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INAP

India Newborn Action Plan

Ministry of Health & Family Welfare
Government of India

SEPTEMBER 2014

Child Health Division
Ministry of Health and Family Welfare
Government of India
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Maulana Azad Road, New Delhi, India
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Message

A healthy start to life is vital in establishing the foundation of a healthy nation. India has been making considerable progress on the front of child health, and eradication of polio from India is evidence to this effect. During the last two decades, India has witnessed a significant reduction in the quantum of child deaths. Since neonatal deaths are the biggest contributor to child deaths, an attempt to improve child survival hinges on improving newborn health. Although, the annual burden of neonatal deaths has reduced from 1.35 million in 1990 to 0.76 million in 2012, we still face a huge challenge to reduce further the number of deaths.

Health outcomes of newborns are shaped by biological, social and economic factors along with the cultural environment. This makes the task more complex and demanding. Moreover, newborn health is clearly dependent on the health of mothers. The health of an adolescent girl impacts on pregnancy; the health of a pregnant woman on the health of the newborn and therefore, care during various life stages becomes important.

With less than 500 days left to achieve the Millennium Development Goals (MDGs) this is the opportune time to plan ahead by consolidating the gains made under the National Health Mission. Standing firm on India's commitment in the 67th World Health Assembly, India Newborn Action Plan (INAP) is another step towards India's commitment to the global agenda and affirming its priorities for newborns. INAP sets out the country's mandate with a vision, goals, strategic implementation packages and actions to end all preventable newborn deaths and still births. This is an important step in contextualizing and formalizing the country's commitment in terms of improving health systems and health delivery platforms for accelerating the efforts for improving newborn survival.

I am convinced that INAP will prove to be a historic milestone to guide the nation for the survival and development of healthy newborns. I wish success for the programme.

(Dr. Harsh Vardhan)

Union Minister of Health & Family Welfare

Government of India

Foreword

India as a country contributes to and significantly impacts global health indicators. Remarkable progress has been made in recent decades to reduce the number of child deaths worldwide, but neonatal mortality rate has declined at a slower pace. A large proportion of newborn deaths are preventable. Although under-5 mortality in India declined at an accelerated rate (to 59% from 1990 to 2012 compared with 47% for the global under-5 mortality rate), progress on the front of newborn deaths has been slower. Therefore, in order to reduce child mortality and end preventable deaths, intensified action and guidance are needed to ensure newborn survival, as 56% of under-5 deaths are neonatal deaths.

A major initiative, launched in 2005, was the National Rural Health Mission (NRHM), which focused on public investment in strengthening health systems. Schemes such as Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), Facility Based New Born Care (FBNC) and Home Based New Born Care (HBNC) are steps towards ensuring zero out of pocket expenditure and improving access to healthcare for the vulnerable sections of society.

In order to intensify the efforts towards improving newborn health, the India Newborn Action Plan will guide the efforts of State governments to design State specific plans for accelerating progress towards MDGs and work towards the long-term goal of ending preventable deaths among women and children. India has an avowed responsibility towards caring for its newborns and ensuring that each child has a fighting chance of surviving to adulthood and realizing his or her potential and wellbeing. Every effort must be made to address avoidable stillbirths and newborn deaths.

I am confident that the India New Born Action Plan will definitely bring a sharper focus on implementation of the existing and new initiatives for the newborns- both for their survival and subsequent sustainable growth and development.

(Lov Verma)

Secretary (Health & Family Welfare)

Government of India

Preface

As India strides towards the Millennium Development Goals (MDGs) and looks ahead to the post-2015 era, progress in reducing neonatal mortality is an important frontier. In the past two decades, while there has been remarkable progress in the survival of mothers and children beyond the newborn period, newborn survival has lagged behind.

The country observed a paradigm shift in its approach towards health care by adopting the Reproductive, Maternal, Newborn, Child Health and Adolescent Health Strategy (RMNCH+A) in 2013. Newborn health occupies centre-stage in the overall strategy as all the inter linkages between various components have the greatest impact on the mortality and morbidity rates of a newborn. Building on the RMNCH+A approach, understanding the causes and challenges of newborn health, we have the knowledge and tools to reduce the newborn deaths significantly.

The India New Born Action Plan (INAP) focuses on the paradigm that knowledge and rapid progress is possible, especially when applying the integrated strategy of INAP, linking key interventions across the continuum of care, from pre-pregnancy care through to the post-partum period, underlining the inherent connections between reproduc¬tive, maternal, newborn and child healthcare. The strategic intervention packages range from preconception interventions to care beyond survival of a newborn.

I extend my best wishes and fervent support to this new and significant initiative and urge the States to accelerate their efforts towards the achievement of the envisaged single digit Neonatal Mortality Rate in the country by 2030.

(C.K. Mishra)

Additional Secretary & Mission Director, NHM

Ministry of Health & Family Welfare

Government of India

Message from IAP President

Preventable newborn deaths account for 44 percent of all deaths among children under the age of five globally. This figure is even higher for India. Four out of five newborn deaths result from three treatable conditions: Complications during childbirth (including birth asphyxia), newborn infections, and complications from prematurity. It has been estimated that preventable neonatal deaths can be decreased by at least 50% through implementation and scale-up of educational interventions that include neonatal resuscitation and other essential elements of basic newborn care.

Launching of India Newborn Action Plan by the Ministry of health and family welfare is a right step in reducing preventable newborn deaths. Indian Academy of Pediatrics pledges its full support on behalf of its more than 23000 members.

Indian Academy of Pediatrics (IAP) understanding regarding gravity of neonatal mortality resulted in launch of Neonatal Resuscitation Program termed as "First Golden Minute (IAP-NRP-FGM) Project" in 2009 in partnership with American Academy of Pediatrics (AAP) and Later- Day Saint Charities (LDSC) with academic grant from Johnson & Johnson India and till date IAP has trained > 70,000 healthcare personnel in Basic & Advance NRP.

This project targets to build capacity of 200,000 health professionals in Basic Newborn Care and Resuscitation with ultimate aim to have presence of at least one NRP trained personnel at every delivery that takes place in India. IAP has also established alliance with, National Neonatology Forum (NNF), Federation of Obstetrics and Gynecological Society of India (FOGSI), Indian Society of Perinatology and Reproductive Biology (ISOPARB), Society of Midwives of India (SOMI) and Trained Nurses Association of India (TNAI) with the objective of enhancing strength & network of NRP trained Professionals across the associations.

IAP will continue to work with the Govt of India to support INAP with the help of it's huge network of NRP Instructors ,IAP branches and dedicated IAP members.

(Dr. Vijay Yewale)
President IAP 2014

Message from NNF President

It is a very proud moment for our country when India Newborn Action Plan is being launched and we are committing ourselves to bring NMR and SBR to single digits by 2030. Difficult as it may seem, India has expertise, experience and political will also now to achieve this.

The world shall be looking at the Indian experience for quite some time to come. The strategic implementation that is well outlined in INAP and that shall follow will determine the success we are able to achieve. It is crystal clear to all concerned that the zone of decisive action shall be states and in states, district and sub-district places.

Extra and directed efforts will be necessary in overcoming barriers at service-community interfaces. Barriers crossing will need awareness, health education & demand creation in community; socioeconomic upliftment of population and physical (roads etc) & communication infrastructure development on one hand and manpower development and their effective deployment in health sector on the other. Luckily India is posed to attend to both spheres and has excellent health as well as general development strategies.

NNF since its inception in 1980 has been an effective advocate for newborn health in India. Essential Newborn Care got incorporated into Minimum Perinatal Care document of GOI as early as 1982 due to its efforts. Successively we have seen NNF spearheading several novel initiatives addressing needs of manpower and neonatal facilities development. The last generation of NNF leadership shall therefore be very pleased today.

GOI and all other stakeholders have many challenges to overcome. It is very satisfying that government is sensitized, fully prepared and coming forward to harness the strengths of professional bodies, NGOs, corporate sector, social scientists, technocrats and so on. The positive response to this new INAP initiative from all quarters raises lot of hope. Constant monitoring, feedback and midterm corrections will be necessary and are essential for success of any program.

We, members of NNF, reaffirm our full support and commit our all resources from technical knowhow to field work for the purpose of improving newborn health in our country.

(Shikhar Jain)

MD, FIAP, FNNF

President,

National Neonatology Forum (India)

Acknowledgements

The India Newborn Action Plan is the fulfillment of a commitment made to the global community at the Global Newborn Conference held at Johannesburg in April 2013-the commitment to end all preventable newborn deaths, and the 67th World Health Assembly at Geneva in May 2014. The Action Plan is in synchrony with the Global Every Newborn Action Plan (2014) that sets out a vision of a world in which there are no preventable deaths of newborns or stillbirths; where every pregnancy is wanted and every birth celebrated; and where women, babies and children survive, thrive and reach their full potential. This document is the result of the concerted efforts of a diverse group of stakeholders and agencies who have been trying to make a dent in neonatal mortality.

I am extremely grateful to Shri Lov Verma, Secretary, Department of Health & Family Welfare for his guidance in this endeavour. The inspiring policy guidance and unstinting support provided by Shri CK Mishra, Additional Secretary & Mission Director, throughout the process of development of the India Newborn Action Plan has been invaluable.

Dr. P.K. Prabhakar, Deputy Commissioner, under the able guidance of Dr. Ajay Khera, Deputy Commissioner, led the Child Health Division team to undertake the process of INAP development, starting with bottleneck analysis in 3 States of Rajasthan, Odisha, and Andhra Pradesh, followed by a series of extensive consultations with the experts from the Technical Advisory Group and sub-groups in various thematic areas. I would like to place on record my deepest appreciation for the Child Health team.

Most sincerely, I thank all the contributors, reviewers, advisors, especially Dr. Ajay Khera, Dr. Vinod K. Paul, Dr. Gagan Gupta, Dr. Renu Srivastava, Dr. Rajesh Khanna, Dr. Devendra Khandait and Dr. Anju Puri, for their tireless efforts that have gone into shaping this piece of creative work, and finally, making it happen. The technical support extended by UNICEF, Save the Children, WHO, USAID, BMGF, DFID and NIPI is highly appreciated.

I would also like to express my deep gratitude to Professor Mathuram Santosham (Johns Hopkins School of Public Health-Baltimore), Dr. Mickey Chopra (UNICEF Headquarters, New York) and Dr. Lily Kak (USAID, Washington DC) for constantly inspiring me to undertake this endeavor. I would also like to appreciate the tremendous support provided by Dr. Manisha Malhotra, Deputy Commissioner, Maternal Health, Govt. of India in finalizing this document.

I am certain that the states & UTs and our partner agencies will do their utmost in translating this Newborn Action Plan into a reality which will have the profound impact of ending preventable newborn deaths in the country.

(Dr. Rakesh Kumar)
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List of Abbreviations

AARR	Average Annual Rate of Reduction
AHS	Annual Health Survey
ANCS	Antenatal Corticosteroids
ANM	Auxiliary Nurse Midwife
ARC	ASHA Resource Centre
ARSH	Adolescent Reproductive & Sexual Health
ASHA	Accredited Social Health Activist
BEmOC	Basic Emergency Obstetric Care
BCG	Bacillus Calmette Guerin
BCM	Block Community Mobilizer
BNA	Bottleneck Analysis
CDR	Child Death Review
CEmOC	Comprehensive Emergency Obstetric Care
CHC	Community Health Centre
COIA	Commission on Information and Accountability
CRVS	Civil registration and vital statistics
CSSM	Child Survival and Safe Motherhood Programme
DCM	District Community Mobilizer
DEIC	District Early Intervention Centre
DRC	District Resource Centre
ENAP	Every Newborn Action Plan
FBNC	Facility Based Newborn Care
FRU	First Referral Unit
FOGSI	Federation of Obstetric and Gynaecological Societies of India
HBNC	Home Based Newborn Care
HMIS	Health Management Information System
HPD	High Priority District
HR	Human Resource
HRH	Human Resources for Health
IAP	Indian Academy of Paediatrics
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IMR	Infant Mortality Rate
INAP	India Newborn Action Plan
IPHS	Indian Public Health Standards
IUCD	Intrauterine Contraceptive Device
IYCF	Infant and Young Child Feeding
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana

KMC	Kangaroo Mother Care
LBW	Low Birth Weight
LHV	Lady Health Visitor
LSAS	Life Saving Anaesthesia Skills
MCTS	Mother and Child Tracking System
MNH	Maternal Newborn Health
MO	Medical Officer
NFHS	National Family Health Survey
NICU	Neonatal Intensive Care Unit
NIPI	National Iron Plus Initiative
NHM	National Health Mission
NMR	Neonatal Mortality Rate
NNF	National Neonatology Forum
NSSK	Navjat Shishu Suraksha Karyakram
NRHM	National Rural Health Mission
OPV	Oral Polio Vaccine
PC-PNDT	Pre-Conception and Pre-Natal Diagnostic Techniques
PHC	Primary Health Centre
PIH	Pregnancy Induced Hypertension
PPIUCD	Postpartum Intrauterine Contraceptive Device
PPP	Public Private Partnership
PRI	Panchayati Raj Institution
RCH	Reproductive and Child Health
RBSK	Rashtriya Bal Swasthya Karyakram
RKSK	Rashtriya Kishore Swasthya Karyakram
RKS	Rogi Kalyan Samiti
RMNCH+A	Reproductive, Maternal, Newborn, Child and Adolescent Health
SBA	Skilled Birth Attendant
SBR	Stillbirth Rate
SGA	Small for Gestation Age
SHG	Self-Help Group
SN	Staff Nurse
SNCU	Special Newborn Care Units
SPR	Short Programme Review
SRS	Sample Registration System
SOP	Standard Operating Procedure
TAG	Technical Advisory Group
UHC	Universal Health Coverage
UT	Union Territory
VHND	Village Health & Nutrition Day
VHSC	Village Health & Sanitation Committee
WASH	Water Sanitation and Hygiene
WIFS	Weekly Iron-Folic Acid Supplementation

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Executive Summary

India's triumph over polio has proven that it can reach even the most hard-to-reach and vulnerable children despite demographic, economic, and socio-cultural challenges. The country has witnessed dramatic reduction in maternal and child mortality rates over the past two decades. Newborns and stillbirths however have missed out on the attention. Neonatal mortality has reduced much less than post-neonatal deaths, thereby increasing the contribution of neonatal deaths from 41% of under-5 deaths in 1990 to 56% in 2012. Even now, 0.76 million newborns die each year mainly due to preventable causes, while stillbirths have largely remained invisible.

