BHUTAN EVERY NEWBORN ACTION PLAN (2016-2023)

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2016-2023

RMNH Program

Department of Public Health

Ministry of Health

FOREWORD

Bhutan has made significant progress in the improvement of maternal and child health. Maternal mortality ratio (MMR) has reduced from 770 in 1984 to 86 per 100,000 live births in 2012. Likewise, Under-five Mortality rate (U5MR) has reduced from 162 in 1984 to 37 per 1000 live births in 2012. Even though Bhutan's progress towards reducing Under-five mortality is commendable, we have witnessed a slow decline in neonatal mortality rate. Therefore, in order to reduce and prevent child mortality, intensified action and guidance are needed to ensure newborn survival as neonatal mortality accounts for more than 55% of Under -five Mortality in Bhutan.

Initiatives such as Safe Motherhood and Child Survival including care of the newborn, Postnatal home visit of mother and newborn, National Child Health Strategy (2014-18), National Maternal and Neonatal Mortality Review and tracking of every mother and child through Mother and Child Health (MCH) Hand Book aims at improving the health of newborns in the country.

Bhutan Newborn Action Plan (BENAP) is a road map towards accelerating the reduction of newborn deaths. A set of interventions with priority actions for addressing newborn issues in the country have been outlined covering different life stages of a newborn. These actions are expected to strengthen neonatal services in the country. The action plan aims to harness concerted efforts of the stakeholders towards achievement of all health related Sustainable Development Goals and in particular Target 3.2 'Reduce child and neonatal mortality'.

Dr. Ugen Dophu

Secretary

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CONTENTS

List of tables and figures 5
Tables 5
Figures 5
List of abbreviations 6
Executive Summary 8
Introduction 9
2. Situation Analysis 11
2.1. Current trends –overview 11
2.1.1. Cause of under five deaths 11
2.1.2. Causes of neonatal deaths 12
2.1.3. Timing of neonatal deaths 13
2.1.4. Location of death 14
2.1.5. Inequity in Newborn Health 14
2.2.1 Policies and Strategies related to newborn health 16
2.2.2. Programs and Interventions related to newborn health 17
Objectives 17
Status (2016) 17
2.2.3. Health infrastructural development of newborn health 19
2.2.4. Health workforce development of newborn health 19
Bottle Neck Analysis 21
3. Bhutan Newborn Action Plan 22
Vision 22
Mission 22
Goals; 22
4.2. Strategic objectives 24
Strategic objective 1 24
Strategic objective 2 24
Strategic objective 3 24
Strategic objective 4 24
Strategic objective 5 24
4.3. Guiding Principles 24
4.4.1. Action plan for Strengthening Health Services for MNH 25
4.4.2. Strategic Intervention Package 26
SUMMARY OF BOTTLENECKS AND PRIORITY ACTIONS 42
1.5 Monitoring and evaluation framework 53
Way forward 53
ANNEXURE 1: Summary of costing 54
ANNEXURE 3 Roadmap in developing BENAP 58
ANNEXURE 4 Training Package 59
References 61
List of contributors 62

LIST OF TABLES AND FIGURES

TABLES

Table 1 Child Mortality trend in Bhutan 11

Table 2 Cause of neonatal deaths as per Maternal and Neonatal Death Reviews (2009-2016) 13

Table 3 Policies and strategies related to newborn Health 16

Table 4 Programs and Interventions related to newborn health 17

Table 5 Health Infrastructural development of newborn health 19

Table 6 Health workforce development of newborn health 19

Table 7 Interventions and tracer indicator 21

Table 8 National Targets on Newborn related indicators 23

FIGURES

Figure 1 Cause of under five deaths in Bhutan 12

Figure 2 Neonatal deaths by days of life 13

Figure 3 Projected levels of Neonatal Mortality in Bhutan [2015-2023] 22

Figure 4 Projected Levels of Still birth in Bhutan (2015-2023) 23

LIST OF ABBREVIATIONS

ANC	Antenatal Care
ANCS	Antenatal Corticosteroids
BMIS	Bhutan Multiple Indicator Survey
BMED	Bio medical Engineering Division
BEmONC	Basic Emergency Obstetric and Neonatal Care
C4CD	Care for Child Development
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
DM	Diabetes Mellitus
EENC	Early Essential Newborn Care
ENAP	Every Newborn Action Plan
EML	Essential medicine List
ET Tube	Endotracheal tube
FNPH	Faculty of Nursing and Public Health
HPV	Human Papilloma Virus
HIV	Human immuno deficiency Virus
HMIS	Health Management and information system
ICPD	International Conference on Population Development
IEC	Information Education and Communication
IEM	Inborn errors of metabolism
IGME	Inter-agency Group for Child Mortality Estimation
IMNCI	Integrated management of neonatal and childhood illness
IUCD	Intrauterine Contraceptive Device
IYCF	Infant and Young child feeding
KGUMSB	Khesar Gyelop University of Medical Sciences of Bhutan
KMC	Kangaroo Mother Care
MDG	Millennium Development Goal
NMR	Neonatal Mortality Rate
NICU	Neonatal Intensive care unit

NHS	National Health Survey
NRH	National Referral Hospital
NTD	Neural Tube Defect
PNC	Post Natal Care
PMTCT	Prevention of mother to child transmission
PROM	Premature rupture of membrane
RMNCA+	Reproductive, Maternal, Newborn, Child and Adolescent Health
RNDA	Rapid Neurodevelopmental assessment
ROP	Retinopathy of Prematurity
RRH	Regional Referral Hospital
SBR	Still Birth Rate
SoP	Standard operating Procedures
STI	Sexually transmitted infections
Td	Tetanus-diphtheria
U5MR	Under Five Mortality Rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Funds
UTI	Urinary Tract Infections
VHW	Village Health Workers
WHO	World Health Organisation

EXECUTIVE SUMMARY

Bhutan has made a remarkable progress in the areas of maternal and child health, leading to achievement of MDGs 4 and 5 on time. However, slow decline in neonatal mortality as compared to overall U5 mortality has been a serious concern. Neonatal health has not been specifically addressed in national policies and plans, even though records reveal neonatal deaths as major contributor for U5 mortality.

The BENAP has been developed considering the need to address newborn health adequately in the country. It is also in response to the Global Newborn Action Plan, Global Strategy and SDG-3. It is evidence–based intervention packages recommended in the lancet's *Every Newborn series*. In developing the action plan, a series of global and national literature reviews, a national bottleneck analysis and situational analysis were undertaken in consultation with relevant stakeholders along with inputs from technical experts. Various strategic intervention packages have been identified and a monitoring and evaluation framework has been developed to assess the results of the interventions.

BENAP is aligned with the national development plans and guided by the existing policies and programmes. BENAP constitutes of six intervention packages; pre-conception and antenatal care; care during labor and childbirth; immediate postnatal newborn care; care of healthy newborn; care of small and sick newborn; and care beyond newborn survival. Intervention packages are stated differently for different levels of health care system from family and community to National Referral Hospital.

The action plan aims to reduce newborn deaths to 13.2 per 1000 live births and stillbirths to 12.1 per 1000 live births by 2023 towards reducing NMR and still births below 12 by 2030 in line with targets of Global Strategy and SDG-3. It aspires to reduce preventable newborn deaths and stillbirths to zero and to create a conducive environment where all babies survive, thrive and develop to their full potential. With commitments from policy makers and efforts from key stakeholders, BENAP envisions to improve the health of every newborn in the country.

INTRODUCTION

Globally, there has been remarkable progress in achieving MDG 4 and 5, but progress towards newborn survival has been slow. Moreover, newborn survival and prevention of stillbirths were not specifically addressed in the Millennium Development Goal (MDG) framework and consequently received less attention and investment. The reduction of newborn mortality rate is 40% slower than those of maternal and child mortality Four out of five newborn deaths result from three preventable and treatable conditions: preterm birth, birth complications and neonatal infections. In order to prioritize this unfinished agenda, the global health community has committed and launched the Global Every Newborn Action Plan (ENAP) in June 2014 supported by new evidences with a vision to end preventable newborn deaths and stillbirths. The launch of the United Nations Secretary General's second global strategy for every women and child in 2015, there has been a renewed focus on improving neonatal health globally.

With commitment from the highest level, Bhutan has seen remarkable progress in maternal and child health over the years. The National Health Policy 2011, the guiding policy for health care services in Bhutan states that healthy child growth and development shall be promoted through advocating breast feeding, appropriate nutrition and integrated management of childhood diseases. Bhutan has achieved the MDGs 4 and 5 and has committed towards achieving the Sustainable Development Goals (SDGs).

While the child health conditions have improved, newborn health still needs to be addressed. At the global level, the ENAP targets for newborn mortality rate and still birth rate is 10 Per thousand live births and 12 per thousand live births respectively in 2030; According to UN Inter-agency Group for Child Mortality Estimation (IGME) 2015 with current annual reduction rate of 3.1, Bhutan will have Neonatal Mortality Rate (NMR) of 13.4 and 10.2 in 2023 and 2030 respectively, while Stillbirth Rate (SBR) will be 12.1 and 9.5 in 2023 and 2030 respectively. Even though Bhutan will reach the global target of reducing neonatal mortality with current reduction rate, the share of neonatal death in U5MR in Bhutan increased from 33% in 1990 to 55% in 2015. Most of them (preterm, intrapartum and sepsis) are preventable with innovations, ensure implementation of newborn interventions and improve quality of maternal and newborn care around birth.

The Mother and Child Health Unit was initiated in the 1970s to address issues related to high Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR) in the country. After Bhutan attended the International Conference on Population Development (ICPD) in Cairo, it shifted its emphasis from contraceptive to family planning and broader reproductive health approach such as Safe Motherhood and Child Survival including care of the newborn.

Bhutan strives to make continuous effort in the areas of maternal and neonatal health focusing on the quality of care. The initiative of postnatal home visits by health care providers is aimed towards reducing both maternal and neonatal death within first critical days of life. The annual maternal and neonatal investigation review uncovers the causes of newborn deaths followed by set of recommendations to combat these issues.

