynamic approach to IMNCI and child survival has begun to impact tribal villages like Karanjberi where the terrain is hilly, the population dispersed, and outreach workers face enormous challenges. Tribal mothers often go without the services of a skilled birth attendant during delivery. Even those who have institutional deliveries do not get regular, post-natal visits by a trained community worker during the critical first few weeks.

It is too early to gauge the impact of IMNCI on the Infant Mortality Rate in Valsad but there are significant outcome indicators: 69% of infants in the district now receive 3 post natal visits in the first 10 days after birth.

Anganwadi worker Paru Ben is buoyed by her newly acquired skills and her enhanced prestige in the village. Rural mothers, she says, were more easily persuaded to adopt recommended newborn care practices when she consulted a chart booklet as she examined the baby or spoke to the mother. “Weighing the baby each time we do a home visit has made a difference. Mothers now approach me and ask me to weight their child. The illustrated chart booklet given to us at the end of the training to help us with our work actually enhances our stature. If a mother is literate, we show her what is written in the book. That reassures her. If she cannot read, we show her the illustrations. Now after so many months, communities have realized the importance of regular post natal visits.”

Accessed on 16.06.2016: <http://unicef.in/Story/441/Public-Private-partnerships-bring-Kangaroo-Mother-Care-to-Karanjberi#sthash.dipxpCFN.dpuf>

VIII. Summary

The review clearly indicates the visible preliminary impacts of the introduction of the IMNCI intervention in India. Despite the variance, it would be justified to argue that the initial phases of IMNCI implementation and the front-line health worker trainings created a sense of euphoria and optimism both at the level of AWWs, ANMs and at the higher level of officials. The observation on increased motivation and confidence of front-line workers, pronounced at various interviews conducted both at the ICDS and Health Department level, were attributed to the IMNCI training for improving the case management skills of frontline workers. This effect is also observed to be translated to the community level through increased credibility of the workers in the jurisdiction that she serves.

Based on the desk review, KI interview and observations made during fieldwork a number of both program-related and external factors were elucidated for IMNCI implementation. The significance of these variables was further reiterated and recommendations for sustainability of the intervention and achievement of future positive outcomes are mentioned. The IMNCI related challenges included sustaining the knowledge base and motivation level of Health workers, through refresher trainings, follow-up visits and supportive supervision. The external constraints, identified as strengthening of the health system through guaranteeing sufficient and timely flow of

medical supplies and development of mechanisms to ensure the completion of recommended referrals, and reporting gaps.

IMNCI in the country was introduced during the Millennium Development Goal (MDG) era and as we are moving ahead into the Sustainable Development Goals (SDG) era with renewed thrust and revised goals, the service mechanisms of health care system should be refurbished accordingly to help achieve the SDG goal 3 of “Ensuring healthy lives and promote well-being for all at all ages”. To cater to this, IMNCI, under India’s RMNCH+A programme, is a tailor made strategy building its strength on continuum of care approach as far the children are concerned. Though, it takes care of the newborn and under-five children but in compartmentalized way, its scope further needs to be expanded before newborn and after 5 years of age, to make a dent in perinatal mortality reduction ultimately resulting into reduced neonatal, infant and under-five mortality on one side and ensuring the wellbeing of children from 5-9 years of age as these are the crucial years for building the strong foundation for adult life on the other side.

Despite improvements in access to health care, inequalities based on geography, socioeconomic status, caste and gender are there in health care service delivery. Besides, the large and unregulated private health sector contributes approximately 60%-70% to health care delivery, where the benefits of government health programmes cannot be availed. These factors compounded by high out of pocket expenditure pushes a large population below poverty line. Thus to decrease or eliminate out of pocket expenditure on availing health care services, providing health insurance to all can be the solution and should be on the priority agenda of the government. Government should make serious efforts to achieve 100% coverage of it in the coming five years.

As one of the key informant has very well said “ *In continuum, even IMNCI right now is looking at it in a compartmentalized manner, it looks at newborn up-to five years but then before newborn and after five years, are dark areas. In continuum of care, ok, I must say that we have packages for adolescents, we have packages for under-five. Neonatal mortality will never come down unless we focus on perinatal mortality and that brings us to the critical care that is required during the intra-partum period.* (I0530g)

The sustainability of the knowledge and experience gained in IMNCI implementation needs to be retained.

The recommendations include

- ✓ IMNCI cannot function independently of other programs. It will evolve to inter-link other maternal, newborn and child health programs to provide adequate interconnected platform and make a long-term impact.
- ✓ Basic element and continued investments for maintaining or increasing the Health worker performance quality is critical to performance. Both monetary and intrinsic incentives such as personal gratification gained by making a difference in human lives should be recognized and inbuilt.
- ✓ Child health strategies must walk together with health systems and its capacity. Each state should define its elements and articulate their plans. Accounting each event and measuring against norms and standards needs system thinking.
- ✓ Finally, understanding cultural beliefs and practices is essential in bringing health services to communities. If only family, community, outreach and facility interventions are scaled up, without attention to other variables impacting social

and economic determinants of a state, district and community the impact would probably be lower.