Newborn health has now captured the attention of policy makers at the highest level. Various efforts have demonstrated the country's strong political commitment to recognize newborn health as a national development necessity. Two important milestones in this direction have been the National Rural Health Mission (NRHM) and the Reproductive, Maternal, Newborn, Child and Adolescent Strategy (RMNCH+A Strategy). NRHM has provided unprecedented attention and resources for newborn health; the RMNCH+A strategy has showcased a paradigm shift in perspectives based on the continuum-of-care approach and health system strengthening.

The India Newborn Action Plan (INAP)—developed in response to the Global Every Newborn Action Plan (ENAP) and launched at the World Health Assembly in June 2014—outlines a targeted strategy for accelerating the reduction of preventable newborn deaths and stillbirths in the country. INAP defines the latest evidence on effective interventions which will not only help in reducing the burden of stillbirths and neonatal mortality, but also maternal deaths. With clearly marked timelines for implementation, monitoring and evaluation, and scaling-up of proposed interventions, it is expected that all stakeholders working towards improving newborn health in India will stridently work towards attainment of the goals of "Single Digit NMR by 2030" and "Single Digit SBR by 2030."

The INAP will be implemented within the existing RMNCH+A framework, and guided by the principles of Integration, Equity, Gender, Quality of Care, Convergence, Accountability, and Partnerships. Its strength is built on its six pillars of intervention packages, impacting stillbirths and newborn health, which include: Pre-conception and antenatal care; Care during labour and child birth; Immediate newborn care; Care of healthy newborn; Care of small and sick newborn; and Care beyond newborn survival. Under the sixth pillar of "care beyond newborn survival," India has taken a vital step towards improving quality of life beyond survival for those newborns with birth defects/disabilities and for those who develop neurodevelopmental delay following sickness. For effective implementation, a systematic plan for monitoring and evaluation has been developed with a list of dashboard indicators.

INAP is India's renewed commitment to ending preventable stillbirths and newborn deaths. With a clear understanding that almost all of these deaths and subsequent disabilities are preventable, the plan is a concerted effort towards translating these commitments into meaningful change for newborns.

Introduction

INTRODUCTION

Milestones in Child Survival Programmes in India

- 1992 – Child Survival and Safe Motherhood Programme (CSSM)
- 1997 – RCH I
- 2005 – RCH II
- 2005 – National Rural Health Mission
- 2013 – RMNCH+A Strategy
- 2013 – National Health Mission
- 2014 – India Newborn Action Plan (INAP)

India has been at the forefront of the global effort to reduce child mortality and morbidity. Its continuous commitment and ongoing efforts have resulted in a 59% reduction in under-5 (U5) child mortality since 1990. India has proven, that it can reach even the most hard-to-reach and vulnerable children with affordable life-saving interventions, as also is evident from its polio eradication strategies.

The Government of India (GoI) recognizes child survival and development as essential for the overall development of the society. This is reflected in its policies committed to providing adequate services for children—before and after birth and throughout childhood—to facilitate their full physical, mental, and social development.

India contributes more than any other country to global under-5 and newborn deaths. Despite considerable strides, progress within India has not been uniform—i.e., reduction in neonatal mortality lags behind reduction in post-neonatal deaths.

Given its demographic and cultural diversity, India does face numerous challenges with significant rural-urban, poor-rich, gender, socio-economic, and regional differences. More girls than boys are dying, and newborns delivered in rural setting are twice as likely to die as those born in urban areas. Furthermore, neonatal mortality varies considerably between states and regions. The four large states of Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan together account for more than half of the country's neonatal mortality, which accounts for about 14% of global newborn deaths.

Newborn health has captured the attention of policymakers at the highest level in India. This has resulted in strong political commitment to end preventable newborn deaths and stillbirths, and recognize newborn health as a national development necessity. In this regard, the GoI is building on a series of efforts, policy

decisions, and programmes introduced over the past two decades to address maternal and newborn health. Major milestones (*see also box item*) so far include: launch of the Child Survival and Safe Motherhood Programme (CSSM) in 1992; Reproductive and Child Health Programme Phase I (RCH I) in 1997, followed by RCH II in 2005; the National Rural Health Mission (NRHM) in 2005 which, along with the National Urban Health Mission, became part of the National Health Mission in 2013; the Call to Action for Child Survival and Development, and the subsequent Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) strategic framework in 2013.

The RMNCH+A strategy is based on a continuum-of-care approach and defines integrated packages of services for different stages of life. These packages provide a framework for delivering services at the state and district level.

Progress since the Launch of the National Rural Health Mission (NRHM) - 2005

- Janani Suraksha Yojana (JSY) has increased the number of women delivering in public health facilities to 107 lakhs each year.
- 470 new maternal and child health wings (30/50/100 bedded) have been sanctioned in the public health system, adding more than 28,000 beds.
- A nationwide network of facility-based newborn care has been established at various levels: 14,135 Newborn Care Corners at the point of child birth; 1,810 Newborn Stabilization Units; 548 Special Newborn Care Units (SNCUs) for sick and small newborns, with care to more than 6 lakhs newborns being provided in SNCUs each year.
- Janani Shishu Suraksha Karyakram (JSSK) has entitled all pregnant women and infants to free delivery, drugs, diagnostics, treatment, food, and transportation to and from facilities.
- 38,300 public health facilities constructed/ upgraded and more than 20,000 ambulances have been sanctioned.
- The total number of technical HR supported under NRHM increased to 3.45 lakhs which includes 30,429 doctors/specialists including AYUSH doctors, 38,421 staff nurses, 21,965 para-medics and 2.39 lakhs ANMs.
- Incentivized Home-Based Newborn Care programme has been launched in 2011: 8.95 lakhs ASHAs selected and more than 6 lakhs ASHAs trained to improve newborn practices at the community level; early detection and referral of sick newborn babies by making home visits as per schedule during the first 42 days after birth.

Recognizing that almost all childhood deaths and disabilities in India are preventable, the Government of India is making every effort to achieve meaningful change, and to accelerate reductions in neonatal mortality. The policy changes for newborn survival have thus focused on broader health initiatives such as strengthening health systems; training and equipping more health workers; making proven but underused solutions available to every mother and newborn, including skilled attendance at birth; exempting pregnant mothers and sick infants from all user fees; and providing free transportation from home to health facilities for mothers and newborns. The government has targeted high caseload facilities for infrastructure strengthening and human resource support. Recently, the government has also made some robust policy decisions to combat the major causes of newborn death with particular focus on sick newborns, babies born too soon, and babies born too small for their gestational age.

India's efforts until now have contributed to valuable studies on newborn healthcare in settings and areas that are difficult to access. Specifically, it has:

- Demonstrated that community-level home-based postnatal care, including simple interventions such as thermal care and exclusive breastfeeding, can significantly improve newborn survival
- Linked community- and facility-based care, as well as referrals between various levels of the healthcare system, to create a continuous-care pathway under the NRHM
- Demonstrated the country's ability to scale up key interventions within the existing health system by establishing more than 500 Special Newborn Care Units (SNCUs) for sick babies across the country

India Newborn Action Plan (INAP)

The India Newborn Action Plan (INAP) is India's committed response to the Global Every Newborn Action Plan (ENAP), launched in June 2014 at the 67th World Health Assembly, to advance the Global Strategy for Women's and Children's Health. The ENAP sets forth a vision of a world that has eliminated preventable newborn deaths and stillbirths.

INAP lays out a vision and a plan for India to end preventable newborn deaths, accelerate progress, and scale up high-impact yet cost-effective interventions. INAP has a clear vision supported by goals, strategic intervention packages, priority actions, and a monitoring framework. For the first time, INAP also articulates the Government of India's specific attention on preventing stillbirths.

INAP is guided by the principles of Integration, Equity, Gender, Quality of Care, Convergence, Accountability, and Partnerships. It includes six pillars of intervention packages across various stages with specific actions to impact stillbirths and newborn health. The six pillars are: Pre-conception and antenatal care; Care during labour and child birth; Immediate newborn care; Care of healthy newborn; Care of small and sick newborn; and Care beyond newborn survival.

The India Newborn Action Plan is a concerted effort towards translating commitments into meaningful change for newborns. It will serve as a framework for the States to develop their area-specific action plans.

SNAPSHOT

India Newborn Action Plan (INAP)

- Builds on existing commitments under the National Health Mission and 'Call to Action' for Child Survival and Development
- Aligns with the Global Every Newborn Action Plan (ENAP); defines commitments based on specific contextual needs of the country
- Aims at attaining Single Digit Neonatal Mortality Rate by 2030, five years ahead of the global plan
- Emphasizes strengthened surveillance mechanism for tracking stillbirths
- Focuses on ending preventable newborn deaths, improving quality of care and care beyond survival
- Prioritizes those babies that are born too soon, too small, or sick—as they account for majority of all newborn deaths
- Aspires towards ensuring equitable progress for girls and boys, rural and urban, rich and poor, and between districts and states
- Identifies major guiding principles under the overarching principle of Integration: Equity, Gender, Quality of Care, Convergence, Accountability, and Partnerships
- Defines six pillars of interventions: Pre-conception and antenatal care; Care during labour and child birth; Immediate newborn care; Care of healthy newborn; Care of small and sick newborn; and Care beyond newborn survival
- Serves as a framework for states/districts to develop their own action plan with measurable indicators.

Situational Analysis

2.1. Current Trends – Overview

2.2. Progress of Newborn Health Interventions

SITUATIONAL ANALYSIS

India contributes to 17.5% of the world's population and nearly one-fifth of the total live births. Its contribution to the global burden of newborn deaths is higher when compared to that of maternal and under-5 deaths. India contributes to 16% of global maternal death; and 21% of under-5 deaths. When it comes to newborn mortality, the proportion increases to 27%.

2.1 Current Trends – Overview

India has witnessed a significant reduction in the number of neonatal deaths (see Table 1) - from 1.35 million in 1990, to around 0.76 million in 2012. Over that period, from 1990-2012, while neonatal deaths reduced by 44%, child deaths (under 5 years) reduced by 59%. As a result, the contribution of neonatal deaths to under-5 deaths increased from 41% in 1990 to 56% in 2012, which is higher when compared to the contribution observed globally (44%). During the same period, the global under-5 death rate reduced by 50%, and the global neonatal mortality rate by only 37%.

Table 1: Estimates of child deaths in India for years 1990, 2000, and 2012

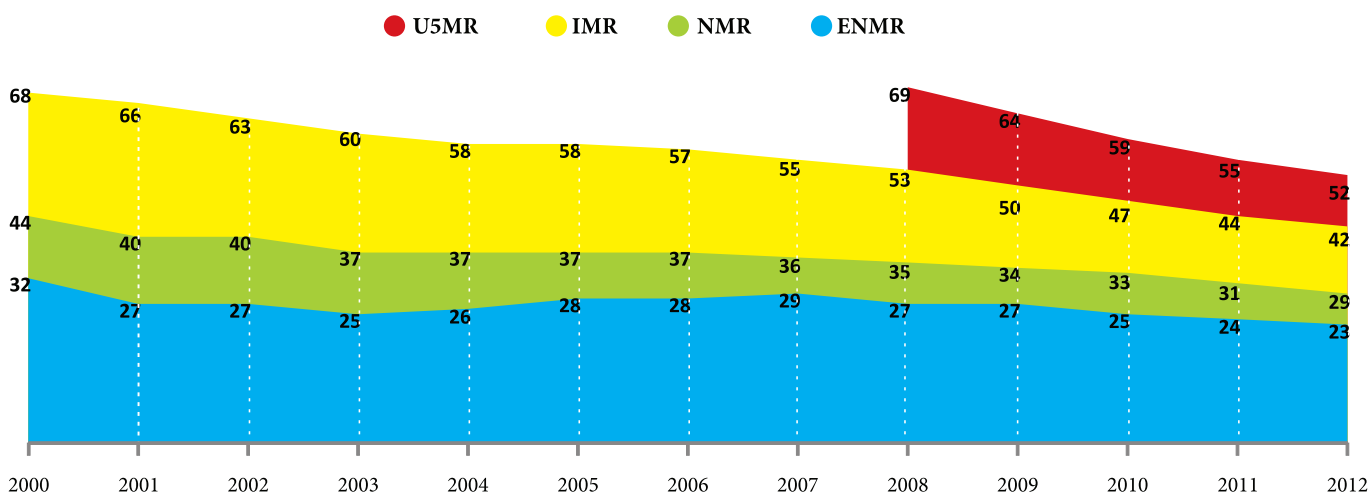
Deaths (in thousands)	1990	2000	2012*	Relative reduction from 1990 to 2000	Relative reduction from 2000 to 2012	Relative reduction from1990 to 2012
Neonatal deaths	1354	1118	758	17%	32%	44%
Infant deaths	2333	1751	1097	25%	37%	53%
Under-5 child deaths	3325	2414	1359	27%	44%	59%

*Source: UN inter-agency group *Source: MoHFW estimates*

Stillbirth Rates: The estimated Stillbirth rate (SBR) in the country is 22 per 1000 live births (Lancet, 2011). The SBR estimates from the Sample Registration System (SRS) however require careful interpretation because of underestimation due to unavailable pregnancy history for women and misclassification of deaths.

Trends of Mortality Rates: During the last 12 year period i.e. 2000-2012, the Average Annual Rate of Reduction (AARR) for Neonatal Mortality Rate (NMR) has been 3.4% per year (See Figure 1 below). After a period of stagnation (2003-2007), the decline in neonatal mortality gained pace with more than 6% annual decline recorded in the last 2 consecutive years.