Milestones in Child Survival Programs in Bhutan

1994: Safe Motherhood and Child Survival including care of the newborn

1999: Comprehensive and Basic Emergency Obstetric Care centres are established in the country.

2007: Maternal and Child Health Handbook introduced

2009: Neonatal Death investigation initiated

2009: IMNCI strengthened with inclusion of neonatal component and supervision

2014: National Child Health strategy (2014-18) developed

2015: Draft Bhutan Newborn Action Plan developed

2016: MCH tracking system initiated

2. SITUATION ANALYSIS

The initiatives and population measures of the Royal Government of Bhutan have translated into substantial progress in key indicators of population and development. MMR declined from 380 in 1994 to 86 per 100,000 live births in 2012. IMR declined from 102 in 1984 to 30 per 1000 live birth in 2012, and U5MR has been reduced from 162.4 in 1984 to 37.3 per 1000 live births in 2012. As per the UN-IGME, the decline in U5MR has mostly been due to decline in deaths of children after 1 month of age. U5MR reduced significantly, but the share of neonatal death in Under-five death increased in Bhutan. According to UN-IGME, Bhutan's U5MR reduced 75% from 1990 to 2015 to achieve MDG 4 target. Although with this great progress, the share of neonatal death in under 5 death has increased from 33% in 1990 to 48% in 2015.

2.1. Current trends –overview

Table 1 Child Mortality trend in Bhutan

Indicators	1984 (NHS)	1994 (NHS)	2000 (NHS)	2012 (NHS)	2015 (IGME estimates)
Under-five mortality rate 1000 live births	162.4	96.9	84.0	37.3	33
Infant Mortality rate per 1000 live births	102.8	70.7	60.5	30.0	27
Neonatal Mortality rate	-	-	-	21	18

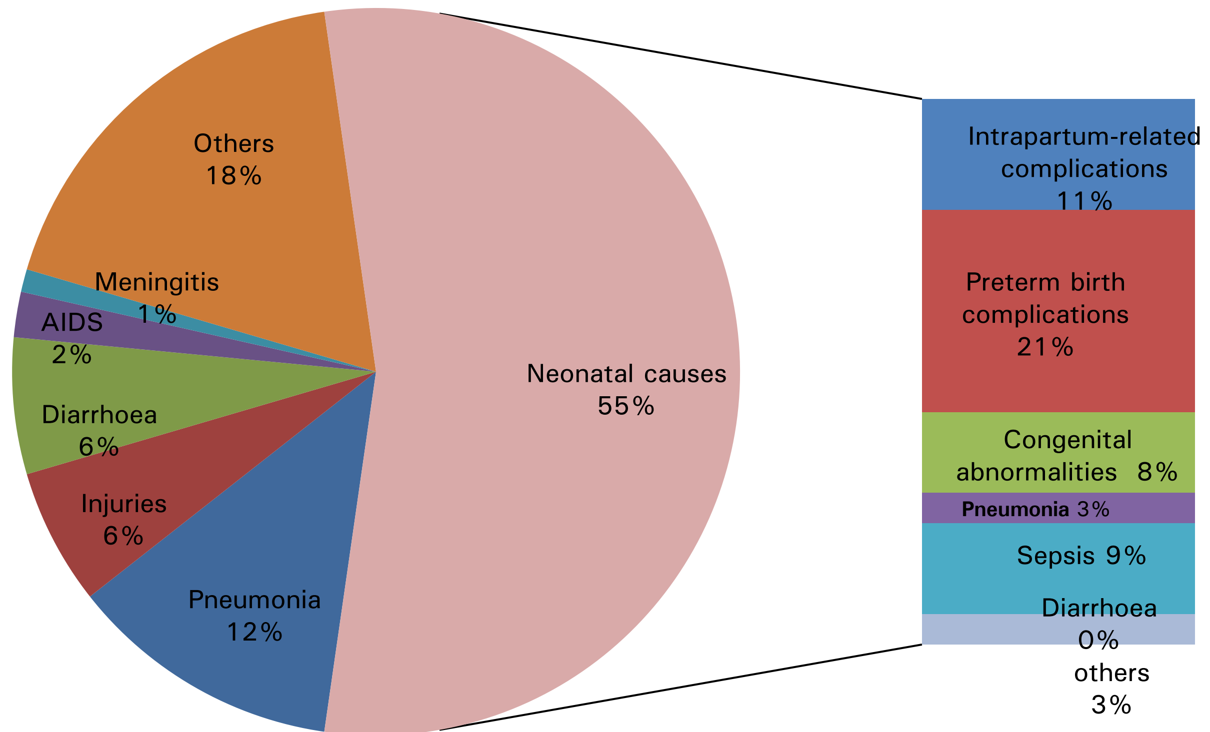
Stillbirth rates;

The estimated Stillbirth rate (SBR) as per The Lancet Estimates for Bhutan is 16 per 1000 live birth in 2015. Bhutan has conducted still birth assessment study in 2016 and estimates were 9.6 per 1000 live births. These estimates were 60% of the global estimates suggesting the gaps in recording and reporting of stillbirth in country. Currently there is no routine system to collect Stillbirth data. The BENAP will include the interventions and monitoring system for still birth reporting and tracking the progress on interventions.

2.1.1. Cause of under five deaths

Neonatal deaths accounts for 55% of Under-five deaths. This is followed by Pneumonia (12%), Diarrhea (6%) and others (18%). Fig 1 shows the causes of Under-five deaths in Bhutan according United Nations Interagency Group for Child Mortality Estimations in 2015.

Figure 1 Cause of Under –five Mortaity in Bhutan



Source : United Nations Interagency Group for Child Mortality Estimation 2015

Note: Figures may not add to 100% due to rounding.

2.1.2. Causes of neonatal deaths

Considering the importance of improving neonatal mortality, Bhutan initiated neonatal death review since 2009. The neonatal death reviews are being carried out together with maternal death review, which was institutionalized since 2006.Table 2 summarizes the cause of newborn deaths identified through the neonatal death reviews conducted from 2009 to 2015. It should be noted that the reporting of neonatal deaths is approximately one-third of the total estimated newborn deaths. Therefore, the proportion attributed to different causes in these three years may not be comparable.

Table 2 Cause of neonatal deaths as per Maternal and Neonatal Death Reviews (2009-2016)

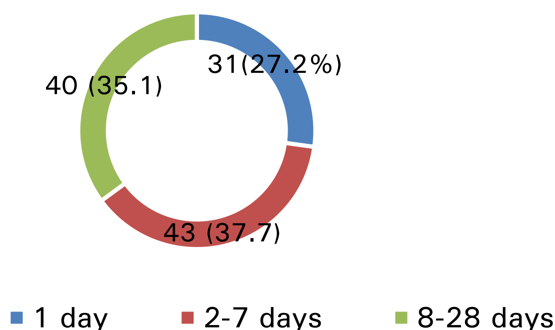
Cause of neonatal deaths	Contribution of different causes (%)*							
	2009	2010	2011	2012	2013	2014	2015	2016
Condition associated with prematurity	41%	37%	32%	38%	33%	33%	37%	36%
Birth asphyxia	19%	19%	17%	15%	17%	14%	17%	18.4%
Prematurity &Birth asphyxia			8%					-
Sepsis	26%	18%	21%	21%	20%	12%		10.5%
Congenital malformations	6%	11%	14%	16%	17%	17%	16%	20.2%
LBW/IUGR		6%						-
Aspiration			2%			5%	2%	2.6%
Other conditions	4%	4%	2%	6%	2%	2%	3%	7.9%
Unknown	4%	3%	4%	4%	11%	17%	5%	4.4%
Total number of death	78	114	118	124	109	110	106	114

*Uniform definition was not used for defining cause of neonatal deaths in these six years. Therefore the data is not comparable. *Source; RMNH Program Report, 2009-2016*

2.1.3. Timing of neonatal deaths

Early neonatal death (in the first week) has accounted to more than 70% of the total neonatal deaths. Moreover, 43% of total deaths have occurred within three days of life (MNDR, 2016).

Figure 2 Neonatal deaths by days of life



Source; MNDR, 2016 RH Program

2.1.4. Location of death

Based on the current reporting status there are issues in determining the location of neonatal deaths. Majority of the neonatal deaths have been reported from National and two regional referral Hospitals. The reasons might be higher delivery numbers including referral of high risk mothers and newborn and delays in the referral of mother from periphery and better reporting of institutional deaths. To ascertain the location of all neonatal deaths there is need to improve the recording and reporting of all neonatal deaths from peripheral health facilities and communities.

Table 3 Location of Neonatal deaths

YEAR	National Referral Hospital	Regional Referral Hospital	District Hospital BHU grade 1	BHU grade 2	En route	Home
2012**(N=124)**	46	22	30	2	14	10
2013**(N=109)**	46	27	12	1	6	17
2014**(N=110)**	39	24	23	1	6	15
2015**(N=106)**	58	22	16	1	4	5
2016 (N=114)	52	23	25	1	6	7