To sum up, scaling up of child health interventions and programs will require continued investments, architectural redesign, high level of commitment and ownership at all levels, strengthened functional capacity of the country's health system.

India is yet to see a strong program as IMNCI that propelled and is still the elect potential for addressing child survival and developmental issues in such a comprehensive manner.

IX. References

1. PHFI, AIIMS, and SC- State of India's Newborns (SOIN) 2014- a report. (Eds) Zodpey S and Paul VK. Public Health Foundation of India, All India Institute of Medical Sciences and Save the Children. New Delhi, India
2. Civil Registration System, 2013. Office of the Registrar General of India. Ministry of Home Affairs, Government of India, New Delhi.
3. Sample Registration System report, 2013. Office of the Registrar General of India, Ministry of Health and Family Welfare, Government of India, New Delhi
4. UNICEF Global Database, 2015
5. Rapid Survey on Children 2013-14. Ministry of Women and Child Development. Government of India
6. A Strategic Approach to Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) in India, 2013. Ministry of Health and Family Welfare, government of India, New Delhi.
7. National Health Accounts 2009. [Cited 2013 Feb 10]. Available from: http://planningcommission.nic.in/reports/genrep/health/National_Health_Account_04_05.pdf.
8. Marten R, McIntyre D, Travassos C et al. An assessment of progress towards universal health coverage in Brazil, Russia, India, China, and South Africa (BRICS) Lancet. 2014;384: 2164–71..
9. Operational Guidelines for Implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI), 2006. Ministry of Health and Family Welfare, Government of India, New Delhi.
10. National Health Mission. Ministry of Health and Family Welfare, Government of India, New Delhi. Accessed from <http://nhm.gov.in/nhm/about-nhm/goals.html>.
11. Operational Guidelines for Facility-based Integrated Management of Neonatal and Childhood Illnesses (F-IMNCI). Ministry of Health and Family Welfare, Government of India, New Delhi.
12. Bhandari N, Mazumder S, Taneja S et al. Effect of implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI) programme on neonatal and infant mortality: cluster randomized controlled trial. BMJ 2012;344:e1634 doi: 10.1136/bmj.e1634.
13. Annual Report 2013-14, Department of Health and Family Welfare, Ministry of Health and Family Welfare, Government of India, New Delhi.
14. Personal communication, Kumar R. IMNCI Factsheet 2011 for 14 states – INDIA Integrated Management of Neonatal and Childhood Illnesses Factsheets, Period 2011. PGIMER, Chandigarh.
15. Mohan P, Kishore B, Singh S, et al. Assessment of Implementation of Integrated Management of Neonatal and Childhood Illness in India. J Health Popul Nutr 2011;29:1-10.
16. Mane A, Dohare S, Gitte SV. Child Health: understanding the home care practices in some illnesses among under five children in IMNCI implemented rural areas. Int J Biol Med Res 2012;3:1251-54.
17. Biswas AB, Mukhopadhyay DK, Mandal NK et al. Skill of frontline workers implementing integrated management of neonatal and childhood illness: experience from a district of West Bengal, India. J Trop Pediatr. 2011 Oct;57(5):352-6. doi: 10.1093/tropej/fmq106. Epub 2010 Nov 16.
18. Shewade HD, Aggarwal AK, Bharti B. Integrated management of neonatal and childhood illness (IMNCI): skill assessment of health and Integrated Child Development Scheme (ICDS)

- workers to classify sick under-five children. Indian J Pediatr 2012;DOI 10.1007/s12098-012-0835-4
19. Ramanuj V, Bala DV. Evaluation of knowledge about Integrated Management of neonatal and Childhood illness (IMNCI) approach among internee doctors. Healthline 2011;2:6-7
 20. Misra SV, Baxi RK, Kotecha PV. IMNCI training at a medical college in Gujarat- a feedback from the facilitators and nursing participants. Healthline 2011;2:46-47
 21. Rapid assessment of IMNCI in Karnataka- a report. IIHMR, Bangalore, UNICEF; 2011
 22. Integrated Management of Neonatal and Childhood Illnesses (IMNCI): A programme assessment report of district Vaishali, Bihar. Patna Medical College, State Health Society Bihar and UNICEF; 2009
 23. A report on "Assessment of IMNCI implementation in Odisha". Asian Institute of Public Health, Bhubaneswar.
 24. IMCI implementation in India and Nepal, 2014. Report by World Health Organization and Postgraduate Institute of Medical Education and Research.
 25. Som M, Panigrahi SK, Sahoo KS et al. Enhanced child-survival knowledge of Anganwadi Workers of Odisha, India, post-training on Integrated Management of Neonatal and Childhood Illnesses (IMNCI) leads to rethink of reversal of the policy to continue IMNCI implementation through them. (under publication)
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