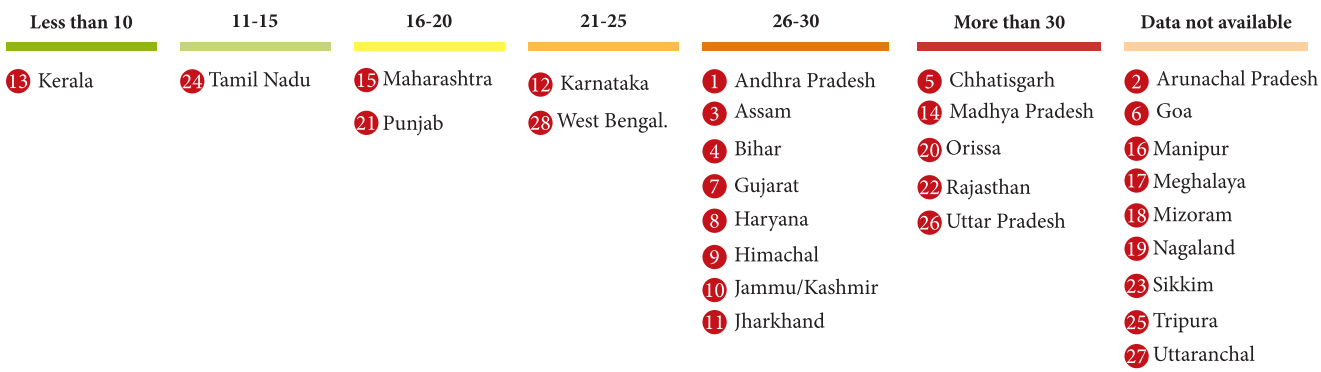
Figure 1: Trends of Child Mortality Rates

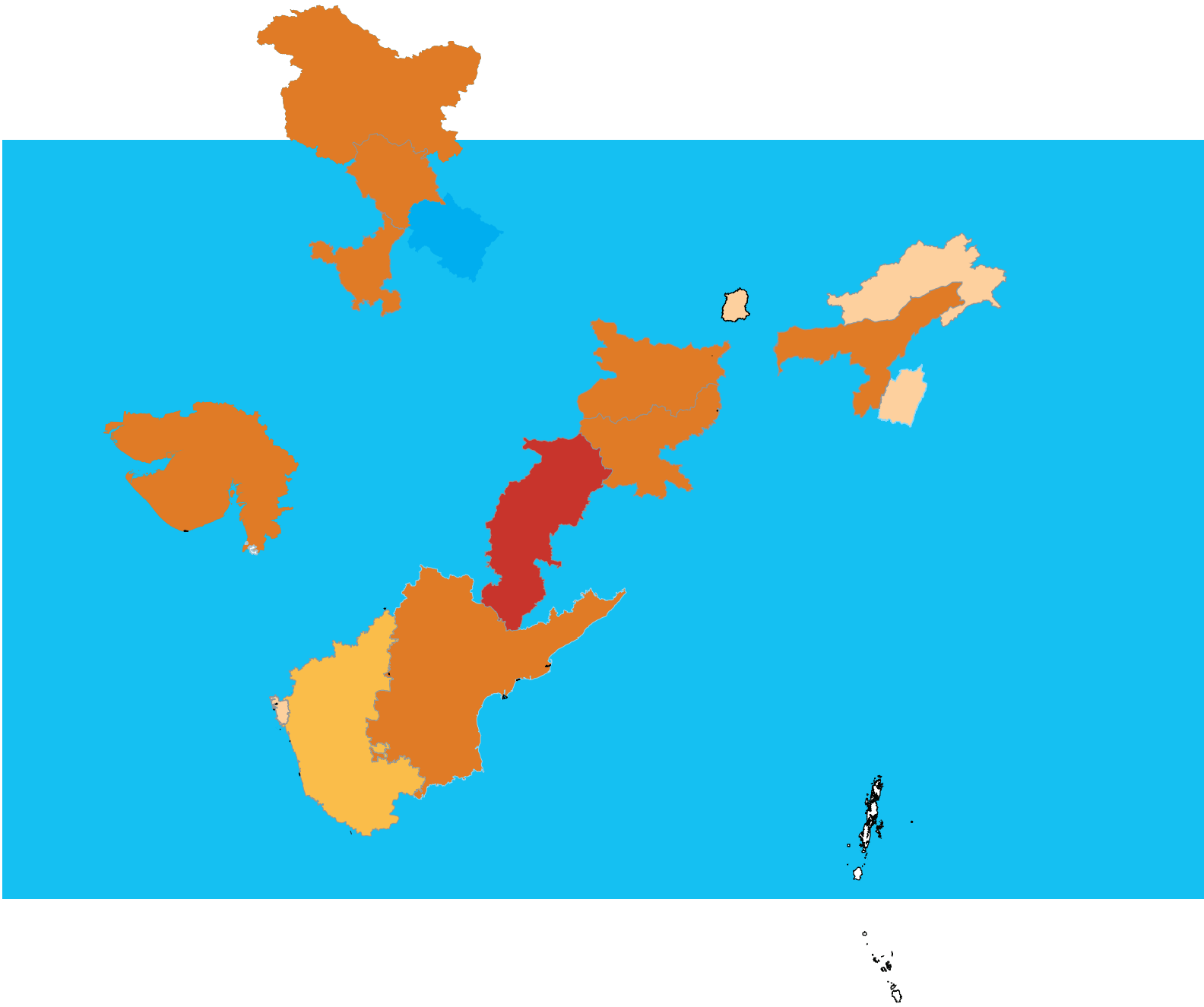


Source: SRS Statistical Reports (2000-2012)

Geographical Differences: The neonatal mortality rate is not uniform across India. While the state of Kerala has already attained Single Digit NMR (7/1000 live births); Odisha, Madhya Pradesh, Uttar Pradesh, Rajasthan, and Chhattisgarh have a higher neonatal mortality rate at 30 or more per 1000 live births (See Figure 2 below). In terms of absolute numbers, four states alone—Uttar Pradesh, Madhya Pradesh, Bihar, and Rajasthan—contribute to 56% of total neonatal deaths in India and about 14% of the global neonatal deaths that occur every year.

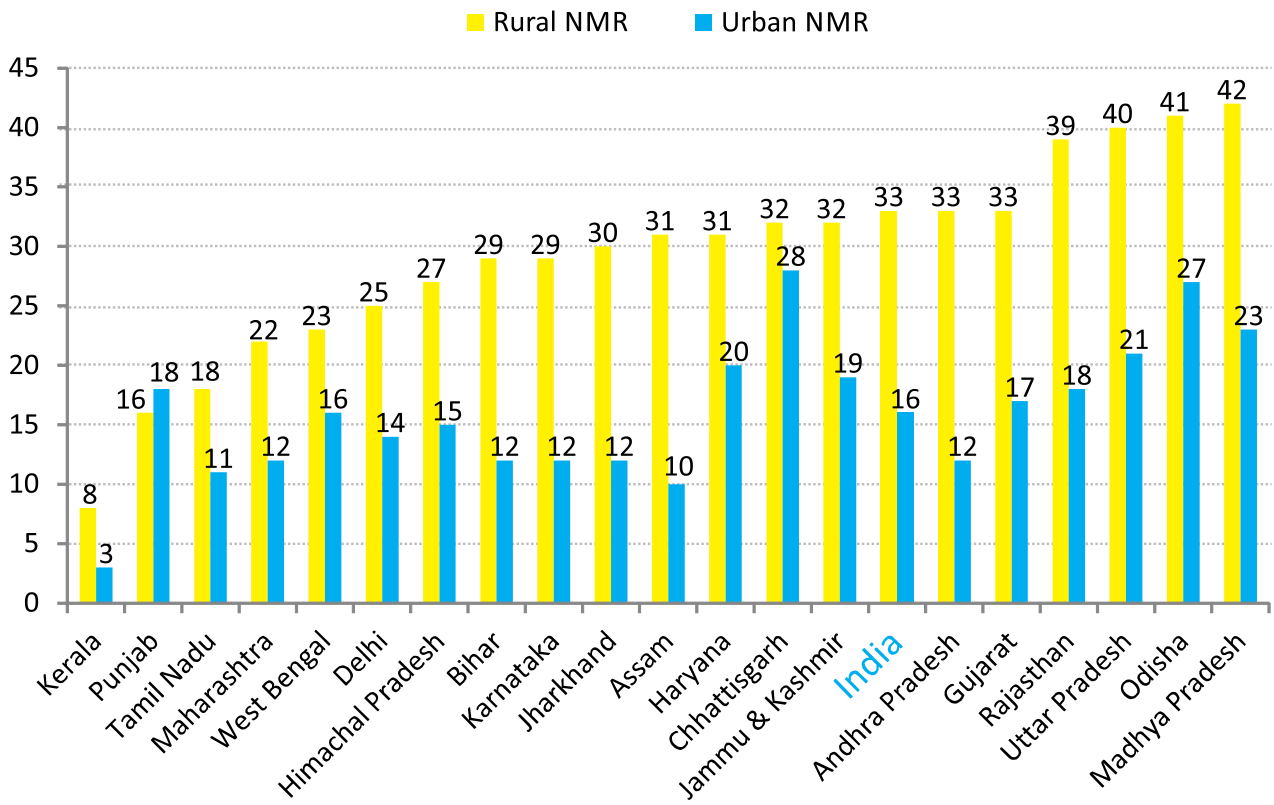
Figure 2: NMR in India (as per SRS 2012)





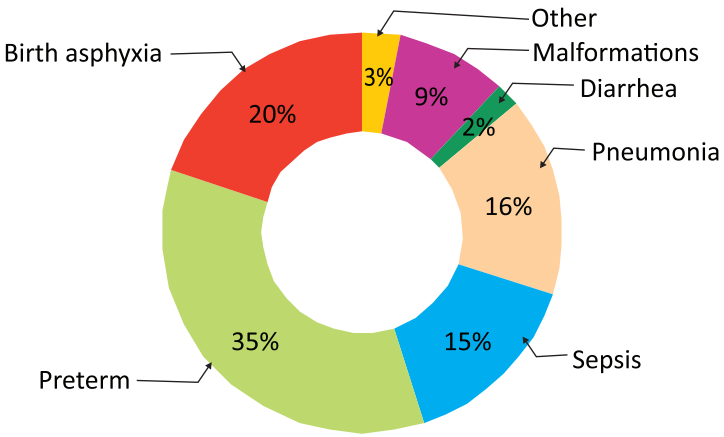
Rural-Urban Trends: There are important rural-urban and socio-economic differences in the NMR. The NMR in rural areas is twice the NMR in urban areas (33 vs. 16 per 1,000 live births). The discrepancy is more marked in the states of Andhra Pradesh, Assam, Jharkhand, and Kerala where the rural NMR is 2.5 times or more than that of the urban areas (See Figure 3 below). Also, urban poor newborns are more vulnerable to many more health problems than their non-poor urban counterparts. Evidence from NFHS-3 (2005-2006) indicates that neonatal mortality among urban poor (NMR 37/1000 live births) is higher than the urban average (NMR 29/1000 live births). It also shows that the NMR among the poorest 20 percent of the population is more than double the NMR of the richest 20 percent (NFHS-3). Although recent sex-differentiated NMR estimates are not available, it is likely that the rates for female neonates will be higher than those of male given the gender-based differences in care seeking in India.

Figure 3: Difference between rural and urban NMR of major states



Source: SRS 2012 Statistical Report

Figure 4: Causes of neonatal deaths in India



Source: Liu et al, Lancet 2012 Statistical Report

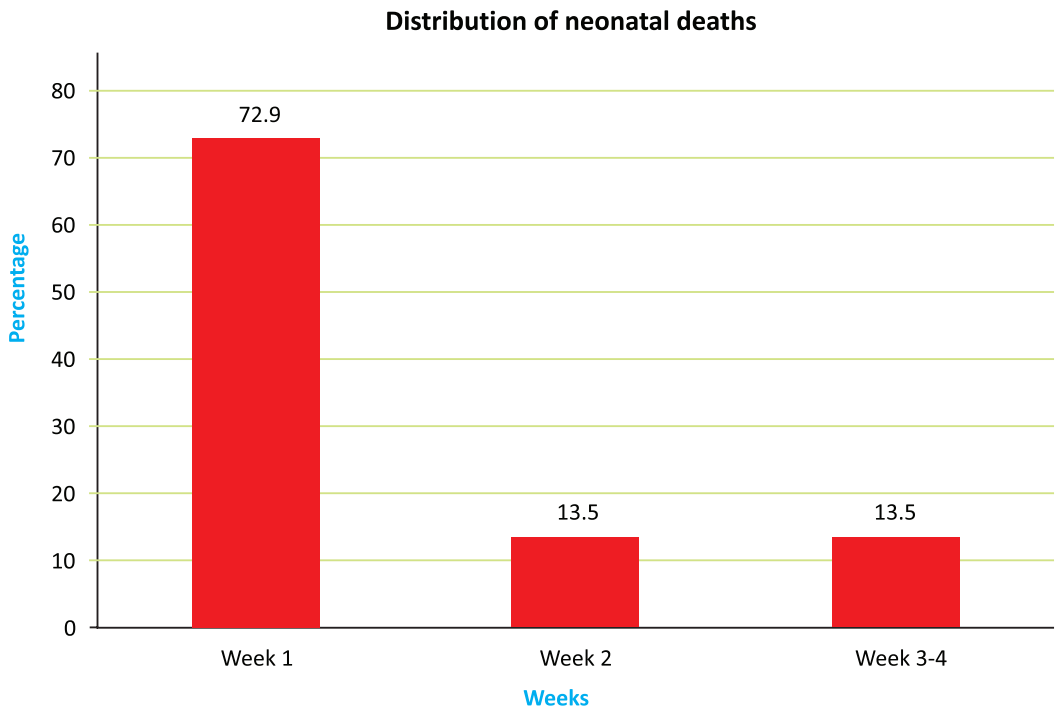
Causes of Neonatal Deaths: The major causes of newborn deaths (see Figure 4 above) in India are pre-maturity/preterm (35%); neonatal infections (33%); intra-partum related complications/ birth asphyxia (20%); and congenital malformations (9%). (Liu et al, 2012)

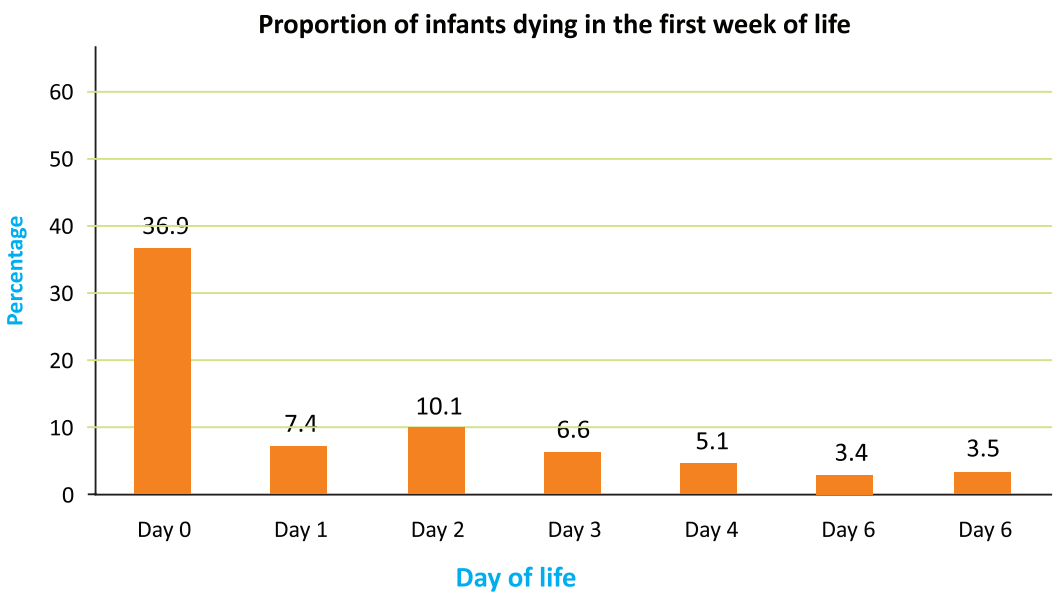
Timing of Deaths: It is estimated that around 40% of all stillbirths and neonatal deaths take place during labour and the day of birth, i.e. approximately within 48 hours. About three-fourths of the total neonatal deaths occur in the first week of life, with the first 24 hours accounting for more than one-third (37%) of the deaths occurring during the entire neonatal period (*See Figure 5 on page 28*). Notably, half of all maternal deaths also take place during this crucial period.