Source: *MNDR 2012-16, RH Program*

2.1.5. Inequity in Newborn Health

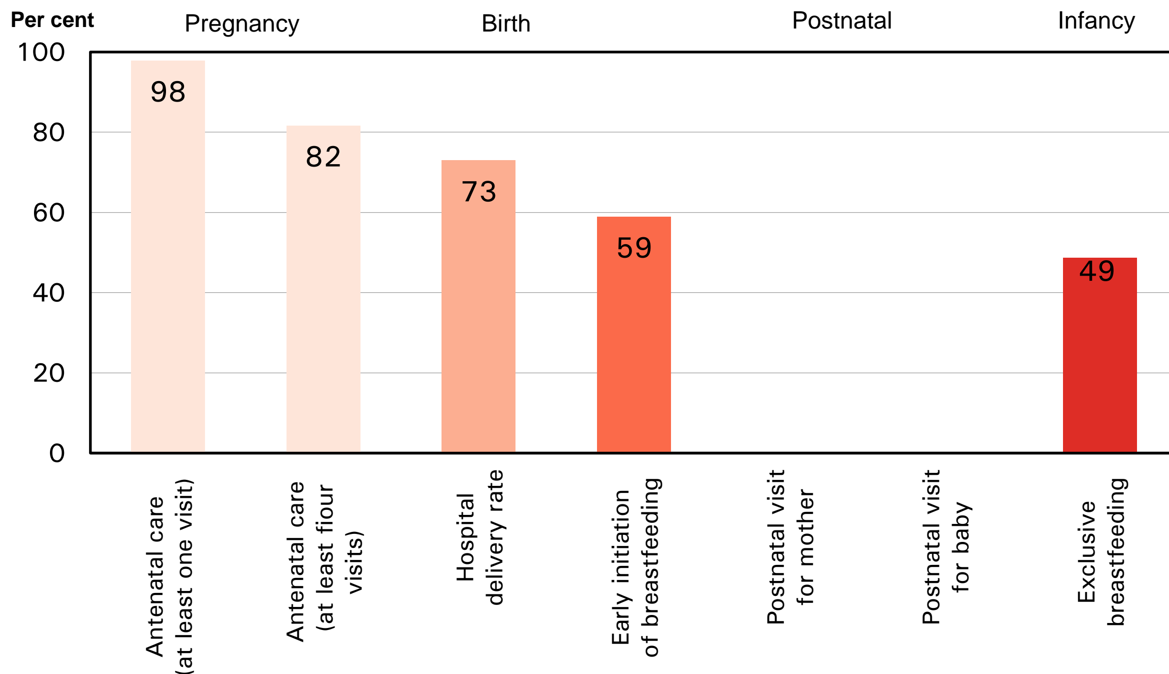
Like any other developing country, Bhutan also has inequitable child health status.

Figure 3 NMR and coverage of key interventions stratified by wealth, maternal education, area of residence and region

	Neonatal Mortality Rate NMR*	*Ante-Natal Care +4 visits* ANC	*Post-Natal Care* PNC	*Skilled Birth Attended* SBA	*Institutional Delivery* IDEL	*Early Initiation Breastfeeding*** EIB**
NHS: 2012	**21.0**	**81.7**	**74.6**	**74.6**	**73.7**	77.9
Wealth Quintiles						
Q1 (poorest)	48.5	69.7	57.8	47.7	46.1	72.9
Q2	11.2	79.7	68.1	61.4	60.6	74.6
Q3	26.3	81.1	78.0	74.3	71.2	80.1
Q4	25.8	88.0	81.7	92.6	93.0	81.2
Q5 (richest)	4.7	88.2	87.6	94.0	95.5	81.2
Maternal Education						
No education	35.7	77.1	72.0	66.9	65.2	77.2
Primary	21.6	78.0	69.2	76.8	75.5	75.5
Secondary+	10.8	92.3	85.1	92.7	91.5	79.5
Area of Residence						
urban	3.8	88.0	87.8	95.5	95.4	81.1
rural	27.2	79.5	70.0	67.3	66.1	75.0
Country Region						
West	15.6	87.8	85.3	87.6	86.7	77.8
Central	22.8	76.0	76.1	73.2	71.3	77.9
East	27.7	77.1	57.8	56.9	56.6	77.8

Source: *NHS,2012*

Fig.4 Graph depicting coverage of continuum of care



Source; NHS,2012

2.2.1 Policies and Strategies related to newborn health

There are several policies and strategies for improvement of Neonatal Health in the country. The National 11 Five year Plan and National Health policy states the inclusion of Neonatal health outcomes. Various strategies initiated by Ministry of Health aims at reducing neonatal mortality and morbidity in the country.

Table 3 Policies and strategies related to newborn Health

Policies/ Strategies (year)	Objectives/ services	Status (2016)
National Health Policy	• All health infrastructures shall be of sustainable design and user-friendly thereby integrating disability, women, child and elderly friendly and other necessary features. • Comprehensive quality maternal and child health care services shall be provided not limiting to family planning and promotion of institutional delivery. • Free and equitable access to safe, quality and cost effective vaccines for all children and pregnant women to protect against vaccines-preventable diseases shall be provided. • Healthy child growth and development shall be promoted through advocating breast-feeding, appropriate nutrition, and Integrated Management of Neonatal and childhood diseases.	The design of Gyaltshuen Jetsun Pema Mother and Child Hospital is ongoing.
11th five year plan (2013-2018)	Integrated management of Neonatal and Childhood illnesses with MCH, CDD, ARI and Nutrition program to improve health of mother and child.	Under implementation
Reproductive Health strategy (2012-2016)	To strengthen and expand evidence-based, cost effective, and equity-focused maternal and newborn health care interventions (promotive, preventive and curative) at all levels of health care delivery system	Under implementation
Child Health Strategy (2014-2018)	Visions to zero newborn, infant or child dies from preventable causes and all children are progressing towards better health and happiness	Under implementation
Maternal and neonatal death review(MNDR)	• To know accurately the common causes of maternal and neonatal deaths in the country • To find out the impact of socio-cultural behavior on maternal and neonatal deaths • To generate evidence for better policy options and remedial measures at the field level	The MNDR takes place yearly at national level and quarterly at district level
MCH handbook tracking system	• To track every pregnant woman/mother & child from pregnancy until child attains 5 years of age • To make the health care providers accountable for health of every mother and child • To reduce duplications and wastage of MCH Handbooks	MCH handbook is going to be web-based tracking system. Pilot in ongoing for a month. The project will be further expanded to health facilities.

2.2.2. Programs and Interventions related to newborn health

Table 4 Programs and Interventions related to newborn health

Program and interventions (year)	Objectives	Status (2016)
Essential newborn care (2006)	• To strengthen care of all newborns, from birth to the end of postnatal period, with special focus on immediate care after birth and in the first week of life, and adequate response to the needs of newborns with prematurity, birth asphyxia, sepsis and birth defects, thus improving overall neonatal health outcomes in the country	It is in the process of revision by RH Program with support from UNICEF and UNFPA. the revised guideline has included comprehensive care of newborn from pregnancy to postnatal period
Community based IMNCI (2009)	• To recognize the signs/symptoms of cough and difficult breathing and danger signs. • To advice home management. • To refer to nearest health centers	Community based IMNCI is implemented at the community level with training and refresher of VHW on Community Integrated Management of Neonatal and Childhood Illness
Facility based IMNCI (2012)	• To focus on providing appropriate inpatient management of the major causes of Neonatal and Childhood mortality such as asphyxia, sepsis, low birth weight in neonates and pneumonia, diarrhoea, malaria, meningitis, severe malnutrition in children.	The facility based IMNCI is implemented at the Hospital level with focus on providing appropriate inpatient management of the major causes of Neonatal and Childhood mortality
PNC home visit (2015)	• To increase postpartum/postnatal care coverage To reduce neonatal and maternal mortality • To improve maternal and neonatal mortality reporting	Expansion of PNC home visit to 20 dzongkhags

Program and interventions (year)	Objectives	Status (2016)
IYCF	• To reduce all types of malnutrition in the children under five years of age • To protect, promote and support exclusive breast feeding in the first six months of life • To promote the timely introduction of appropriate and adequate complementary foods while continuing breastfeeding up to 2 years and beyond • To ensure the provision of specific feeding recommendation for all infants and children irrespective of their circumstances • To ensure that the health care providers and other care providers have adequate skills and information to support optimal infant and young child feeding	HLC endorsement pending
Early Essential Newborn Care	• To develop capacity of Bhutan's health care provider's on the appropriate care for all newborn children to optimize outcomes for this vulnerable group.	ToT of health care providers for roll out in three regions of the country conducted. Health care provider from three regions trained(Hospitals and BHU I) on EENC in Trainers
MPNDSR	• To provide information that effectively guides actions to end preventable maternal, perinatal and neonatal mortality at health facilities and in the community. • To count on *every maternal, perinatal and neonatal death* permitting an assessment of the true magnitude of maternal mortality and the impact of actions taken to reduce it.	To orient health care provider for routine identification, notification, quantification, and determination of causes and avoidability of all perinatal, neonatal and maternal deaths, as well as the use of this information to respond with actions that will prevent future deaths.
Kangaroo Mother Care	To promote health and well-being of infants born preterm as well as full-term with low birth weight (LBW) through skin to skin contact	National guideline for Kangaroo mother care developed in 2016 which will be followed by training of health care provider on the guideline to promote KMC practice

2.2.3. Health infrastructural development of newborn health

Table 5 Health Infrastructural development of newborn health

Project (Year)	Objective	Status (2016)
Maternal and Child health project funded by SAARC development fund (2009-2015)	• Improve availability and adequacy of infrastructure and equipment at district and sub-district levels • Improve skills towards MCH services for doctors and nurses by providing training in standard treatment • Access to integrated comprehensive primary MCH health care • Reduction in the child & maternal mortality	1. Maternal deaths in 7 identified districts reduced by 50% 2. Neonatal deaths in 7 identified districts reduced by 50% 3. Bhutan achieved MDG goals of maternal mortality ratio (86 out of 100,000 live birth) , and Infant mortality rate 30 out of 1,000 live birth) by 2015.
Gyaltshuen Jetsun Pema Mother and Child hospital funded by Government of India(2015-2019)	• The overall objective is to improve the quality of health care and facilitate the equitable distribution of health care services; • To improve the quality of Mother & Child care in JDWNRH by constructing a 150 bedded women & child friendly wing within the hospital complex;	The construction of 150 bedded mother and child hospital within the JDWNRH premises will facilitate in delivering focused and effective intervention for improving the health outcomes of mother and child.

2.2.4. Health workforce development of newborn health

Table 6 Health workforce development of newborn health

Project (Year)	Objective	Status(2016)
EmONC expansion strategy	• To reduce maternal and neonatal morbidity and mortality	Currently, there are 7 CEmONC centers and aim is to establish 10 functional CEmONC centers by end of 2018
South to South Cooperation Project UNFPA/TICA on midwifery and neonatal nursing	• Analyze critical factors related to maternal and neonatal health and trends in midwifery.	Trained 41 female nurses from different health centers in the country on advance midwifery and

Project (Year)	Objective	Status(2016)
	• Describe concepts, principles and theories of care in mother and neonatal with normal, at risk and complication in premarital, antenatal, intra-partum postal and neonatal periods. • Integrate concepts, principle and theory of care and evidence based nursing practice in midwifery practice in clinical and public health care settings. • Identify the significance of Thai traditional and alternative medicine to midwifery care in ethnically diverse population in Thailand and nearby countries. • Identify the midwife's role and responsibility for midwifery practice both locally and internationally	neonatal nursing in Thailand between 2012-2013
PG residency program in KGUMSB	• Through this Program, doctors are trained on Gynecology & Obstetrics, and MD Pediatrics which will contribute to Maternal and Neonatal outcomes in the country.	2 doctors are undergoing training on MS Gynecology & Obstetrics and 4 on MD Pediatrics
Pre-service training	• The pre-service training on BSC Nursing and Midwifery , General nurse and midwives (GNM) and Health assistant equips health care provider with skills to provide maternal and child service in the country.	In 2016, a total of 31 Bsc nursing, 99 GNM and 24 HA graduated. There are total of 7 masters in nursing, 9 BSC nursing, 152 GNM and 25 HA ongoing their training at FNPH and outside the country.

Bottle Neck Analysis

Recognizing the importance of neonatal health, Bhutan joined the global community in developing a country specific newborn plan. The process of developing the Bhutan Newborn Action Plan started with a bottleneck analysis using the Bottleneck Analysis Tool developed by Global Every Newborn Steering Committee. The tool focuses on the building blocks of national health systems which include leadership and governance, financing, health workforce, essential medicines and products, health service delivery, information systems and community ownership and partnership. To take care of mothers and newborns, 9 interventions were identified using tracer indicator for the bottlenecks. The nine interventions and tracer indicators are listed in table.7. The detailed bottleneck analysis is shown in Annexure 1.

Table 7 Interventions and tracer indicator

Interventions	Tracer Indicator
Management of preterm birth	Antenatal corticosteroids
Skilled care at birth	Use of partograph
Basic Emergency Obstetric Care	Assisted vaginal delivery
Comprehensive Emergency Obstetric Care	Caesarean section
Basic Newborn Care	Cleanliness including cord care, warmth and feeding
Neonatal resuscitation	Use of bag and mask
Kangaroo mother care	Skin to skin contact (prolonged), breastfeeding support for premature and small babies
Treatment of severe infections	Using injectable antibiotics
Inpatient supportive care for sick and small newborns	IV fluids/feeding support and safe oxygen

3. BHUTAN NEWBORN ACTION PLAN

Vision

No newborn deaths and stillbirths due to preventable causes

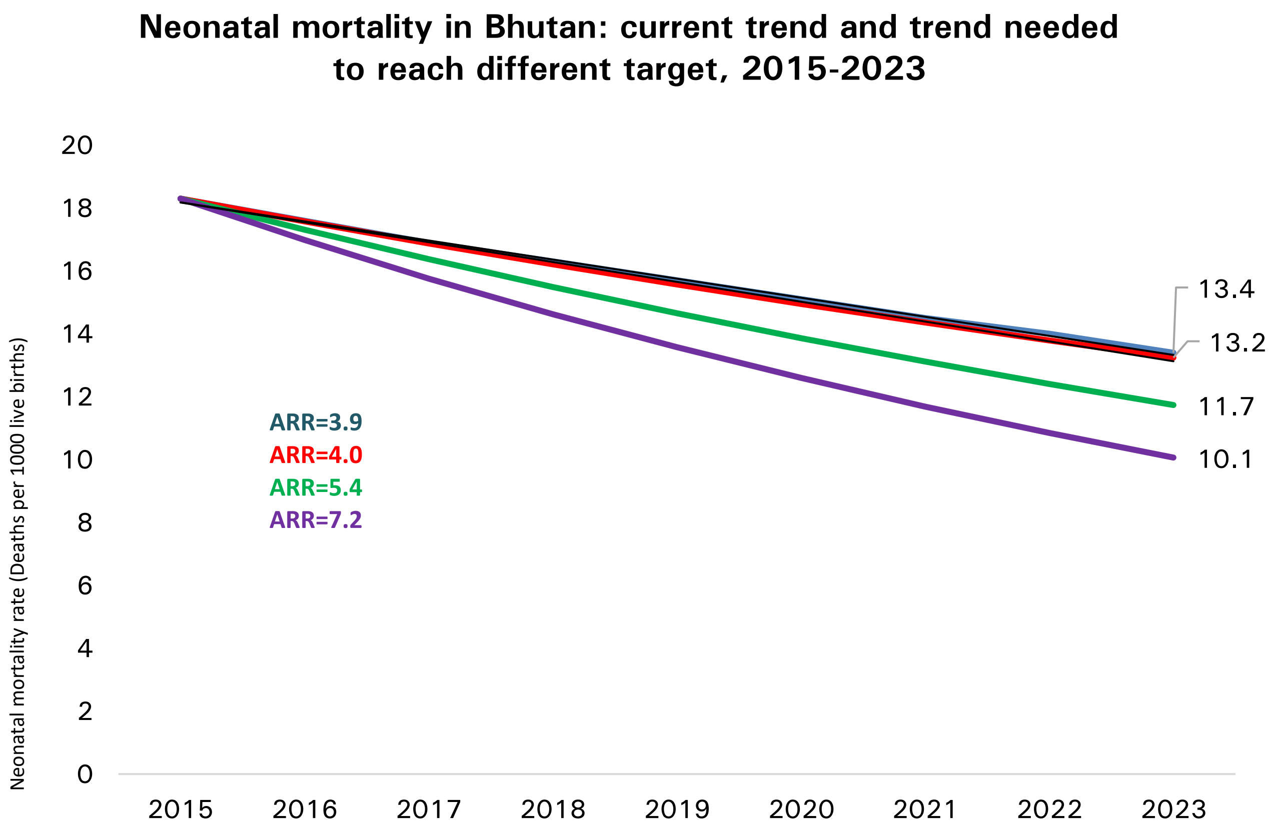
Mission

Enhance survival of newborns through access to and utilization of quality maternal and newborn care through the continuum of care

Goals:

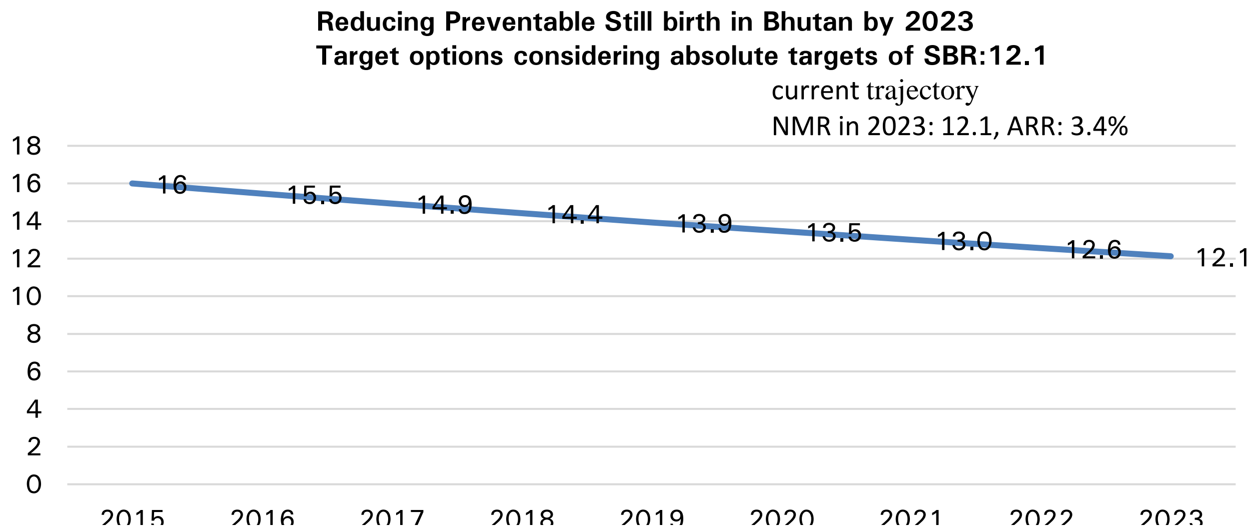
1. Reduce newborn deaths to 13.2 per 1000 live births by 2023
2. Reduce stillbirths to 12.1 per 1000 live birth by 2023
3. Reduce and prevent morbidity and long-term disability due to preventable causes

Figure 3 Projected levels of Neonatal Mortality in Bhutan [2015-2023]



Source: UNICEF analysis based on UN IGME, 2015

Figure 4 Projected Levels of Still birth in Bhutan (2015-2023)



Source: UNICEF analysis based on Lawn, Joy E et al: Stillbirths: rates, risk factors, and acceleration towards 2030. The Lancet, Volume 387, Issue 10018 , 587 - 603.

Table 8 National Targets on Newborn related indicators

Impact target	Current	2018	2023	Source
NMR per 1000 livebirths	21	16	13.2	NHS 2012, target from RHS and 2023 based on projection to achieve 10 deaths by 2035
SBR per 1000 livebirth	21	14.4	12.1	Lancet, need to validate, extracting from health facilities data
Coverage target (%)				
ANC4	81.7		90	NHS 2012
SBA	74.6		90	NHS 2012
IDR	73.7		90	NHS 2012
EIBF	77.9		90	NNS 2015
PNC 1	74.6		95	PNC for mother NHS 2012
EBF	51.4	50		NNS 2015
KMC	No baseline data		65	
Antenatal corticosteroid	No baseline data		65	
Resuscitation	No baseline data		65	

4.2. Strategic objectives

Strategic objective 1

- **Strengthen and invest in care during labour, birth and the first day and week of life through strengthening EmONC services.** A large proportion of maternal and newborn deaths and stillbirths occur within this period, but many deaths and complications can be prevented by ensuring high-quality essential care to every woman and baby during this critical time. : deployment of adequate and competent health professionals and ensure provision of appropriate infrastructure and supplies is sub-strategy of this.

Strategic objective 2

- **Improve the quality of maternal and newborn care.** Substantial gaps in the quality of care exist across the continuum for women's and children's health. Many women and newborns do not receive quality care even when they have contact with a health system before, during and after pregnancy and childbirth. Introducing high-quality care with high-impact, cost-effective interventions for mother and baby together – delivered, in most cases, by the same health providers with midwifery skills at the same time – is key to improvement.