Prevalence of Low Birth Weight Babies, Birth Defects, etc.: India accounts more than 40% of the global burden of low birth weight babies[1] with 7.5 million babies (or 30% of the country's total annual live births) being born with a birth weight less than 2500 grams. Of these 7.5 million babies, 60% are born at term after fetal growth restriction, while the remaining 40% are born preterm, constituting a quarter of the global burden of preterm births. Preterm babies, in addition to being at a higher risk of neonatal mortality, are at an increased risk of post-neonatal mortality, stunting, and long-term neurodevelopmental impairment during childhood. The prevalence of birth defects in the country is 6-7% which translates to around 1.7 million birth defects annually. The common birth defects include congenital heart disease (8-10 per 1000 live births), congenital deafness (5.6-10 per 1000 live births), and neural tube defects (4-11.4 per 1000 live births) (March of Dimes report, 2006).

[1] There is emerging evidence that low birth weight neonates are more prone to Non-Communicable Diseases (NCDs) like Diabetes Mellitus, Hypertension and Coronary Artery Disease in later life.

Figure 5: Distribution of neonatal deaths by time since birth





Source: Sankar MJ, 2014 (Systematic review - under publication)

2.2 Progress of Newborn Health Interventions

In the last few years, India has shown strong political will to take on the complex and large-scale problem of newborn mortality. The government has made vital policy decisions to combat major causes of newborn deaths, providing special attention to sick newborns, babies born too soon (premature), and babies born too small (small for gestational age).

In 2013, India authorized Auxiliary Nurse Midwives (ANMs) to administer pre-referral dose of injectable antibiotics for suspected neonatal sepsis and complete the full course under specific situations when referrals are not possible. Further to this, ANMs were allowed to administer pre-referral dose of antenatal corticosteroids (ANCS) to women in preterm labour, improving the chances of survival of premature babies. Kangaroo Mother Care (KMC), a proven and cost-effective practice that encourages mothers to keep their preterm and low birth weight babies warm through early and prolonged skin-to-skin contact, is being scaled up both in health facilities and for post-discharge care at home. Injection Vitamin K is being provided to all newborns at birth, in health facilities.

Every commitment to advance the health and wellbeing of newborns is important and embodies the spirit of collective action. Moreover, it is important that the commitments are targeted strategically and to the areas of greatest need, and that increased and sustained investment in health systems is ensured to deliver basic services and essential interventions to mothers and newborns.

National Rural Health Mission has directed efforts toward strengthening infrastructure and improving deployment of trained staff, backed by increased funding. Further, the RMNCH+A approach has helped identify gaps in providing skilled birth attendance, postnatal care for mothers and newborns, and specific interventions for managing childhood illnesses such as diarrhoea and pneumonia.

The following Table (*see Table 2*) provides an overview of interventions that impact newborn health under the National Health Mission.

Table 2: Interventions under National Health Mission focusing on newborns

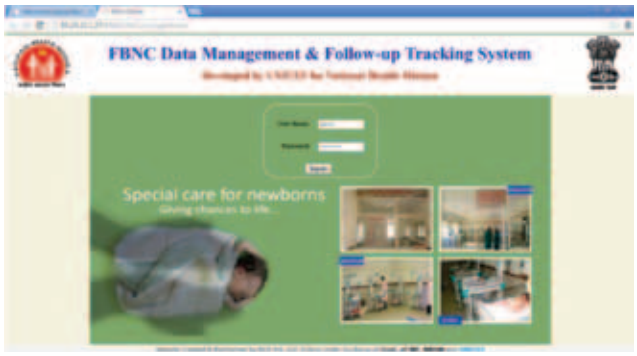
Programme (Year)	Objectives	Status
Janani Suraksha Yojana (JSY) (2005)	Safe motherhood intervention to increase institutional delivery through demand-side financing and conditional cash transfer	• Implemented in all States and Union Territories (UTs) • Special focus on Low-Performing States
Integrated Management of Neonatal and Childhood Illnesses (IMNCI) at the community level and F-IMNCI at health facilities (2007)	Standard case management of major causes of neonatal and childhood morbidity and mortality	• Operationalised in more than 500 districts • 5.9 lakhs health and other functionaries, including physicians, nurses, AWWs, and ASHAs trained under IMNCI • 26,800 medical officers and specialists placed at the CHCs/FRUs trained under F-IMNCI
Navjat Shishu Suraksha Karyakram (NSSK) (2009)	Basic newborn care and resuscitation training programme	• 1.3 lakh health providers trained to date
Janani Shishu Suraksha Karyakram (JSSK) (2011)	Zero out-of-pocket expenditure for maternal and infant health services through free healthcare and referral transport entitlements	• Implemented in all States and UTs • Assured service package benefits extended to sick children up to age one
Facility Based Newborn Care (FBNC) (2011)	Newborn care facilities at various levels of public health services that includes *Newborn Care Corners* (NBCCs) at all points of childbirth to provide immediate care; *Newborn Stabilization Units* (NBSUs) at CHC/FRUs for management of selected conditions and to stabilize sick newborns before referral to higher centres; and Special *Newborn Care Units* (SNCUs) at district/sub-district hospitals to care for sick newborns (all types of care except assisted ventilation and major surgeries)	• 14,135 NBCCs established at delivery points to provide essential newborn care • 1,810 NBSUs established at CHCs/FRUs • 548 SNCUs established at district/sub-district hospitals or medical colleges • More than 6,300 personnel provided FBNC training • Online reporting system adapted and scaled up in seven states with 245 SNCUs made online and more than 2.5 lakhs newborns registered in the data base.
Home Based Newborn Care (HBNC) (2011)	Provision of essential newborn care to all newborns, special care of preterm and low-birth-weight newborns; early detection of illness followed by referral; and support to family for adoption of healthy practices by ASHA worker	• Implemented in all States and UTs • Most of the ASHAs trained in newborn care • ASHAs visited more than 12 lakhs newborn in 2013
Rashtriya Bal Swasthya Karyakram (RBSK) (2013)	Screening of children with birth defects, diseases, deficiencies, and developmental delays (including disabilities)	• All children, ages 0 to 18 years targeted • More than 8 crore children screened and more than 10 lakhs children identified for tertiary care in 2013

A GLIMPSE OF NEW BORN CARE FACILITIES AND INFRASTRUCTURE IN PUBLIC HEALTH SYSTEM

SPECIAL NEWBORN CARE UNIT

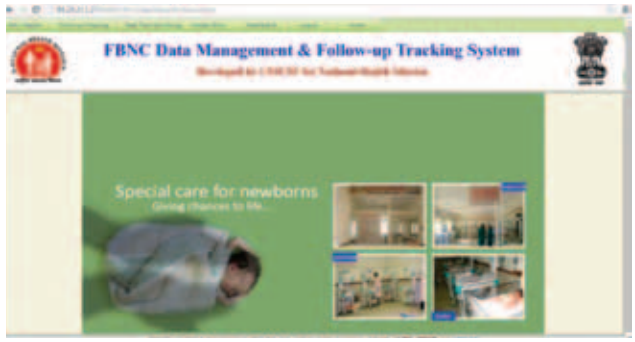
EMERGENCY TRANSPORT VEHICLE

NEWBORN TRANSPORT



Login Screen

Dash Board



Analytical Graphs

Analytical Graphs

Bottleneck Analysis

BOTTLENECK ANALYSIS

In order to analyze the challenges and implementation issues for strategic newborn health packages, India used a systematic and standard approach. A Bottleneck Analysis (BNA) tool developed by the Global Every Newborn Steering Group was adapted and the packages which are being implemented for newborn health were included. (The process for INAP including BNA is given as Annexure 1)

The BNA tool analyzed nine interventions identified as critical, both to provide basic care for all newborns and mothers and to prevent and treat the three main causes of newborn mortality. Each intervention was reflected in a "tracer interventions" used as "proxy indicator" to get an understanding of the key challenges related to care delivery. Though interventions along the whole continuum of care are important, focus around the 24 hours of birth—*labour, child birth, and immediate postnatal care*—were especially viewed. The 9 interventions and the tracer/proxy indicators are listed below. (*See Table 3*)

Table 3: Interventions and Tracer/Proxy Indicators for Bottleneck analysis

Interventions	Tracer Indicators
1. Management of pre-term birth	Antenatal corticosteroids
2. Skilled care at birth	Use of the partograph
3. Basic Emergency Obstetric Care	Assisted vaginal delivery
4. Comprehensive Emergency Obstetric Care	Caesarean section
5. Basic Newborn Care	Cleanliness including cord care, warmth, and feeding
6. Neonatal resuscitation	Use of bag and mask
7. Kangaroo Mother Care	Skin to skin, breastfeeding, and feeding support for premature and small babies
8. Treatment of severe infections	Using injectable antibiotics
9. In-patient supportive care for sick and small newborns	IV fluids/feeding support and safe oxygen

The relative impact of the health system bottlenecks on the scale up of newborn programmes and critical newborn interventions were graded—from good to inadequate—based on the consensus decisions.

Bottleneck analysis is the core concept and skill behind the approach to an evidence-based India Newborn Action Plan. The analysis not only enlisted the problems affecting service delivery, but it also pinpointed the underlying causes of these problems and determined the order in which they ought to be resolved.

The BNA has helped to get a clear understanding of the gaps and challenges with regards to two specific aspects viz. human resources for health, and quality of care. (*See Annexure 1* for a detailed listing of bottlenecks identified as critical and suggested actions)

- **Human Resources for Health:** A key bottleneck to service provision, its utilization was found to be the lack of appropriate manpower. The issues ranged from shortage of human resources to lack of trained/skilled providers. In-service issues of recruitment, posting, transfer, and promotion were highlighted during the course of analysis.
- **Quality of Care:** The overall quality of care was a concern. The issues ranged from lack of quality assurance and standards, no accreditation processes, low user satisfaction or poor patient safety, and weak monitoring and evaluation of quality of care at the facility level.

In addition, the BNA highlighted other aspects with regards to:

- **Leadership and Governance:** Leadership and governance were identified as key cross-cutting issues under health care programmes. Role of leadership with respect to timely dissemination of guidelines, involvement of various stakeholders, and fixing accountability in private sector were highlighted.
- **Financing:** Timely flow of funds was recognized as a bottleneck to ensure the fulfillment of JSSK entitlements to mothers and newborns or timely payment of JSY incentives.
- **HMIS:** Existing reporting platforms were found not covering the entire component; also, whatever is reported is not being validated. Additionally, the reports are not being used for planning or midcourse correction. The BNA found out that private sector reporting is also a grey area.

The bottleneck analysis has helped to acknowledge the need to strengthen health systems in order to translate strategies into action.

India Newborn Action Plan (INAP)

INDIA NEWBORN ACTION PLAN (INAP)

India envisions a health system that eliminates preventable deaths of newborns and stillbirths and where every pregnancy is wanted, where every birth is celebrated, and *where women, babies, and children survive, thrive, and reach their full potential.*

The commitments in the India Newborn Action Plan (INAP) were developed to align with the global ENAP. India however aspires to achieve the global ENAP targets by 2030—five years ahead of the global deadline—with all the states to individually achieve the targets by the end of 2035. The targets proposed in the INAP—reducing preventable newborn deaths and preventable stillbirths to single digits, i.e., fewer than 10 per 1,000 live births by 2030, with intermediate targets for 2017, 2020 and 2025—require universal, equitable, and high-quality coverage of comprehensive care for every woman and newborn in the country.

The INAP is expected to serve as a roadmap that redefines and focuses national and subnational strategies and actions until 2020, when India will review the progress achieved and revise its strategy accordingly.

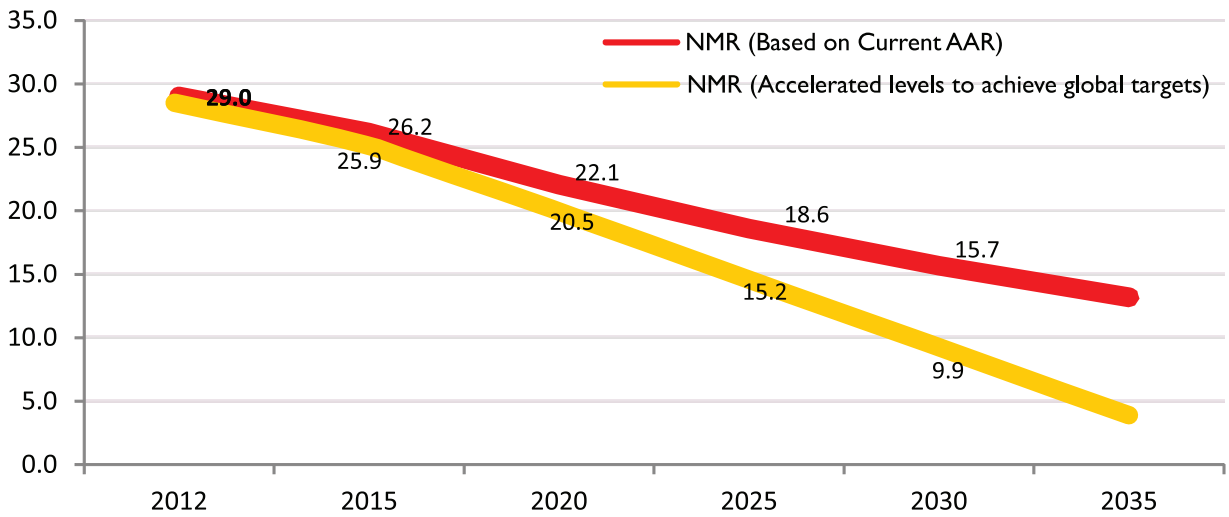
4.1 Goals

The two specific goals of INAP are:

Goal 1: Ending Preventable Newborn Deaths to achieve "Single Digit NMR" by 2030, with all the states to individually achieve this target by 2035

India will achieve the target of Single Digit NMR (NMR less than 10) by 2030. The graph below (*see Figure 6*) outlines the NMR projections,[2] based on the current level of AAR in the country, and shows the accelerated levels required to achieve this target. With the current AAR of 3.4%, the NMR would be around 15.7 per 1000 live births by 2030. In order to achieve the target of Single Digit NMR by 2030, a stimulated effort of 5.8% AAR will be required.

Figure 6: Projected Levels of Neonatal Mortality Rates in India: 2012-2030

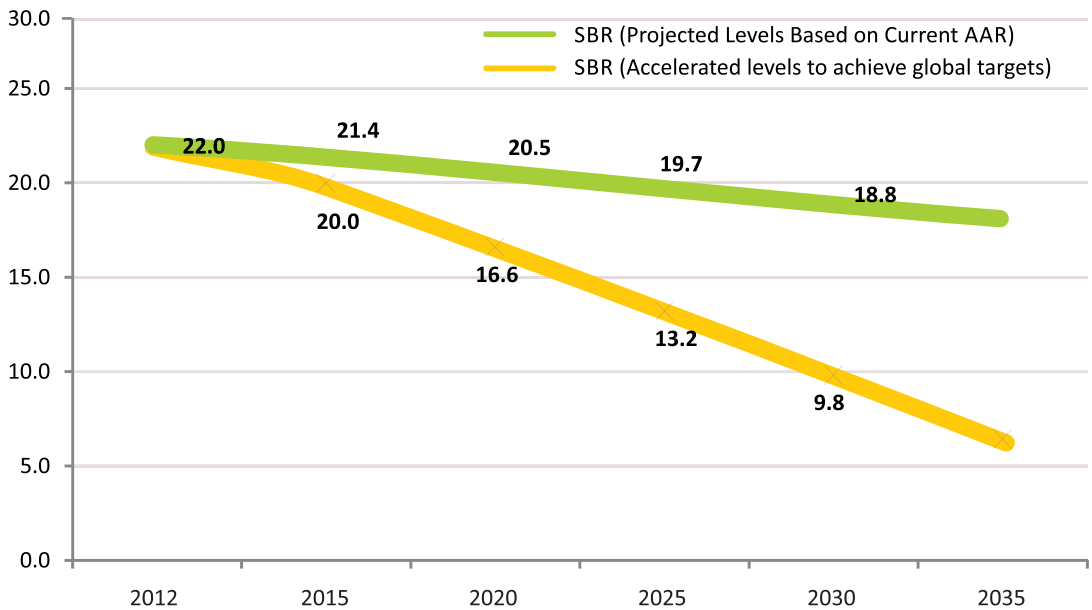


[2] These projections, derived using log linear reduction, convey national commitments but do not take into account future demographic and development scenario.

Goal 2: Ending Preventable Stillbirths to achieve "Single Digit SBR" by 2030, with all the states to individually achieve this target by 2035

India used the estimates provided by the Lancet Stillbirth Series (SBR of 25 per 1000 births in 1995, and SBR of 22 per 1000 births in 2009) as a target-setting exercise for SBR. With the current level of AAR which is less than 1%, India is expected to reach SBR of 19 per 1000 births by 2030. With an accelerated effort of 4.4%, India will reach the target of Single Digit SBR by 2030. As with NMR, the SBR projections do not take into account future demographic and development scenario. It is imperative that the country prioritizes strengthening mechanisms to establish a sound surveillance system for tracking stillbirths.

Figure 7: Projected Levels of Stillbirth Rates (SBR) in India: 2012-2030



Guided by its two-fold goals, INAP has set out specific outcomes and selected coverage targets (See Table 4). These include:

Table 4: INAP – National Targets

Targets	Current	2017	2020	2025	2030
Impact targets					
NMR (per 1000 live births)	29	24	21	15	<10
SBR (per 1000 live births)	22	19	17	13	<10
Coverage targets					
Safe delivery (institutional + home delivery by SBA (%)	76	90	95	95	95
Initiation of breastfeeding within one hour of birth (%)	-	75	90	90	90
Women with preterm labour receiving at least one dose of antenatal corticosteroids (%)	-	75	90	95	95
Babies born in health facilities with birth asphyxia received resuscitation (%)	-	75	90	95	95
Babies received complete schedule of home visits under HBNC by ASHA (%)	-	50	75	95	95
Newborn with sepsis in the community received Gentamicin by ANM (%)	-	50	75	75	75
Newborn discharged from SNCU followed until age one (%)	-	35	50	75	75
Newborn with low birth weight / Prematurity managed with KMC at facility (%)	-	35	50	75	90

4.2 The Guiding Principles

Evidence from across the globe and from within India is indicative of the fact that various proximal and distant determinants shape the health outcomes of a newborn. They range from individual community health systems to larger socio-economic and structural factors. These factors not only affect access to health and preventive services but also impact intermediary and proximate determinants, including living conditions, healthcare systems, and behavioral factors. In order to address various determinants of health which impact newborn health, integrated service delivery through RMNCH+A has been articulated as the overarching principle.

Integration: The overarching principle

The RMNCH+A approach recognizes that newborn health and survival is inextricably linked to women's health across all life stages. It emphasizes inter-linkages between each of the five life

stages, with newborn health as a distinct life stage, and it connects community outreach and facility-based services. The six key principles that guide INAP are:

Equity

India has adopted policies that eliminate disparities in healthcare access and reduce both out-of-pocket expenditure for the most vulnerable populations and differential planning and financial allocation for 184 priority districts. There is, however, a need to conduct systematic analysis of gaps and challenges to achieve high rates of coverage of intervention packages for quality care, both within the rural and the urban health system. Equity would be strengthened by community strategies to improve demand for services, birth preparedness, and essential newborn care practices, including home visits by community health workers and participatory women's groups, especially in the urban slums. There is also a need to collect and utilize equity disaggregated data for all health programmes.

Gender

Gender-based differences in decision-making, power, and resource-access have consequences for the quality of life of the populations, including its health. In evaluating sex ratios in terms of relative female or male deficits at birth, the trends and surveys provide strong evidence of declines in the sex ratio at birth and sex ratio of the population age 0-6. Females are under-represented among births and over-represented among infants that die (Kishor & Gupta, 2009). Strategies and actions are required to ensure that the girl child's survival and health is managed well by providing her access to life-sustaining resources, including nutrition and health care. A disaggregated data at all levels, as well as assessments and evaluation exercises that provide information and evidence on uptake of the benefits of the various national programmes/ schemes for the girl child, need to be worked out.

Quality of Care

Care around the time of birth saves not only mothers and their newborn babies, but also prevents stillbirths and disabilities, thereby yielding triple returns on investment. In India, a lot of work has been done, especially with regards to three domains—regulation and standards, organizational capacity, and model of care. However, there is a need for concerted action to ensure implementation of these processes. It is important not only to strengthen quality assurance cells at state and district levels, but also to enforce regulations in private sector hospitals for quality standards and minimum service assurance. Quality of care is largely affected by issues related to human resources at both the facility- and community/outreach-level. Formulation of comprehensive HRH policy in concurrence with NHM, strengthening capacities for task-shifting and multi-skilling, ensuring quality for trainings and supportive supervision, and building the programme management capacity of the recruits to handle technical issues like neonatal health require focused attention.

Convergence

The cosmos in which a newborn thrives is rather wide. There are some determinants that have an immediate effect on survival. These can be classified under socio-cultural, community, individual, and structural attributes. Socio-cultural and community attributes—e.g., status of women, gender and equity influenced by caste, class, geography, residence, income, etc.—affect newborn outcomes. Similarly, individual attributes—sex of a child, birth order, previous birth intervals, mother's age at marriage, conception and size at birth—are also important. As to structural attributes, in about 200 endemic districts in India, malaria is an important cause of maternal and child morbidity and mortality, while HIV/AIDS also contributes towards increasing newborn morbidity. Hence, intra-departmental convergence with National Vector Borne Disease Control Programme (NVBDCP) and National AIDS Control Programme (NACP) is vital to reduce disease-specific burden.

In order to address newborn health, the Ministry of Health & Family Welfare needs to work in synergy with eight different departments in India: the Department of Women and Child Development, Panchayati Raj, Social Justice & Empowerment, Water and Sanitation, Rural Development, Urban Development, Food and Civil Supplies & Public Distribution, and Education.

Partnerships

It is important to establish institutional mechanisms to scale up successful partnership models. Partnership with academic institutions and professional bodies (National Neonatology Forum, Indian Academy of Pediatrics, etc.) can play a key role in advancing knowledge through the study and practice of evidence-based newborn interventions. Partnerships with Panchayati Raj Institutions (PRIs) and Self-Help Groups (SHGs) have a critical role in implementing National Health Mission at the cutting edge both in rural and urban areas. PRIs can be trained and supported in their functions so that they can assume a larger role in day-to-day monitoring of services. Also of significance is mapping areas where private sector interventions are required in partnership with government to develop guidelines, norms, standards and regulatory framework; mapping of the existing private sector presence and its contribution in improving coverage is required.

Accountability

Strong governance can ensure accountability and transparency in health systems. Measuring impact of governance on newborn health outcomes is difficult, but there are processes that can be measured for good governance, such as community participation in decision-making process, regular audits of clinical services, deaths, and adverse outcomes. All supply-side efforts made by the providers need support at the individual and community level for efficient delivery and effective utilization of health services. In line with commitments under Commission on Information and Accountability for Every Woman Every Child strategy (COIA), Civil Registration and Vital Statistics (birth and death registration with cause of death assignment) would be progressively strengthened for counting every newborn.

4.3 Strategic Intervention Packages

A modelling exercise conducted for the recently launched Lancet Every Newborn series assessed the potential impact of scaling up evidence-based interventions within the health systems of the high burden countries. These interventions have been grouped into six packages corresponding to the various life stages of newborn. It is estimated that high coverage of available intervention packages by 2025 could prevent almost three-quarters of the newborn deaths, one-third of stillbirths, and half of maternal deaths. The packages with the greatest impact on neonatal mortality (in decreasing order) include: Care during Labour and Childbirth, Care of Small and Sick newborn, Care of Healthy Newborn especially in the first week, and Immediate Newborn care. For the reduction of stillbirths, Care during Labour and Childbirth and Antenatal Screening for high risk pregnancies/complications and their management are the two packages with the maximum impact. (Lancet EN series, Article 3, 2014)

Figure 8: Intervention packages in descending order of impact on neonatal mortality

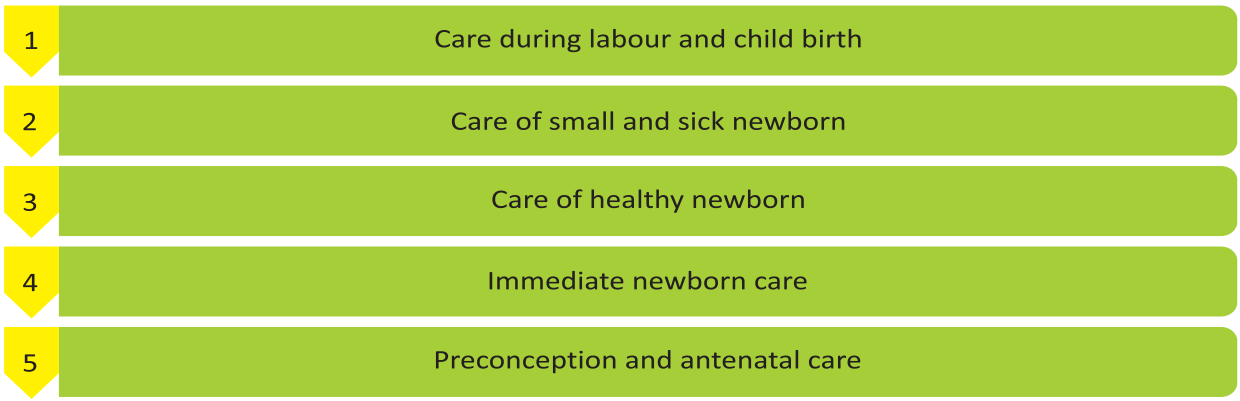
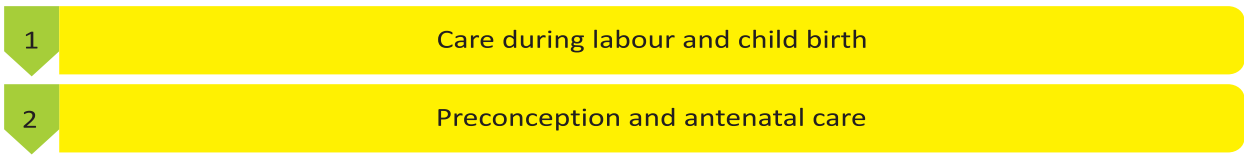


Figure 9: Intervention packages in descending order of impact on still -births



The development of INAP has provided an opportunity to review the specific newborn health intervention listed under the RMNCH+A approach and bring them in sync with the recent evidence from the Lancet Every Newborn series (2014). The RMNCH+A approach recognizes the strategic importance of newborn health and survival and its inextricable linkages with reproductive, maternal, and adolescent health. RMNCH+A 7×5 matrix, a management tool for programme managers, brings into focus key interventions within the defined framework. In addition, India has made the decision to give equal importance to strategies for improving quality of life beyond survival for those newborns with birth defects/disabilities and for those who develop neurodevelopmental delay following sickness.

Under INAP, the newborn care/postnatal care component of the RMNCH+A continuum (for high impact interventions and commodities) has been further delineated into four distinct categories: Immediate Newborn Care, Care of Healthy Newborn, Care of Small and Sick Newborn, and Care of Newborn Beyond Survival. Further, Pre-Conception and Antenatal care and Care during Labour and Childbirth—the two stages impacting newborn outcomes including stillbirths—have been included. As a result, six pillars of intervention packages have been identified.