Strategic objective 3

- **Reach every woman and newborn to reduce inequities.** Ensure access to high-quality health care, among others through universal health coverage.

Strategic objective 4

- **Empower parents, families and communities.** Engage families and communities for better health outcomes for women and newborns through education and empowerment.

Strategic objective 5

- **Register every newborn.** Track every newborn through appropriate measurement, programme-tracking, accountability and reporting for evidence based policy and programming.

4.3. Guiding Principles

- **Gross National Happiness Approach**: The BENAP will be guided by the concept of Gross National Happiness (GNH).

- **Integration and Complementation Approach**: The BENAP will be implemented in accordance with national policies through integration with existing programmes to complement the current strategies and programmes.
- **Convergence and Partnership Approach**: Multi-sectoral partnership and coordination among stakeholders including the UN agencies, academia, civil society organizations, communities and others will be maintained to maximize resource use and avoid duplication of efforts.
- **Accountability and Transparency Approach**:
  Roles and responsibilities of all the stakeholders and partners will be defined at all levels to ensure transparency and accountability.
- **Acceptable, Accessible and affordable health care service:** The BENAP will be formulated and implemented to enable timely, acceptable, and affordable health services towards universal health coverage as envisaged under SDGs.

4.4.1. Action plan for Strengthening Health Services for MNH

The intervention for the newborn are grouped into six packages corresponding to the different life stages of the 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 following are the strategic intervention packages in the descending order of neonatal mortality and stillbirth impact:

Figure.5 Intervention packages in descending order of impact on neonatal mortality

1	Care during labor and child birth
2	Care of small and sick newborn
3	Care of Healthy newborn
4	Immediate newborn care
5	Preconception and antenatal care
6	Care Beyond Newborn Survival

Figure 6. Intervention packages in descending order of impact on still births

1	Care During labor and child birth
2	Preconception and antenatal care

The development of Bhutan Newborn Action Plan was based on the RMNCAH+ Approach which recognizes the importance of newborn health, survival and its linkages with reproductive, maternal and adolescent health.

4.4.2. Strategic Intervention Package

Package 1: Pre-conception package

Importance of package:

- It is imperative to have health interventions well before the conception; like preconception package consisting of counseling, and medical assessment of common conditions like diabetes, hypertension, hypothyroidism etc and treatment if needed to all couples planning for child
- Iron deficiency and other micronutrient deficiencies in women to be treated on time complemented with regular supplementation.
- Women of reproductive age group should have reach to family planning services for proper birth spacing and management for other gynecological problems.
  The adolescent girls should be provided with timely counseling and other supports as teenage pregnancy has major health concerns to mother and child such as obstructed and prolonged labor, poor nutrition status of adolescent girl, premature delivery and low birth weight babies. Social concerns of teenage pregnancy are early drop out from school and vulnerability to trap in vicious cycle of poverty and poor health.

Preconception package denotes reproductive health, nutrition and family planning; care, counseling and services to below beneficiary groups. It aims to advocate for and ensure access of preconception package to all eligible couples and women of reproductive age group

1. Eligible couples who are planning for child (first or subsequent) and are having issues in conceiving
2. Women of reproductive age group for nutrition care, family planning and birth spacing (for subsequent pregnancy) services
3. Adolescent girls with nutrition care and counseling to avoid teenage pregnancy and related complications

The pre-conception package are given below:

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU grade 2</th><th>District hospital and BHU grade 1
BEmONC center</th><th>National and regional referral hospital Com. EmoNOC</th></tr>
<tr><td colspan="5">Health interventions

Prevention and management of Tuberculosis targeted to reproductive age group

Prevention of vector born disease including malaria

Prevention of STIs/HIV

Prevention of NCDs : Mental health conditions programme,

Nutrition related intervention

Nutrition counseling to adolescent girls and women of reproductive age
Iron folic supplementation for women of reproductive age
Deworming to adolescent girls: Strengthen reporting

Family planning and birth spacing counseling services to all women of reproductive age group

• Prevent of unwanted pregnancy through proper contraceptive use
• Delay first child and ensure proper birth spacing
• Awareness on the misuse and disadvantage of emergency contraceptive use
• Increase literacy level in the community on pre-conception and antenatal care

Special focus on Adolescent girls

• Counseling to prevent teenage pregnancy
• Access to family planning service (if needed)
• Awareness on the misuse and disadvantage of emergency contraceptive use</td></tr>
<tr><td></td><td colspan="4">• Treatment of minor ailments , STI, malaria, anemia and deworming
• Prevent vaccine preventable disease through EPI program including (HPV/Td)</td></tr>
</table>

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU grade 2</th><th>District hospital and BHU grade 1
BEmONC center</th><th>National and regional referral hospital Com. EmoNOC</th></tr>
<tr><td></td><td colspan="4">• Birth spacing/family planning counseling to avoid unwanted and teenage pregnancy</td></tr>
<tr><td></td><td></td><td colspan="3">Screening of adolescent girls for anemia and treat during the school health visit and ORCs.
Diagnosis and treatment of hypertension, diabetes, and hypothyroidism. Assessment and management of gynecological problems in women of reproductive age group

Organize the participation in deaddiction and Smoking cessation programmes

Management of gynecological problems

Birth spacing/family planning counseling and services to avoid unwanted and teenage pregnancy</td></tr>
<tr><td></td><td></td><td></td><td colspan="2">• Focused pre conception care and counseling

• Preconception counseling: Anemia, DM, HT, Obesity, NTD, reproductive history, social history, intimate partner violence.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>• Preconception care to high risk women in reproductive age group</td></tr>
</table>

Package 2: Antenatal Care

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU grade 2</th><th>District hospital and BHU grade 1

bEmONC center</th><th>Regional and National Ref cEmONC center erral hospital</th></tr>
<tr><td>• Encourage partner/ husband / family participation for birth preparedness.
• IEC on danger sign of pregnancy
• Prevention and management of Malaria
• Prevention of STI/HIV</td><td colspan="4">• Line listing of all the pregnant women
• ANC booking
• Screening for anemia/Diabetes/hypertensive disorders of pregnancy and other high risk
• Prevention and management of STIs/HIV (PMTCT)
• Screening and management for malaria in the endemic regions
• Prevention and management of anemia
• Breast nipple care and assessment plan
• Birth preparedness
• Immunization (Td)
• Management of UTI in pregnancy
• Timely referral and management of Preterm labor and PROM, Start antenatal steroid & antibiotics.
• Parenting class and health education including immediate care after birth and breast feeding</td></tr>
<tr><td></td><td></td><td colspan="3">•Initiate timely management of pre-eclampsia, management of spontaneous miscarriage
•Prevention of Rh incompatibility using anti D immunoglobulin</td></tr>
</table>

Priority actions

Package 1 and 2: Pre-Conception and Quality of Antenatal Care

- Develop and advocate preconception package (counseling, iron folic supplementation, prevention of anemia, prevention of cervical cancer,)

- Develop/Prioritize actions for prevention of teenage pregnancy.
- Expansion of Adolescent health friendly services at the district health facilities
- Strengthen Family planning services for birth spacing
- Strengthen the health promotion activity in the areas of pre-conception care and post-abortion care.
- Revisit the antibiotics available in the EML for treatment of STIs and PROM: activity?
- Involve health care providers in pre-conception and maternal nutrition counseling.
- Explore the possibility of scaling up urine C S Facility up to District Hospitals.: activity?
- Strengthen the line listing and tracking until pregnancy outcome.
- Include birth preparedness plan in VHW Training manual.
- Strengthen supportive supervision of health service delivery.
- Make antenatal health education and parenting class package and implement in all health facilities with targeting
- Mother, father and significant others
- Consider to implement Doula system
- Promote antenatal exercise
- Strengthen screening for perinatal infections (HIV/AIDS, STIs, TB, Viral Hepatitis, TORCH)
- Strengthen antenatal diagnosis of birth defects

Strategic Intervention Package

Package 3: 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 promotes early detection and prompt management. Care during labour and childbirth have the potential to reduce stillbirths by one third. Furthermore, care at childbirth also has additional benefits on child survival, improved growth, reduced disability, and in averting non-communicable diseases.

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BH
U Grade II</th><th>District Hospital and BHU Grade I
Basic EmONC</th><th>National and regional referral hospital
Com. EmoNC</th></tr>
<tr><td colspan="5">• Institutional delivery
clean delivery practice at all time including in emergency situation
• Early initiation of BF and exclusive breast feeding.
• IEC on danger sign of mother and newborn health and prevent delay in seeking service.
• community support for timely referral</td></tr>
<tr><td></td><td></td><td colspan="3">• Prevention of still birth by strengthening intrapartum care and monitoring and timely intervention with assisted vaginal delivery
• Prevention and management of PPH
• Infection control practices to prevent neonatal sepsis.
• timely management of preterm labor and PROM (antibiotics for Group B streptococcus prophylaxis and Antenatal Corticosteroids)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>• Management of high risk pregnancy including preterm labor and PROM</td></tr>
</table>

Priority actions

Package 3: labor and child birth (focused on newborn outcomes)

- Strengthen the maternity wing and neonatal units with adequate trained health care providers at the cEmONC
- Strengthen the health facilities at all level for conducting safe delivery including provision of EmONC
- Ensure functional wash facilities
- Train Health care provider for diagnosis and management of Preterm labor and PPROM; (plan for progressive introduction of Nitrazine test for screening of PROM and microscopy (Fern Test) to confirm the diagnosis of PROM)
- Incorporate group B streptococcus infection prophylaxis/treatment and management of UTI in pregnancy in Midwifery guideline.
- Strengthen continuous quality improvement at all level of health facilities through strengthening of the QASD existing system
- Strengthen referral mechanism to ensure timely referral and use of referral check list
- Establish a sound surveillance system for tracking still births and strengthen perinatal death audits
- Strengthen supportive supervision and monitoring of the health service delivery.
- Strengthen blood transfusion services in hospitals ;particularly at CEmONC and district hospitals
- Upgrade all district hospitals to provide bEmONC care including assisted vaginal delivery;
- Strengthen fetal heart monitoring during labor and use partographs

Package 4: Early Essential Newborn Care

Immediate care must be given to every newborn baby. This includes interventions such as immediate drying and stimulation skin to skin contact, temperature monitoring,, delayed cord clamping, hygienic care, early initiation of breastfeeding, and administration of vitamin K.

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU Grade II</th><th>District Hospital and BHU Grade I

Basic EmONC</th><th>National and regional referral hospital

Com. EmoNC</th></tr>
<tr><td colspan="5">• Motivate for institutional delivery\
• Clean birth practices
• Skin to skin contact
• Immediate drying and cover head
• Delayed cord clamping
• Early initiation and exclusive breastfeeding
• Encourage PNC for babies
• Identification of danger signs by health care providers</td></tr>
<tr><td></td><td colspan="4">• Immunization
• counseling
• Growth monitoring (HC/Lt/wt)</td></tr>
<tr><td></td><td></td><td colspan="3">• Administration of Vitamin K
• Neonatal resuscitation
• Cord care/eye care
• Identification of danger signs and pre referral</td></tr>
</table>

Priority actions

Package 4: Immediate newborn care:

- Extension/strengthen/scale up basic and com. EmONC centers;
- All Health care providers who attend deliveries should be trained on immediate newborn care and neonatal resuscitation
- Institute uniform measuring practice for head circumference, weight and length all health facilities
- Develop mechanism to monitor training and adherence to standard protocols
- Promote peer counseling on breast feeding in the community
- Implement standardized clinical protocols for essential newborn care including resuscitation;

- Strengthen counseling services for breast feeding, post natal care, and home care practice;
- Provide refresher course for health staffs on essential newborn care
- Standardize trainings for quality of Postnatal home visit
- Tetracycline eye ointment should be supplied till BHU Grade II (procurement should have continuous supply) to be included
- Ensure that babies delivered at home and sick babies receive immunization at all delivery points
- Build responsive referral systems –easy access and ability of referral transport and medical care at the health facility for high risk newborns; will come under treatment inputs
- Institute internal auditing system including death audit such as Perinatal and maternal death surveillance and response
- Focus on community strategy to promote demand for essential newborn care; advocacy on newborn care, meeting for advocacy
- Make radiant warmer available and functional to all health center
- Facilitate Quality Improvement initiatives to improve immediate newborn care such as delayed cord clamp and skin to skin contact

Package 5: Care of Healthy Newborn

Evidence shows that community-based interventions can significantly improve child survival. Care of Healthy Newborn comprises of preventive and promotive health activities such as counseling 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%. Even in case of institutional deliveries, most women tend to return home within a few hours after delivery. It is also important for women who stay at the institution for 48 hours or more 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.

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU Grade II</th><th>District Hospital and BHU Grade I bEmONC</th><th>National and regional referral hospital cEmONC</th></tr>
<tr><td colspan="5">• Early initiation and exclusive breastfeeding and on demand
• Keeping baby warm
• Care of umbilical stump
• Care of eye
• Early identification of danger signs and referral
• Follow up immunization and PNC</td></tr>
<tr><td></td><td colspan="4">• Counseling</td></tr>
<tr><td></td><td></td><td colspan="3">• Growth monitoring (HC/Lt/wt)
• Care of common breast problems
• PNC visit
• PNC home visit</td></tr>
</table>

Priority actions

Package 5: Care of Healthy Newborn

- Extension/strengthen/scale up b and c EMNOC centers
- Strengthen counseling for breast feeding, post natal care, and home care practice
- Institute uniform measuring of head circumference, weight and length all health facilities
- Standardized and strengthen PNC for newborns; under newborn care activity
- Standardize trainings for quality of home visit
- Tetracycline eye ointment should be made available till BHU Grade II(procurement should have continuous supply)
- Ensure availability of vaccines and logistic support or immunization at all delivery points
- Build responsive referral systems –easy access to referral centers for high risk newborns)

- Develop mechanism to monitor training and adherence to standard protocols
- Establish 'Well baby and lactation clinic' in district and referral centers
- Growth monitoring of head circumference should be included in MCH handbook
- Consider to form peer counseling group for lactating mother in the community

Package 6: Care of Small and Sick Newborn

Small babies who are attributed to preterm birth or small for gestation age (SGA) or a combination of both faces the highest risk of death in utero, during neonatal period, and throughout the childhood. The risk of mortality for preterm birth is inversely proportional to the gestational age, and in addition, the highest risk is seen in those born very early (< 28 weeks). It is found that nearly 95% of these babies die without specialized newborn care. However, for SGA babies born at 'term' have a nearly two times higher chance of mortality in comparison to babies born 'prematurely' which have a nearly 15 times higher chance of dying.

Therefore, it is important to have a specific intervention for small and sick newborn to prevent them from dying. One of the effective methods of specific intervention that is applied globally includes 'Kangaroo Mother Care' (KMC). KMC can also be practiced at home and can further improve the chances of newborn survival. KMC involves package of early and continuous skin-to-skin contact, breastfeeding support, and supportive care in stable newborns weighing less than 200 gm[3].

Strategic interventions for care of small and sick newborn encompass the following:

Family and community	Outreach including VHW	BHU grade 2	District hospital and BHU grade 1 bEmONC center	National and Regional Referral hospital cEmONC center
•Thermal care and feeding support for home deliveries	•Arrangement of transportation and prevent hypothermia •Mobilize support to the family from the community •Advocacy and Health education to prevent			

<table>
<tr><th>Family and community</th><th>Outreach including VHW</th><th>BHU grade 2</th><th>District hospital and BHU grade 1 bEmONC center</th><th>National and Regional Referral hospital cEmONC center</th></tr>
<tr><td></td><td>hypothermia and to recognize danger signs</td><td></td><td></td><td></td></tr>
<tr><td colspan="2" rowspan="3"></td><td colspan="3">• Integrated management and early referral of newborn with danger signs using community based IMNCI
• Pre-referral injectable Ampicillin STAT and gastric tube insertion by HAs
• KMC transport for preterm newborns
• Oxygen concentrator and pulse oximeter</td></tr>
<tr><td rowspan="2"></td><td colspan="2">• Kangaroo mother care at health facilities
• Integrated management using facility based IMNCI
• Extra support for feeding preterm and small babies
• Extra support for feeding sick and birth defect babies
• Management of common neonatal problems</td></tr>
<tr><td></td><td>• Intensive care services (NICU) at regional level for Assisted ventilation, Surfactant use, Surgery, Exchange transfusion and Broad spectrum antibiotics
• ROP screening and Lasertheraphy</td></tr>
</table>

Priority actions

Package 6: Care of Small and Sick Newborn

- Make phototherapy machine and serum/transcutaneous bilirubin measurement available in all district hospital and BHU grade1-
- Make trans-illuminator (veno scope) available till BHU grade 2
- Capacity building of health care providers to insert IV cannulas/OG insertion in BHU grade 2 especially for newborns during nrwborn training
- Capacity building of GDMOs in district hospitals and BHU grade 1 and Obstetrician/Nurse anesthetist in cEmONC center to insert ET tube/IV cannulas/OG tube especially for newborns
- Make micro-drip set available in BHU grade 2
- Make available pulse oximeter
- Make 100ml burette with micro-drip & ET Tube (in all size) available till BHU-I
- Establish training package for neonatal nursing in referral hospital level.
- Revise content of community based IMNCI and facility based IMNCI
- Make buffer stock of life saving form 2 drugs (ex. Imipenem, surfactant) in referral hospital;
- Make oxygen concentrator (Portable) and pulse oximeter available till BHU grade 2.
- CPAP/ High flow oxygen therapy at cEmONC center should be discussed
- Make neonatal nurse practitioner who can intubate the baby available in district hospitals.
- Make neonatal care unit in district hospital and BHU grade
- Make SOP and service standard for NICU in referral hospitals and cEmNOC centers.
- Make warm chain system available throughout the country (like incubator).
- Develop National KMC and care of small and sick newborn protocols and training package including
- Develop national protocol for ROP screening and treatment

- Establish Newborn Transport Guideline and train Newborn Air Transport Team
- Establish National Human Milk Bank
- ROP screening should be available at least all referral hospital where NICU located.
- Include feeding support for babies who need special care (Birth defects, preterm, low birth weight) in IYCF and IMNCI

Package 7: Care beyond Newborn Survival

Preterm infants and infants who have birth defects needs extra attention and specialized care to thrive therefore, a new package to detect early and make intervention on time to prevent preventable disability and maximize their capacity should be introduced. This package is of particular significance for SGA and preterm newborns, as well as newborns discharged from SNCUs.

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

Family and community	Outreach including VHW	BHU grade 2	District hospital and BHU grade 1 bEmONC center	National and Regional Referral hospital cEmONC center
• Screening for birth defects, failure to thrive and developmental delay				
		• Newborn screening • Counseling and support for child disability		
• Follow up visits of SNCU discharged babies till 1 year of age • Small and preterm till	• Help for follow up and tracking • Help for transportation • Mobilize support to the family	• Follow up visits of SNCU discharged babies till 1	• Follow up of high risk infants(discharge from SNCUs) and small and preterm newborns for detecting developmental	• Follow up of high risk infants (discharge from SNCUs and small and preterm newborns for developmental

Family and community	Outreach including VHW	BHU grade 2	District hospital and BHU grade 1 bEmONC center	National and Regional Referral hospital cEmONC center
2 years of age	from the community	year of age • Follow up visit for small and preterm baby till 2 years of age	delay and early intervention • Appropriate management.	delay and early interventions • Management of birth defects diagnosis and treatment including surgery • Conduct research on the status of babies discharged from NICU(preterm, birth asphyxia). Then plan from survival to quality of survival.