The interventions under each of the six pillars have been described below in detail including the strategic/priority actions required to deliver high-impact interventions for achieving effective coverage. (Annexure 2 provides the summary of all key interventions under each of six distinct life stages of newborn and grouping them according to the levels of health system.) The states are primarily responsible for implementation of interventions and their packages. Considering wide inter-state and intra-state variation in health system capacity and their supporting mechanisms, a scenario-based approach has been suggested to support the states, taking their institutional capacity into cognizance. As such, the interventions have been categorized as:

- Essential [E], to be implemented universally
- Situational [S], implementation dependent on epidemiological context
- Advanced [A], implementation based on health-system capacity of the state/district

The states are urged to develop their action plan based on the Six Packages described below.

All the interventions that are delivered at the family and community level are also available at the outreach/ Sub Centre level. All the interventions that are delivered at the outreach/Sub Centre level are also delivered at the health facility level. This rule of thumb is applicable to all the six intervention packages.

Package 1: Pre-Conception and Antenatal Care

Adolescent pregnancies have a higher risk of adverse birth outcomes, with a 50% increased risk of stillbirths and neonatal deaths. Adolescents are also prone to complications during labour and delivery, such as obstructed and prolonged labour. Maternal under-nutrition is a risk factor for infants being small for gestational age. In addition to iron-deficiency anemia, other micro-nutrient deficiencies in women, such as calcium, increase the risk of pre-term births. In addition, inter-pregnancy intervals less than 12 months or longer than 60 months have been linked to adverse perinatal outcomes.

Health interventions must start well before conception and their impact on the neonatal and stillbirth outcome requires equivalent consideration. The importance of antenatal care for improved neonatal and perinatal outcome is well established; however, coverage of a few salient interventions needs increased attention (e.g., use of long lasting insecticide treated nets and intermittent preventive treatment of malaria, antenatal syphilis screening combined with treatment and increased emphasis on early detection, and prompt treatment of complications in pregnancy such as pre-eclampsia, type-2 diabetes).

The strategic interventions for pre-conception and antenatal care for newborns are given below.

Pre-Conception and Antenatal Care Interventions Package		
Family and Community	**Outreach/Sub Centre**	**Health Facility**
1. Reproductive Health & Family Planning [E] - *Adolescent reproductive health* - *Delaying age of marriage and first pregnancy* - *Birth spacing* 2. Nutrition related interventions [E] - *Balanced energy protein supplementation* - *Peri-conceptional folic acid* - *Maternal calcium supplementation* - *Multiple micronutrient supplementation (Iron, Folic Acid & Iodine)* - *Nutrition Counselling* 3. Counselling & birth preparedness [E] 4. Prevention against Malaria [S]	5. Antenatal screening for Anemia and Hypertensive disorders of pregnancy *(PIH, Preeclampsia, Eclampsia) [E]* 6. Antenatal screening for Malaria [S] 7. Prevention and management of mild to moderate anemia [E] 8. Maternal tetanus immunization [E] 9. Adolescent friendly health services *(nutrition and reproductive health counselling) [E]* 10. Interval IUCD insertion [E]	11. Antenatal screening & management of Severe anemia, Hypertensive disorders of pregnancy (PIH, Preeclampsia, Eclampsia), Gestational Diabetes, Syphilis [E] 12. Antenatal screening & management of Hypothyroidism, Hepatitis B, HIV, Malaria [S] 13. Adolescent friendly health clinics (as per RKSK guidelines) [E] 14. Post-partum family planning services including PPIUCD insertion [E] 15. Prevention of Rh disease using anti D immunoglobulin [S]

PRIORITY ACTIONS

1. Prioritize actions for delaying age at 1st pregnancy in convergence with stakeholders and other departments with special focus on teenage pregnancy
2. Train an adequate number of service providers for Family Planning Services and ensure availability of commodities, as per FP 2020
3. Saturate high caseload facilities to provide PPIUCD
4. Train an adequate numbers of ANMs in SBA (including ANC component)
5. Scale up nutritional interventions of peri-conceptional folic acid, maternal calcium supplementation, and iron folic acid supplementation (NIPI/WIFS)
6. Strengthen convergence with related departments for nutrition counselling
7. Screening of high-risk pregnancies and their management as per protocols
8. Accelerate implementation of preventive measures against malaria for pregnant women in endemic area
9. Promote counselling and birth preparedness

Package 2: Care during Labour and Childbirth

Quality care during labour, childbirth, and in the immediate postnatal period not only prevents the onset of complications, it also enables their early detection and prompt management. Even with the increased coverage of institutional births, the overall quality of care in this period is one of the key factors accounting for current rates of newborn mortality. Institutional births have provided an opportunity to reduce the neonatal infections; however, deaths due to intra-partum complications and preterm births remain a challenge to the neonatal survival. Care during labour and childbirth have the potential to reduce stillbirths by a third. It is important to emphasize that BEmOC can reduce intra-partum-related neonatal deaths by 40% and CEmOC can also reduce newborn mortality by 40%, whereas skilled attendance at birth alone without access to the emergency component has a smaller effect at 25%. Care at childbirth also has additional benefits on child survival, improved growth, reduced disability, and non-communicable diseases.

Antenatal corticosteroids use to manage preterm labour not only reduces neonatal deaths by 31%, but this intervention is also associated with reduced need of specialized care for newborns, such as ventilators, etc. Antibiotics administration for pre-mature rupture of membranes (PROM) reduces early-onset postnatal sepsis. Clean birth practices especially hand-washing with soap and water by birth attendant has been found to reduce mortality due to sepsis in births at home (15%), facilities (27%), and during postnatal period (40%).

The table below lists interventions for care during labour and child birth.

Care During Labour and Childbirth		
Family and Community	**Outreach/Sub Centre**	**Health Facility**
1. Skilled birth attendance [E] 2. Clean birth practices [E]	3. Identification of complications and timely referral [E] 4. Pre-referral dose by ANM [E] - Antenatal corticosteroids in preterm labour - antibiotics for premature rupture of membranes	5. Emergency obstetric care [E] - Basic and Comprehensive 6. Management of preterm labour [E] - Antenatal corticosteroids in preterm labour - Antibiotics for premature rupture of membranes

PRIORITY ACTIONS

1. Prioritize and strengthen public health facilities at all levels (L1, L2, L3) for conducting safe delivery, including provision of emergency obstetric care as per the norms of MNH Toolkit
2. Provision of dedicated MCH wings in facilities with high caseload, including functional WASH facilities
3. All delivery points to be saturated with adequately trained health workers: Ensure trained and skilled staff at all designated delivery points: L1 delivery point should have SBA trained ANMs/SNs, L2 delivery point to have at least one BEmOC trained MO, and L3 delivery point must have at least four obstetrician & gynaecologist /CEmOC trained MOs and four Anaesthetist/LSAS trained MOs
4. Expand the availability of SBA-trained birth attendants. In addition to ANM, SBA training to be rolled out for AYUSH doctors (as per state-specific need)
5. Establish Quality Assurance mechanism at each level, like- use of safe birth checklist and regular quality audits including perinatal death audits
6. Institutionalize referral mechanism to ensure to-and-fro referral, including inter-facility referral, as and where required
7. Accelerate scale-up of new policy decisions on management of preterm labour through use of antenatal corticosteroids and antibiotics for premature rupture of membranes
8. Develop a mechanism of supportive supervision through existing systems or through partnerships (with professional organizations, medical colleges, and private hospitals) at the regional and state level
9. Generate awareness on JSSK entitlements, promote community participation, and demand for safe institutional delivery
10. Establish a sound surveillance system for tracking stillbirths

Package 3: Immediate Newborn Care

Immediate care is the basic right of every newborn baby. This package includes interventions such as immediate drying and stimulation, provision of warmth, hygienic care, early initiation of breastfeeding, and administration of vitamin K. For babies who do not breathe at birth, neonatal resuscitation is a crucial lifesaving intervention. Resuscitation training of providers in facilities reduces intrapartum-related neonatal deaths and early neonatal deaths substantially. Hypothermia is a risk factor for neonatal mortality, especially in cases of preterm and low birth weight babies. All steps should be taken to prevent and manage hypothermia and rooming-in of babies with mother must be universally practiced. Delayed cord clamping in newborns, including pre-term babies is associated with decreased risk of anemia and intraventricular hemorrhage. Administration of vitamin K at birth prevents hemorrhagic disease of newborn.

Listed below are the interventions for immediate newborn care.

Immediate Newborn Care		
Family and Community	**Outreach/Sub Centre**	**Health Facility**
1. Delayed cord clamping [E] 2. Interventions to prevent hypothermia [E] • Immediate drying • Head covering • Skin-to-skin care • Delayed bathing 3. Early initiation and exclusive breastfeeding [E] 4. Hygiene to prevent infection [E]	5. Vitamin K at birth [E] 6. Neonatal Resuscitation [E]	7. Advanced neonatal resuscitation [E]

PRIORITY ACTIONS

1. Establish fully functional NBCCs at all facilities conducting deliveries, according to the norms prescribed in the MNH toolkit
2. Saturate all facilities conducting deliveries with NSSK-trained staff
3. Implement standardized clinical protocols for essential newborn care, including resuscitation
4. Develop Quality Assurance mechanisms/cells to monitor training quality and adherence to standard protocols
5. Regular quality audits of facilities, including death audits
6. Ensure availability of Injection Vitamin K at all delivery points and its inclusion in the state's Essential Drugs List

7. Develop a mechanism of ongoing supportive supervision at the facility level
8. Strengthen counselling for breastfeeding, postnatal care, and community and home care practices
9. Focus on community strategies to promote demand for essential newborn care

Package 4: Care of Healthy Newborn

Evidence shows that community-based interventions can significantly improve child survival. A large number of ASHAs have been trained to perform various preventive and promotive health activities, such as counselling of mothers on breast-feeding, complementary feeding, immunization, care-seeking, promoting nutrition, sanitation, and safe drinking water, etc. Despite the significant increase in institutional deliveries, home deliveries persist to about 25% to 40% in pockets across states. Even in cases of institutional deliveries, most women tend to return home within a few hours after delivery. For women who stay at the institution for 48 hours or more, it is also important to provide care to the neonate at home for the remaining critical days of the first week and up to the 42nd day of life. Home visitation by ASHAs can contribute significantly to delivery of interventions with focus on the newborn period. Regular and timed contacts with the newborn are essential for ensuring continued exclusive breastfeeding, appropriate immunization, and care–seeking of children with danger signs.

The interventions for Care of Healthy Newborn are as provided in the table below:

Care of Healthy Newborn		
Family and Community	**Outreach/Sub Centre**	**Health Facility**
1. Home visits till six weeks by trained ASHA [E] • Counselling • Prevention of hypothermia, cord care • Early identification of danger signs • Prompt and appropriate referral 2. Exclusive breastfeeding [E] 3. Clean postnatal practices [E]	4. Immunization [E] • BCG • OPV • Hepatitis B	All the interventions (except home visits)

PRIORITY ACTIONS

1. Recruitment and rational deployment of ASHAs as per the population norm
2. Capacity-building of ASHAs to provide newborn care at the community level
3. Ensure uninterrupted supply of ASHA HBNC kits and replenishment thereof, from PHC inventory
4. Ensure timely payments of HBNC incentives for ASHAs
5. Set up mechanisms for monitoring of HBNC visits, with regards to quality and coverage
6. Ensure implementation of standardized training norms and uniform mechanism (formats, checklist) for quality of home visits
7. Strengthen and revitalize the role of ANM as supervisor cum mentor to ASHA
8. Institutionalize a framework for supportive supervision and mentoring of ASHAs (ARC, DRC, DCM, BCM, Supervisor/Facilitator)
9. Build responsive referral system – easy access and availability of referral transport and medical care at the health facilities for all sick / high-risk newborns referred by ASHAs
10. Strengthen counselling for breastfeeding, postnatal care, entitlements, and home care practices using counsellors and audiovisuals
11. Ensure availability of vaccines and logistic support for immunization at all delivery points.

Package 5: Care of Small and Sick Newborn

Small babies, due to preterm birth or small for gestation age (SGA) or a combination of both, face the highest risk of death in utero, during neonatal period, and throughout childhood. In preterm babies, the risk of mortality is inversely proportional to the gestational age, and the highest risk is seen in those born very early (< 28 weeks) as nearly 95% of these babies die without specialized newborn care. In case of SGA babies, those born at term have a nearly two times higher chance of mortality, while those born prematurely have a nearly 15 times higher chance of dying.

Specific interventions for small and sick newborns also include Kangaroo mother care (KMC). KMC involves package of early and continuous skin-to-skin contact, breastfeeding support, and supportive care in stable newborns weighing less than 2000 gm[3]. KMC can be practiced even at home, thus improving chances of newborn survival.

Strategic interventions for care of small and sick newborn include:

Care of Small and Sick Newborn		
Family and Community	**Outreach/Sub Centre**	**Health Facility**
1. Thermal care and feeding support (for home deliveries) [E]	2. Integrated management using IMNCI and use of oral antibiotics [E] 3. Injectable Gentamicin by ANMs for sepsis [E] • Pre referral • Completion of antibiotic course in case referral is refused / not possible "OR" as advised by treating physician	4. Kangaroo mother care at facility [E] 5. Full supportive care at block and district level [E] • NBSU at block level • SNCU at district level 6. Intensive care services (NICU) at regional level [A] for • Assisted ventilation • Surfactant use • Surgery

PRIORITY ACTIONS

1. Ensure dissemination of guidelines at all levels of facilities with priority to high caseload facilities and High Priority Districts (HPDs)
2. Establish fully functional NBSUs, SNCUs with the requisite HR in blocks/districts with priority to High Priority Districts (HPDs) and scale up KMC unit/wards on the existing FBNC system
3. Saturate all districts in the state with fully functional SNCUs followed by all facilities with >3000 deliveries/ year
4. Upgrade NICUs at the medical colleges/tertiary care facilities to provide referral services for advanced newborn care support (ventilation, surgery) at regional level, and to strengthen linkages with SNCUs and NBSUs

[3] KMC is advocated for all newborn weighing less than 2500 grams at birth. However, in India, on account of huge burden of low birth weight, facility based KMC has been advised for newborns with birth weight less than 2000 grams, on priority.

5. Operationalize SNCU monitoring software across all SNCUs / NICUs
6. Institutionalize network of Regional/State FBNC collaborating centres and Medical Colleges to:
    a. Accelerate capacity building of MOs/Staff Nurses/ANMs posted in NBSUs, SNCUs and KMC units, and of ANMs for IMNCI
    b. Develop an integrated framework for supportive supervision
7. Ensure mechanisms for timely procurement and supply chain management of equipment, drugs, and laboratory reagents as per the defined norms and technical specifications
8. Regularly monitor quality of trainings
9. Develop Quality Assurance mechanisms/cells to ensure compliance with norms for quality of care for small and sick newborns, including tools for adherence to admission and discharge criteria, SOPs for clinical management, infection prevention and control
10. Conduct regular quality audits of facilities including death audits
11. Scale up new operational guidelines, allowing ANMs to administer injectable antibiotics for neonatal sepsis

Package 6: Care beyond Newborn Survival

This is a new package considering the burden of birth defects and development delays in newborns. It is of particular significance for SGA and preterm newborns, as well as newborns discharged from SNCUs.

The table below lists the interventions to care for newborns beyond their survival.

Care beyond Newborn Survival		
Family and Community	**Outreach/ Sub Centre**	**Health Facility**
1. Screening for birth defects, failure to thrive and developmental delays [E] 2. Follow up visits of [E] - SNCU discharged babies till 1 year of age - small and low birth weight babies till 2 years of age	3. As before	4. Newborn screening [A] 5. Management of birth defects [E] - Diagnosis - Treatment, including surgery 6. Follow-up of high-risk infants (discharged from SNCUs, and small newborns) for - Developmental delay - Appropriate management

PRIORITY ACTIONS

1. Train all levels of service providers engaged in screening of birth defects and developmental delays.
2. Deploy trained mobile health teams for screening
3. Establish fully functional District Early Intervention Centres (DEICs)
4. Institutionalize a robust referral mechanisms between screening points and District Early Intervention Centres (DEICs)
5. Establish centres of excellence at tertiary care hospitals for management of conditions, especially the birth defects requiring surgical correction
6. Screen birth defects by the service providers at the facility and in community by ASHAs during home visits
7. Facility-based follow-up of small and sick babies for developmental delay and appropriate management
8. Follow up of all sick/high-risk newborns discharged from the SNCU for a period of one year by ASHAs
9. Develop resource network, including private practitioners, to provide specialized care for identified cases

4.4 Monitoring and Evaluation Framework

It is imperative to have a better comprehensive information system for monitoring and assessing progress towards the targets identified under INAP. The Government of India has established a web-based tracking system (Mother and Child Tracking System) to track every pregnant woman and child till the age of 2 years. States have taken steps to improve quality of data for vital events including causes of death, as it provides crucial information for policy making, planning, and evaluation across all the sectors of development. Further, a web-based Health Management Information System (HMIS) data on a range of outputs and service delivery indicators at the facility level has been initiated. The Government of India has also set up an online, real-time data monitoring system, which records vital information on the performance of SNCUs in the country, as well as the long term outcomes of discharged neonates, for guiding policy and initiating action for improving perinatal care.

The India Newborn Action Plan (INAP) is about taking action to achieve ambitious mortality and coverage targets to end preventable newborn deaths and stillbirths. Achieving the goals, and mortality and coverage targets outlined in the INAP requires measurable indicators to track progress and inform health policy and programmes. The milestones will form the starting point for accountability and independent oversight and the basis for monitoring progress in implementation. The pathway to impact will be marked by milestones, which are defined at national level for the period 2014–2020.

Table 5: National Milestones to Monitor INAP

Year	National Milestones
2014	National launch – India Newborn Action Plan
2015 - 2016	• State Newborn Action Plans developed • Reporting by states on Dashboard Indicators • Quality assurance mechanisms strengthened at national and state level • Institutional mechanism established for research and knowledge management • Gender disaggregated data available and monitored for various interventions
2017	Mid-course review
2018 - 2019	• Stillbirth tracking mechanism strengthened • Accountability framework developed and operationalized at all levels of health care • Equity disaggregated data available and monitored for all interventions
2020	Review and update action plan

A comprehensive assessment of targets would be done in 2020, which will help plan course corrections, if any, in on-going interventions. Further, from the year 2020, the milestones will be reviewed every five years keeping in sync with ENAP—i.e., 2025, 2030, and 2035.

Following core indicators (dashboard indicators) have been selected for monitoring, based on direct relevance to the action plan framework, targets, goals, and review of current data availability (*See Table 6*).

Table 6: Dashboard Indicators

Level and Focus Areas	Indicators
Impact Level Indicators	- Birth registration - Stillbirth rate - Early neonatal mortality rate - Neonatal mortality rate - Percentage of neonatal deaths to under-5 deaths - Survival rate of newborns discharged from SNCU / NICU at one year of age - Cause-specific neonatal mortality
Pre-Conception & Antenatal Care	- Births to women aged 15 -19 years out of total births (Teenage pregnancy) - Percentage of pregnant women who received full ANC - Percentage of pregnant women detected and treated with severe anaemia - Percentage of pregnant women detected and treated with PIH
Care during Labour and Child Birth	- Percentage of safe deliveries (Institutional + home deliveries by SBA) - Percentage of preterm births - Caesarean section rate - Percentage of women with preterm labour (< 34 weeks) receiving at least one dose of antenatal corticosteroid - Intra-partum stillbirth rate
Immediate Newborn Care	- Percentage of newborns breast fed within one hour of birth - Percentage of newborns delivered at health facility receiving vitamin K at birth - Percentage of labour room staff trained in NSSK - Percentage of newborns weighed at birth - Percentage of low birth weight babies

Level and Focus Areas	Indicators
Care of Healthy Newborn	- Percentage of newborns received complete schedule of home visits under HBNC by ASHAs - Percentage of sick newborns identified during home visits by ASHAs - Exclusive breastfeeding rate - Percentage of mothers stayed for 48 hrs in the facility - Percentage of newborn received birth dose of Hepatitis B, OPV and BCG
Care of Small and Sick Newborn	- Percentage of district hospitals with functional SNCU - Percentage of facilities with SNCUs having functional KMC units - Percentage of female admissions in SNCU - Mortality rate in newborns with admission weight < 1800 gm - Percentage of newborns deaths due to birth asphyxia - Percentage of newborns with suspected sepsis receiving pre-referral dose of gentamicin by ANM
Care beyond Survival	- Percentage of newborns screened for birth defects (Facility + Community) - Percentage of newborns with any defect seen at birth - Percentage of newborns discharged from SNCU followed up till one year of age - Percentage of districts with functional District Early Intervention Centre (DEIC)

Way Forward

WAY FORWARD

The success of the India Newborn Action Plan hinges on active participation and commitment by the states to attain the vision of ending preventable deaths of newborns and stillbirths. This would translate into achieving Single Digit NMR and Single Digit SBR by 2030. The states are urged to develop contextual, state-specific Newborn Action Plans.

Augmenting investments under the National Health Mission is essential to reduce preventable neonatal deaths and stillbirths. Investments shall help strengthen the health system to address critical gaps in infrastructure; streamline procurement and supply chain mechanisms (to ensure essential commodity security); and supplement availability of skilled human resource (especially in difficult and hard-to-reach areas). To improve quality of services in public health facilities, the state and district programme management capacity shall be enhanced to deliver evidence-based interventions in an integrated manner across the continuum of care and quality assurance mechanisms. In addition, steps towards good governance—responsiveness, transparency and accountability of health system—shall be invigorated.

Concerted efforts shall be made at national and state level to ensure intradepartmental and interdepartmental convergence and multi-stakeholder partnerships. This would be vital for addressing critical social determinants of maternal and neonatal health, such as child marriage, early/adolescent pregnancy, and frequent and multiple pregnancies. It would also address the gender discrimination (e.g., female foeticide) that affects care-seeking for girl children and women.

For successful implementation of INAP, it is crucial to focus on the urban poor newborns and harness the potential of the private sector. Efforts would be geared towards harmonization of knowledge and competencies of different professional bodies, such as NNF, IAP, FOGSI, at the national and state level to enhance access to quality integrated care for women and neonates.

Today, there are unprecedented opportunities, as much more is known about effective interventions, service delivery channels, and approaches to accelerate coverage and quality of care. Research into delivery, development, and discovery needs to be placed at the forefront of efforts to reduce neonatal mortality and stillbirths. Stillbirths so far have not received due attention in India. INAP for the first time articulates the Government of India's focused attention on preventing stillbirths by constituting a Stillbirth Task Force to provide strategic oversight and technical guidance.

Selected research priorities include: Scaling up simplified newborn resuscitation; Identifying barriers to exclusive breastfeeding; Evaluating use of chlorhexidine for cord care; Improving and simplifying intrapartum monitoring; Operationalizing KMC at both the facility and community level; and Simplified antibiotic regimen for management of neonatal sepsis. The most urgent requirement is to establish a strong institutional mechanism for knowledge management, research, and documentation that feeds into guiding policies and strategies.

Successful implementation of INAP will thus rely on a strong, secure continuum-of-care to dramatically reduce preventable maternal, newborn, and child deaths, through quality implementation of high impact interventions to the scale, keeping the equity in the centre stage of the planning process. INAP has potential to contribute towards more equitable societies and transform human development.

Annexures

ANNEXURE 1

Bottleneck Analysis and the process for development of INAP

At the first Global Conference on Newborn Health held at Johannesburg, South Africa in April 2013, selected countries from Asia, Africa, Latin America and Caribbean Islands reaffirmed their commitment to accelerate steps for reducing preventable newborn deaths. India led the discussion and decided to develop a country specific newborn action plan in line with the Global Every Newborn Action Plan.

In June 2013, the Government of India constituted a Technical Advisory Group (TAG) to develop the India Newborn Action Plan with representation from development partners, professional and academic organizations, and non-government organizations. The group unanimously agreed that the India's Action Plan should be a significant step and commitment to both improve newborn health and survival in sync with the national RMNCH+A strategy and guidance to the states in informing both the planning and implementation processes for evidence-based interventions. It was also agreed that there was a need to systematically analyze the health-system bottlenecks and challenges that prevent the scale-up of high-impact, cost-effective intervention packages for newborn babies, with identification of potential solutions. Further, following five technical sub-groups were formed to review the current status of a particular intervention, including issues affecting their service delivery, and to identify possible solutions:

- Home Based Newborn Care (HBNC)
- Facility Based Newborn Care (FBNC)
- Urban Newborn
- Private Sector Involvement
- RMNCH+A Strategy

The sub-groups held a series of consultative meetings and their inputs have been incorporated in the INAP. The findings of two subgroups on urban newborn and private sector engagement have been annexed (See Annexures 4 & 5)

For Bottleneck Analysis (BNA) exercise, three tools were identified for systematic assessment of implementation issues: Short Programme Review (SPR) tool from the WHO, RMNCH+A gap analysis tool from the Government of India, and Bottleneck Analysis (BNA) tool from the global Every Newborn Steering Group. The BNA tool was finally selected for the assessment. The tool analyzed nine newborn intervention packages, identified as critical to reduce preventable newborn deaths. Under each package, a "tracer intervention" was chosen based on its relative importance on reducing mortality and on which was most likely to reflect common challenges for that intervention package. The 9 interventions and the tracer indicators are listed below:

1. Management of pre-term birth (focus on antenatal corticosteroids)
2. Skilled care at birth (focus on the use of the partograph)
3. Basic Emergency Obstetric Care (focus on assisted vaginal delivery)
4. Comprehensive Emergency Obstetric Care (focus on caesarean section)
5. Basic Newborn Care (focus on cleanliness including cord care, warmth, and feeding)
6. Neonatal resuscitation
7. Kangaroo mother care (focus on skin-to-skin, breastfeeding, and feeding support for premature and small babies)
8. Treatment of severe infections (focus on using injectable antibiotics)
9. Inpatient supportive care for sick and small newborns (focus on IV fluids/feeding support and safe oxygen)

Each of the above nine interventions in turn were evaluated across the following seven health system building blocks (six WHO health system blocks plus community ownership and leadership).

1. Leadership and governance (enabling environment)
2. Health financing (enabling environment)
3. Health work force (supply)
4. Essential medical products and technologies (supply)
5. Health services (supply, quality)
6. Health information systems (quality)
7. Community ownership and partnership (demand)

State-level consultations were conducted in the three states of Rajasthan, Andhra Pradesh and Odisha in the month of July-August 2013, with a particular focus on identifying both bottlenecks using the standardized tool and possible solutions for scaling up these intervention packages. The state participants included maternal, newborn, and child health state programme officers, data managers, district level RCH officers, civil society, and private sector. These consultations were facilitated by national experts, including programme officers of the Child Health and Maternal Health Divisions, Ministry of Health & Family Welfare, Government of India. The Urban Newborn sub-group undertook a separate BNA in the two municipal corporations of the highly urbanized states of Maharashtra and Gujarat.

The relative impact of the health system bottlenecks on the scale-up of newborn programme in general and on critical newborn interventions in particular were graded based on the consensus decisions. Both the bottlenecks identified as critical in each state and the ones identified as similar across the three states were deliberated, collated, and tabulated separately. Since these bottlenecks have been identified from three states only, the results are not representative of the whole country and could represent worst-case scenario.

Further to this, a regional consultation workshop on 'Every Newborn' Action Plan, held at Kathmandu (30 August–01 September 2013) also deliberated on country-specific and regional bottlenecks and solutions for newborn health and survival in Asia. The regional findings were compiled and recommendations consolidated. INAP broadly incorporated the recommendations of the regional ENAP consultation held at Kathmandu, Nepal.