Priority actions

Package 7: Care beyond Newborn Survival

- Make clear discharge criteria and follow up program (including registration and tracking system) for high risk infants including preterm and small babies incorporate with existing programs such as RNDA, C4CD and IMNCI;
- Institute developmental and newborn screening (complete newborn examination: hearing screening, IEM screening, eye screening etc.) program for healthy newborns to detect early signs of disabilities and make intervention on time.
- Make ROP screening available at least all referral hospitals and follow up.
- Establish community based follow up system and home visit for high risk infants.
- Make registration and tracking system for high risk infants including major birth defect
- Capacity development of care for children with disabilities and scale up to district level
- Include feeding support for babies who need special care (Birth defects, preterm, low birth weight) in IYCF and IMNCI
- Make clear immunization protocol for small, preterm and sick newborn; make protocol
- Enhance PMTCT tracking system to eliminate mother to child transmission of HIV
- Capacity development of diagnosis, treatment and management of Congenital heart diseases;
- Capacity development of developmental care in NICU
- Make advanced lifesaving and neuroprotection diagnostic and treatment facility available such as therapeutic hypothermic therapy in national referral hospital.;
- Capacity building for diagnosis of Congenital anomaly of newborn
- Strengthen EmONC reporting

SUMMARY OF BOTTLENECKS AND PRIORITY ACTIONS

Building blocks	Summary of Identified bottlenecks	Priority Actions
1. Leadership and Governance	1. No concrete policies and practical standards/guideline for prevention and management of preterm birth. 2. No standards for NICU in cEmONC centers 3. Lack of national specific target for Neonatal Mortality Rate. 4. No specific action plan for scaling up BEmONC competency based service (e.g assisted vaginal delivery) 5. No b and CEmONC management guidelines 6. Lack of infrastructure to provide good newborn care in most of facilities. 7. No National legislation in place regulating the marketing of breast milk substitute. 8. Guideline on neonatal resuscitation not implemented adequately. Basic neonatal resuscitation (bag and mask) is available in all level of care facilities. However advanced neonatal resuscitation (intubation) is available only where there are trained doctors or nurse anesthetists. 9. Lack of guideline for KMC 10. Lack of policy guideline on sick newborn, quality improvement, early childhood development, follow up data on child development, services for those with impairment(mental, hearing vision and seizures) 11. No standard training for PNC home visit	1. Incorporate the targets in 12th FYP 2. Develop SOP and standards for NICU in referral Hospitals and cEMONC centers 3. Strengthen the maternity wings and neonatal units with adequate trained health care providers at CEmONC with focus on newborn training 4. Ensure and strengthen functional WASH facilities and strengthen hand washing initiative 5. Strengthen continuous improvement at all levels of health facilities through strengthening of the QASD existing system 6. Implement standardized clinical protocols for essential newborn care including resuscitation 7. develop and implement national KMC and care of sick newborns protocols and training package 8. Include feeding support for babies who need special care(birth defects, preterm, low birth

Building blocks	Summary of Identified bottlenecks	Priority Actions
	12. No preconception package and nutrition counseling 13. Newborn referrals 14. Weak community leadership as result of weak community support for accessibility and delay in seeking care 15. National midwifery and Newborn standard are not updated	weight)in IYCF and IMNCI 9. Standardize and strengthen PNC for newborns 10. institute developmental and newborn screening(complete newborn examination; hearing, screening, I EM screening, eye screening etc,) programs for healthy newborns to detect early signs of disabilities and make interventions 11. Establish community based follow up system and home visit for high risk infants. 12. Standardize trainings for quality of home visit 13. Develop and advocate preconception package(counseling, iron folic supplementation, prevention of anemia, prevention of cervical cancer) 14. Strengthen the health promotion activity in the areas of preconception care and post-abortion care

Building blocks	Summary of Identified bottlenecks	Priority Actions
		15. Strengthen family planning service for birth spacing 16. Establish Newborn transport guideline and train newborn Air transport Team 17. develop national protocol for ROP screening and treatment 18. ROP screening should be available at least at all referral hospital where NICU is located 19. Establish National Human Milk bank 20. Strengthen collaboration between health sector and local government and community especially on timely seeking of care. 21. Update and review midwifery and newborn standard
2. Health Finance	1. The major funding dependence on development partners would largely affect the sustainable financing for newborn care interventions. 2. Funding constraint for expansion and setting up the facilities for newborn care	1. Strengthen referral mechanism to ensure timely referral and use of referral checklist. 2. Strengthen community support system 3. establish well baby clinic and lactation clinic in

Building blocks	Summary of Identified bottlenecks	Priority Actions
	3. Out of pocket expenditure for availing newborn care at higher health facility. 4. Discouragement of referral due to out of expenditure for attendants 5. Inadequate fund allocation for newborn health services. 6. Insufficient fund for equipment and training for resuscitation	districts and referral centers 4. strengthen screening for perinatal infections(HIV/AID,STIs, TB, Viral hepatitis, TORCH) 5. plan for progressive introduction of Nitrazine test for screening of PROM and microscopy(Fern test) to confirm the diagnosis 6. Build responsive referral systems-easy access and ability of referral transport and medical care at the health facility for high risk newborns 7. strengthen antenatal diagnosis of birth defects 8. Consider to implement Doula system 9. Expansion of adolescent health friendly services at the district levels
3. Health Workforce	1. Multiple, outdated and unclear guidelines and standards 2. Inadequate competency-based training programmes on maternal and newborn care 3. Minimal supervision and/or mentoring guidelines and systems	• Update standards and protocols. Develop mechanism to monitor training and adherence to standard protocols • Provide refresher course for health staffs on essential newborn care

Building blocks	Summary of Identified bottlenecks	Priority Actions
	4. Inadequate knowledge and skills on MCH due to inconsistent case load/place of posting 5. Deployment of HR is not facility based: eg, support staff, trained staff, trained or specialized neonatal unit staff 6. No refresher courses related to EmONC 7. No performance based after training 8. Insufficient midwifery personnel who can provide skilled care at birth, care of newborn 9. Insufficient gynecologist and Pediatrician 10. No national neonatal resuscitation program 11. Insufficient number of skilled health care provider to perform advanced neonatal resuscitation/Intubations	• Establish training package for neonatal nursing in referral hospitals • Capacity building of health care providers to insert IV cannulas/OG insertion in BHU grade II especially for newborns • Capacity building of nurses to intubate the baby in hospitals • Capacity building of GDMOS in district hopsitals and BHU grade I and Obsettrician/Nurse anesthetist in cEMONC center to insert ET tube/IV cannulas/OG tube especially for newborns • Capacity building on care for children with disabilities and scale up to district level. • Train health care provider for diagnosis and management of preterm labour and PROM • Capacity building on diagnosis, treatment and management of congenital heart diseases • Capacity building on developmental care in NICU

Building blocks	Summary of Identified bottlenecks	Priority Actions
		• Capacity building for diagnosis of congenital anomaly of newborn • All health care providers who attend deliveries should be trained on immediate newborn care and neonatal resuscitation • Strengthen health facilities at all levels for conducting safe delivery including provision of EmONC services(train on midwifery standard) • Strengthen EmONC reporting • Involve health care providers on in preconception and maternal nutrition counseling
4. Essential Medical products and Technologies	1. Some essential newborn drugs were not registered with EML. Eg. surfactant 2. Dexamethasone is listed in EML and has been supplied till BHU, However, Betamethasone which is best choice of medicine by WHO is not in EML 3. Some essential commodities are out of stock or out of order and not always readily available in health facilities.	• ensure availability of vaccines and logistics support or immunization at all delivery points • make buffer stock of life saving form 2 drugs(eg.imipenem, sufactant) in referral hospitals • make portable oxygen concentrator and pulse

Building blocks	Summary of Identified bottlenecks	Priority Actions
	4. Essential commodities such as cord clamp, radiant warmer are not readily available in health facilities. 5. Existing cEmONC centres without provision of blood bank, alternative electricity back up 6. Inadequate neonate facilities in b/cEmONC centers 7. Tetracycline eye applicap is not available in BHU 8. Lack of Inborn errors of metabolism (IEM) screening facilities 9. Strengthen skilled labour and maintenanceof technologies 10. Timely procurement and distribution of bag and masks in health facilities is a challenge. 11. Insufficient or over estimation of quantification (challenge of forecasting) 12. Poor maintenance and monitoring 13. No supplies- such as transport incubator, infant warmers (at BHU II). Inadequate supplies of micro-drip, specific drugs for severe illness, pulse oximeter for district hospitals and BHUs 14. Inadequate supplies- inubator and baby warmer 15. No user friendly transport incubators. 16. No special trainings on the proper use of incubators.	oximeter available till BHU grade II • CPAP/high flow oxygen therapy at EmONC centers • Incorporate group B streptococcus infection prophylaxis/treatment and management of UTI in pregnancy • Tetracycline eye ointment should be made available till BHU grade II(there should be continuous supply) • Revisit the antibiotics available in the EML for treatment of STIs and PROM • Make phototherapy machine and serum/transcutaneous bilirubin measurement available in all district hospital and BHU grade I • make trans-illuminator(Veno scope) available till BHU grade II • make micro-drip set available in BHU grade II • make available pulse oximeter • make 100 ml burette with micro-drip and ET tube (in

Building blocks	Summary of Identified bottlenecks	Priority Actions
		all sizes) available till BHU I
5.Health Service Delivery	1. Attitude of health care providers towards clients 2. Lack of proper maternity waiting home and guesthouse congestion at referral hospital due to client preferences 3. Limited auditing and review exercise to monitor quality of newborn care services 4. Inadequate supportive supervision and mentoring programmes, use of check lists, job aids, periodic service review 5. Poor mentorship and technical supervision for quality services delivery 6. Fifth component of bEMoNC (assisted vaginal delivery) services not functional at bEMoNC 7. Non-functional cEMoNC centers and unavailability of 24 hours cEMoNC services 8. Poor infection control due to poor visitor controlling system especially in district hospitals. 9. Poor sterilization of instruments due to lack of good sterilization machines and poor knowledge on sterilization 10. No separate newborn care unit in most of the health facilities. 11. Working habit/temporary migration and attitude	• Improve quality of care in maternal and newborn care services • Ensure that babies delivered at home and sick babies receive immunization at all delivery points • Strengthen supportive supervision of health service delivery • Develop checklist, job aids for supportive supervision and mentoring programs • Upgrade all district hospitals to provide bEmONC care including assisted vaginal delivery • Expansion/strengthen/scale up b and C EMONC centers • Strengthen infection control • strengthen counseling services for breastfeeding, postnatal care and home care practice