The salient findings of the bottleneck analysis have been summarized in Tables below:

BOTTLENECK IDENTIFIED	SUGGESTED ACTIONS
I. Health systems applicable to newborn interventions	
Leadership & Governance • Wider guidelines dissemination • Advocacy and sensitization of major stakeholders • Accreditation and accountability in the private sector	• Interlinked strategies and activities to be proposed to address governance • Current newborn plan to be inclusive of underlying principles like gender, equity, convergence and inter-linkages
Human Resources for Health • Recruitment, posting, transfer, and promotion policies • Lack of a uniform written and widely disseminated HRH policy	• Formulation of a national comprehensive HRH Policy in concurrence with NHM
Partnerships • No existing guiding framework for developing and sustaining effective partnerships	• Mapping stakeholders and areas for partnerships to address issues of inequity currently affecting service delivery and utilisation
Health Financing • Flow of funds • Out-of-pocket expenditure	• Strengthening fund flow mechanisms and institutional mechanisms ensuring zero out-of-pocket expenditure - Strengthening implementation of JSSK reimbursements and JSY payments - Establishing institutional mechanism for procurement and supplies - Strengthening referral transport - Ensuring availability of imprest money at facility level to be utilised for local maintenance of equipment or certain enlisted drugs in case of shortage - Creating awareness of service providers about availability of funds at the local level as imprest money and norms to utilise them

BOTTLENECK IDENTIFIED	SUGGESTED ACTIONS
Health Management Information Systems- • Data validation • Reporting from private sector • Use of information for planning and mid-course correction of program implementation is not happening	• Institutionalisation of data management and validation to strengthen its utilization of available data for improving quality of service and implementation of program
II. SBA, BEmOC & CEmOC	
Human Resources Challenges • Quantity and quality of skilled workers • Quality of training, supportive supervision • Lack of multi-tasking and task-shifting are major issues • Inadequate incentives	• Pre-service and in-job training quality to be addressed • Strengthening capacities for task-shifting and multi-skilling • Strengthening and capacity-building supervisory cadres • Strengthening and scaling-up of skill labs for pre-service and in-service trainings • Regularise performance-based incentive mechanisms
Health Service Delivery • Inadequate infrastructure • Lack of supportive and referral services affects quality of care and poor patient retention in facilities	• Establish time-bound processes to strengthen quality of care, including infrastructure as per norms and caseload • Establishing and strengthening existing accountability mechanisms: RKS, grievance redressal mechanism to strengthen support services, ample partnership to strengthen referral services
III. Essential Newborn Care and Resuscitation	
Leadership & Governance • Lack of synchronisation of information in various guidelines like F-IMNCI,NSSK , updating them and ensuring implementation	• Revised guidelines and capacity-building of health workers have to be ensured in the plan
Human Resources for Health • Inequity in staff distribution, multi-skilling, task-shifting, aalary package differences between contractual and permanent staff • No provision of accreditation of trained staff, especially frontline workers after regular intervals	• Formation of national comprehensive HRH Policy in concurrence with NHM • Accelerating revision of pre-service and in-service training curriculum of ANM already in process • Roadmap for strengthening nursing pre-service education
Health Management Information Systems • Critical review of quality of neonatal resuscitation not included in perinatal death review protocols, CDR Mechanism with emphasis on neonatal component still not rolled out • No reporting from private sector in MCTS	• Evidence-based revision of policies and guidelines through institutional mechanisms must be established • Private sector to become part of reporting systems

BOTTLENECK IDENTIFIED	SUGGESTED ACTIONS
IV. Home Visits	
Human Resource for Health • Lack of cadre of supervisors for Supportive Supervision and Mentoring of ASHAs trained for HBNC • Absence of tools for monitoring • Very slow pace of training	• Role of ANMs as ASHA mentors to be emphasized • State ASHA Resource centre and training structures to be strengthened as per guidelines to expedite supportive supervision and training • Revised HBNC guidelines have incorporated monitoring tools
Equipment and Supplies • Lack of HBNC kits and its replenishment	• Institutional mechanisms of procurement and supply of HBNC kits must be established
V. Management of preterm and low birth weight babies	
Equipment and supplies • Poor supply chain management and no guidelines on forecasting new additions such as corticosteroids	• Institutional mechanisms of procurement and supply of drugs and equipment
VI. Treatment of severe infections & inpatient supportive care for sick and small newborn	
Leadership & Governance • Guideline dissemination is limited and does not reach the service providers at lower levels	• Ensuring systematic dissemination of all guidelines up to the last service delivery level
Partnership • Poor awareness and utilization of available services in community	• Strengthen communication strategy to ensure awareness
Health Finance • Fund flow from national and state level not commensurate with fund allocation and time frame	• Strengthening health systems through integration with NHM to streamline fund flow and utilization for newborns.
Health Service Delivery • Service providers attitude non satisfactory • Quality of care at facilities is a major issue • Delay in recognition of danger signs and prompt referral	• Training of providers on soft skills • Ensuring capacity building of frontline health worker and availability of referral transport • Equity issues have to be dealt with to ensure that girl children receive attention • Increasing awareness among beneficiaries for their entitlement

ANNEXURE 2

Summary of strategic interventions packages with actions under each of the six distinct life stages

	Pre-conception and Antenatal Care	Care during Labour and Childbirth	Immediate Newborn Care	Care of Healthy Newborn	Care of Small and Sick Newborn	Care beyond Newborn Survival
Family and Community	Reproductive health & Family planning [E] - Adolescent reproductive health - Delaying age of marriage and first pregnancy - Birth spacing Nutrition related interventions [E] - Balanced energy protein supplementation - Peri-conceptional folic acid - Maternal calcium supplementation - Multiple micronutrient supplementation (Iron, Folic Acid & Iodine) - Nutrition Counselling Counselling & Birth Preparedness [E] Prevention against malaria [S]	Skilled birth attendance [E] Clean birth practices [E]	Delayed cord clamping [E] Interventions to prevent hypothermia [E] - Immediate drying - Head covering - Skin to skin care - Delayed bathing Early initiation of breast feeding [E] Hygiene to prevent infection [E]	Home visits till six weeks by trained ASHA [E] - Counselling - Prevention of hypothermia, cord care - Early identification of danger signs - Prompt and appropriate referral Exclusive breast feeding [E] Clean postnatal practices [E]	Thermal care and feeding support (for home deliveries) [E]	Screening for birth defects, failure to thrive and developmental delay [E] Follow up visits of [E] - SNCU discharged infants till 1 year of age - small and low birth weight babies till 2 years of age

	Pre-conception and Antenatal Care	Care during Labour and Childbirth	Immediate Newborn Care	Care of Healthy Newborn	Care of Small and Sick Newborn	Care beyond Newborn Survival
Outreach/ Sub centre	All the above, plus Antenatal screening for Anaemia and Hypertensive disorders of pregnancy (PIH, Preeclampsia, Eclampsia) [E] Antenatal screening for Malaria [S] Prevention and management of mild to moderate anemia [E] Maternal tetanus immunization [E] Adolescent Friendly Health Services (nutrition and reproductive health counseling) [E] Interval IUCD insertion [E]	All the above, plus Identification of complications and timely referral [E] Pre-referral dose by ANM [E] - Antenatal corticosteroids in preterm labour - antibiotics for premature rupture of membranes	All the above, plus Vitamin K at birth [E] Neonatal Resuscitation [E]	All the above (except home visits), plus Immunization [E] - BCG - OPV - Hepatitis B	All the above, plus Integrated management using IMNCI and use of oral antibiotics [E] Injectable Gentamicin by ANMs for sepsis [E] - Pre referral - Completion of antibiotic course in case referral is refused / not possible/ as advised by treating physician	All the above

	Pre-conception and Antenatal Care	Care during Labour and Childbirth	Immediate Newborn Care	Care of Healthy Newborn	Care of Small and Sick Newborn	Care beyond Newborn Survival
Health Facility	All the above, plus Antenatal screening & management of - Severe anaemia, Hypertensive disorders of pregnancy (PIH, Preeclampsia, Eclampsia), Gestational Diabetes [E] - Hypothyroidism, Syphilis, Hepatitis B HIV, Malaria [S] Adolescent Friendly Health Services (as per RKSK guidelines) [E] Post-partum Family Planning services including PPIUCD insertion [E] Prevention of Rh disease using anti D immunoglobulin [S]	All the above, plus Emergency obstetric care [E] - Basic and Comprehensive Management of preterm labour [E] - Antenatal corticosteroids in preterm labour - Antibiotics for premature rupture of membranes	All the above, plus: Advanced neonatal resuscitation [E]	All the above (except home visits)	All the above, plus Kangaroo mother care at facility [E] Full supportive care at block and district level [E] - NBSU at block level - SNCU at district level Intensive care services (NICU) at regional level [A] for - Assisted ventilation - Surfactant use - Surgery	All the above, plus Newborn screening [A] Management of birth defects for conditions enlisted under RBSK [E] - Diagnosis - Treatment, including surgery Follow-up of high-risk infants (discharged from SNCUs, and small newborns) for - Developmental delay - Appropriate management

ANNEXURE 3

Strategic Intervention Package	Operational Guidelines	Training Package	Service Providers
PRE-CONCEPTION AND ANTENATAL CARE	• Guidelines for pregnancy care and management of common obstetric complications by MOs (2005) • Guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs / LHVs / SNs (2010) • Operational guidelines on Ensuring Spacing of Births (ESB) and Home Delivery of Contraceptives (HDC) schemes for ASHAs (2012) • Operational Guidelines on National Iron Plus Initiative (2013) • Operational guidelines of Rashtriya Kishore Swasthya Karyakram (RKSK) (2014)	• Trainees' Handbook for training of Medical Officers in Pregnancy Care and management of common Obstetric Complications (2009) • SBA Handbook for ANMs, LHVs and SNs (2010) • IUCD Reference Manual for MOs and SNs (2013) • RKSK training package (2014)	Doctors, Staff Nurses, LHVs, ANMs, ASHAs, RMNCH+A/ ARSH Counsellors
CARE DURING LABOUR AND CHILDBIRTH	• Guidelines for pregnancy care and management of Common Obstetric Complications by MOs (2005) • Guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs / LHVs / SNs (2010) • Maternal & Newborn Health Tool Kit (2013) • Use of Antenatal Corticosteroids in Preterm Labour (2014)	• Training Package (Trainer's Guide & Trainees Handbook) for Training of Medical Officers in Pregnancy Care and Management of Common Obstetric Complications (2009) • NSSK Training manual – Basic Newborn Care and Resuscitation Programme (2009) • SBA Trainers Guide for Conducting Training of ANMs, LHVs and SNs (2010) • SBA Handbook for ANMs, LHVs and SNs (2010) • EmOC training guide (2013)	Doctors, Staff Nurses, LHVs, ANMs, ASHAs

Strategic Intervention Package	Operational Guidelines	Training Package	Service Providers
IMMEDIATE NEWBORN CARE	• Navjaat Shishu Suraksha Karyakram (2009) • Facility Based Newborn Care guideline (2011) • Inj Vitamin K administration for all babies (2014)	• NSSK Training manual – Basic Newborn Care and Resuscitation Programme (2009) • Integral part of SBA, BEmoc, CEmoc, & F-IMNCI • Neonatal Resuscitation Protocol for MOs and Staff Nurses under FBNC training (2014)	Doctors, Staff Nurses, LHVs, ANMs, ASHA
CARE OF HEALTHY NEWBORN	• Navjaat Shishu Suraksha Karyakram (2009) • Facility-Based Newborn Care guideline (2011) • Home-Based Newborn Care (revised 2014)	• ASHA module 6 & 7	ASHAs and ASHA facilitator
CARE OF SMALL AND SICK NEWBORN	• FBNC Operational Guideline (2011) • IMNCI Guidelines (2005) • F-IMNCI Guidelines (2009) • Use of Gentamicin by ANMs for management of sepsis in young infants under specific situations (2014) • Kangaroo Mother Care and feeding of low birth weight babies (2014)	• Facilitators guide IMNCI and F-IMNCI • FBNC training manual & tool (2014)	ANMs (outreach/sub-centre level) Doctors, Staff Nurses/ ANMs (health facility level at NBSUs, SNCUs, Medical Colleges)
CARE BEYOND NEWBORN SURVIVAL	• RBSK Operational Guidelines (2013)	• RBSK Training Package for mobile heath teams, Staff at District Early Intervention Centres (DEIC), and Specialists/ Doctors at tertiary level facilities	Birth attendants at delivery points (Doctors, Staff Nurses/ ANMs), Mobile Health Teams, ASHAs, Staff at District Early Intervention Centres, Specialists/ Doctors at tertiary level facilities

ANNEXURE 4

Recommendations of the working group on Urban Newborn

Evidence clearly indicates that all the childhood mortality indicators among urban poor are higher compared to the urban averages – 72.7% vs. 51.9% for the U5MR, 54.6% vs. 41.7% for the IMR, and 36.8% vs. 28.7% for the NMR. Thus, challenges in reducing the newborn morbidity and mortality in urban areas by addressing the needs of newborns in urban poor settings are many—from the need for a comprehensive strategy and programme to ensure availability and commitment of doctors, hospitals and city governments, to building human resource capacity at all levels.

At this point in time, the country stands at the juncture where INAP can be fortified with and blended into the strategies backed up by the immediate 12th five-year plan, the NUHM, and the RMNCH+A approach.

Key Recommendations

- Build policy and regulatory environment for urban newborn health care through consultations at the state government and city levels in each state
- Conduct situational analysis at each tier of cities regarding numbers/adequacy of health facilities per 100000 population, infrastructure, HR, and care-seeking behaviour
- Strengthen linkages between communities, urban health centre, and hospital care with active referral mechanisms
- Build capacities of health managers and supervisors for supervision and monitoring quality of maternal and newborn care
- Ensure equitable access to high-quality health care for all newborns by linking entitlements under JSSK for urban poor for all maternal newborn health services
- Strengthen health systems to ensure service provision for urban newborns
    a. Supervisory checklist for health services: presence of equipment and completeness of HMIS, accounts, client assessments, treatments or consultations and other requirements
    b. Facility-wide review of mortality: structured system to review the records of each death
    c. Audits of medical records or registers: checking if protocols are followed
    d. Facility supervision visit to be made once in every 6 months
    e. Ensure public-private partnerships

ANNEXURE 5

Recommendations of the working group on Private Sector

Very few details are known about private health care providers, including information on the locations of private providers, their numbers, available infrastructure, skills, strengths, capabilities, and human resources available. Ascertaining key information about private providers is made more difficult and complex as there are several genres of health practitioners in India. While a public-private partnership (PPP) is not a new concept in India, PPP in health care has had patchy success over the past few decades; in newborn health, this is extremely nascent.

Recommendations

The recommendations of working group are summarized as follows:

1. Mapping of private sector and systemic review of existing private sector engagements and processes.
2. Develop a comprehensive PPP policy with involvement of all concerned stakeholders. Develop standards of newborn care for India which are applicable to all health care sectors.
3. Establish contractual processes that are simple, straightforward, and adequately flexible.
4. Institutional structures should be established to operationalize PPP through formation of state- and district-level cells, each supported by management and technical experts.
5. Promote high-impact interventions, including kangaroo mother care (KMC), appropriate and rational use of drugs (steroids, injectable antibiotics), and newborn resuscitation, along with infection control measures based on existing standard operating procedures
6. Private sector facilities should be part of perinatal and neonatal databases.
7. Efforts should be made to promote funding for newborn care through corporate social responsibility (CSR).
8. The government should support the private sector through incentives especially to small nursing homes and hospitals in the rural areas in the form of voucher schemes.
9. The private sector should support the government in developing standards; in improving health care management, skill-building, training and mentoring of health professionals; in providing technical support; and in adoption of public health facilities, IT related interventions, telemedicine, and research.

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