Building blocks	Summary of Identified bottlenecks	Priority Actions
	12. Shortage of health staff leads intra service delay 13. Absence of national neonatal resuscitation program for sustainable training and monitoring performance. 14. Basic neonatal resuscitation (bag and mask) is available in all level of care however advanced neonatal resuscitation (intubation) is available only where there are trained doctors or nurse anesthetists. 15. Lack of knowledge and skills 16. Inadequate capacity to manage sick newborn due to lack of knowledge and skills. 17. Lack of neonatal units/corner in hospitals and BHUs 12. Inconsistent use of partographs	• make neonatal care unit in in district hospitals and BHU grade I • Strengthen fetal heart monitoring during labour and use of partographs
6. Health Information Systems	1. The existing reporting format does not have adequate information and variable on newborn 2. No disaggregated data on neonate mortality in the HMIS reporting system. 3. Underreporting of newborn deaths 4. Some health facility don't have internet access. 5. No reliable data on preterm birth prevalence 6. ANCS is only included in neonatal death review form so that no reliable data of coverage of ANCS. 7. No digital record keeping of birth register in district/RRH, BHU I	• Strengthen the line listing and tracking until pregnancy outcomes • Establish a sound surveillance system for tracking newborn, stillbirths and perinatal death audits • Enhance PMTCT tracking system to eliminate mother to child transmission of HV • Make registration and tracking system for high risk infants including birth defects.

Building blocks	Summary of Identified bottlenecks	Priority Actions
	8. Discrepancy of data (BHMIS &EmONC report) 9. Lack of clinical auditing and feedback mechanism for maternal and child health. 10. Inadequate resuscitation recording system 11. No protocol on critical review on resuscitation during death review. 12. No reporting system on KMC in HMIS 13. No indicators for assessing frequency of resuscitation done on monthly basis. 14. No system to track sick newborn and follow up impairment	• Make clear discharge criteria and follow up program (including registration and tracking system) for high risk infants including preterm and small babies; incorporate with existing system such as RNDA,C4CD and IMNCI.
7. Community Ownership and Participation	1. Lack of awareness on danger signs for pregnant women and newborns 2. Preference for female health care providers to provide services 3. Cultural belief and traditional healers 4. Retention and motivation of VHW 5. Lack of local government ownership a. Lack of community leaders involvement and community support mechanism 6. Inappropriate support from family members due to lack of knowledge on care during pregnancy, and PNC 7. Cultural barrier (weak male participation, cultural belief and myths) 8. Health Promotion activities for unreached population 9. Weak community support for referral 10. Misconceptions and Cultural belief 11. Lodging and fooding issues in BHU II.	• Focus on community strategy to promote demand for essential newborn care through advocacy • Promote antenatal exercise • Incentivize VHWS • Strengthen counseling for breast feeding, postnatal care and home care practice • Consider to form peer counseling group for lactating mother in the community • Make antenatal health education and parenting class package and implement in all facilities

Building blocks	Summary of Identified bottlenecks	Priority Actions
	12. Transportation/long walking distance. 13. Local healers influence leading to delay in seeking early medical help. 14. Retention and motivation of VHW 15. Local government ownership 16. Community leaders involvement and community support mechanism 17. Remote/rural areas not having immediate access to ambulance. 18. Cultural beliefs (nomads) not going for institutional delivery. 19. Lack of support from influential religious heads. 20. Lack of focused awareness and advocacy programs on danger signs of newborn and benefits of care seeking and post natal visits. 21. Inadequate focused awareness and advocacy programs for timely recognition of sick and small newborn in the community	targeting mothers, father, and significant others.

1.5 Monitoring and evaluation framework

In order to achieve the targets identified under BENAP, monitoring and evaluation should be of prime importance. Monitoring and evaluation for BENAP will be held at three different levels;

At the National Level, the Ministry will be following the online tracking system of the Mother and Child Tracking System (MCH). Realizing the importance of tracking every mother and child with comprehensive information system, the Royal Government of Bhutan will be instituting a web-based MCH tracking system.

At the ministerial level, the Child Health Advisory Group (CHAG) will be the technical adviser to the BENAP. All matters requiring discussion and technical support will be submitted to the CHAG.

Following the course of the timeframe for the action plan (2016-2020), a mid-term review (2018) will be held to review the progress and discuss on way forward.

At the departmental level, both lead and support Implementing Programs (IPs) will meet on a quarterly basis to report on the status of activity implementation. For uniformity, the RGoB reporting system will be followed.

Way forward

Coordination and Partnership: The successful implementation of BENAP calls on for a multi-sectoral coordination and partnership among stakeholders. For better ownership, the stakeholders should be made aware of the responsibilities and actions clearly outlined in the document, so that action plan is translated into practice.

Advocacy: The BENAP should be advocated extensively among high level policy and decision makers to ensure a place on the development agenda with political commitment.

Funding Support: Adequate and timely funding support is critical to implement the action plan vital for preventing newborn deaths and stillbirths.

Research: Researches related to maternal and child health especially pertaining to newborn deaths and stillbirths should be encouraged and prioritized for evidence based decision making.

Surveillance: An effective surveillance, tracking every mother and child shall be instituted for adherence to standard protocols of quality care.

ANNEXURE 1: Summary of costing

Bhutan Newborn action plan	2016	2017	2018	2019	2020	2021	2022	2023
Intervention cost	4,655,413.00	4,749038.00	4,833,535.00	4,909,629.00	4,978,986.00	5,040,841.00	5,096,188.00	5145,234.00
Program cost	375,000.00	4,445,680.00	7,785139.00	6,222,139.00	4,057,139.00	4,774,139.00	3,734,139.00	3,662,139.00
Total cost	**5,030,413.00**	**9,194,718.00**	**12,618,674.00**	**11,131,768.00**	**9,814,980.00**	**9,814,980.00**	**8,830,326.00**	**8,807,373.00**

(The figures will change with treatment inputs costing)

ANNEXURE 2: Monitoring and Evaluation

Indicators	Definition	denominator	Numerator	MOVs	Frequency	Remarks
Neonatal Mortality Rate	No of newborn deaths per 1000 live births	total live births	number of newborn deaths	NHS, BMIS	Annual 10 years 5-6 years	
Still Birth Rate	No of still births after 28 weeks of gestation	total live births	number of still births	Annual household surveys, NHS, BMIS	Annual 10 years 5-6 years	
Preterm birth rate						
ANC8	Percentage of pregnant women who make 8 or more ANC visits	Number of women age 15-49 years with a live birth who were attended during their last pregnancy that led to a live birth	Number of women age 15-49 years with a live birth who were attended during their last pregnancy that led to a live birth	HMIS	Annually	
ANC4	Percentage of pregnant women who make 4 or more ANC visits	Number of pregnant women registered	No of pregnant women who make 4 or more ANC visits	HMIS, AHB,	Annually	

Indicators	Definition	denominator	Numerator	MOVs	Frequency	Remarks
ANC1	Percentage of pregnant women who make 1 or more ANC visits	Number of pregant women registered	No of pregnant women who make 1 or more ANC visits	HMIS, AHB,	Annually	
Antenatal corticosteroid	Number of pre-term babies covered by corticosteroid	Number of pre-term deliveries (24-34 weeks)	Number of pre-term babies administered corticosteroid	Not yet monitored. Can be monitored using MCH and BHU reports	Monthly or annually	Reporting mechanism to be updated
Skilled Birth Attendant	Number of deliveries conducted by skilled birth attendant	Total Number of deliveries	Number of deliveries conducted by skilled birth attendant	HMIS, NHS	Annually	
Institutional Delivery Rate	Number of deliveries which happen in the health facility	Total Number of deliveries	Number of deliveries which happen in the health facility	HMIS	Annually	Same as above
Early Initiation of Breastfeeding	Initiation of breastfeeding within the first hour of birth	Total Number of babies delivered	Number of babies breastfed within the first hour	Nutrition survey, BMIS		
PNC baby	Post natal care for baby at day 3, 7 and 14	Total Number of babies delivered	Number of babies brought for post natal care as scheduled	HMIS, EMNOC report	Monthly, annually	
Exclusive Breastfeeding rate	Exclusive breast feeding for first 6 months	Total Number of babies under 6 months of age	Number of babies under 6 months of age who	Surveys (BMIS, HMIS,	Annually	

Indicators	Definition	denominator	Numerator	MOVs	Frequency	Remarks
			are exclusively breastfed	Nutrition survey)		
Neonatal Resuscitation	No definition yet					
KMC	Number of pre-term babies who need KMC covered by KMC	Total number of pre-term babies who need KMC	Total number of pre-term babies who need KMC and received KMC	Not yet monitored. Can be monitored using MCH handbook and BHU reports from MCH register		
Developmental Screening	Number of children aged 0-5 who are screened	Number of children aged 0-5	Number of children aged 0-5 assessed	MCH activity report		Needs to be cleared by MoH
Rate of Disability after neonatal conditions	Number of children who had neonatal conditions who are disabled (By age, disability, sex)	Number of children who had neo natal conditions	Number of children who had neonatal conditions who are disabled	Not yet monitored. Can be monitored using MCH and BHU reports		Needs to be cleared by MoH

ANNEXURE 3 Roadmap in developing BENAP

At WHO Regional Meeting on Every newborn action plan and postnatal care for Mother and Newborn in November 2014 Sri Lanka, Bhutan was introduced for the first time to Global Newborn Action plan. Countries of neighboring regions were already in the process of developing their country action plan while Bhutan agreed to develop the Newborn action plan. In September, 2015 Ministry of Health formed Technical Advisory Group (TAG) from development partners, institutions and Ministry of Health to discuss on the initial plans to develop Bhutan Newborn Action plan.

A series of stakeholder consultation took place at different levels; national, district level, teaching institutions and other relevant stakeholders.

Bottle neck analysis was done using the BNA tool from Global Every Newborn Action Plan. BNA tool has nine intervention packages to improve neonatal outcomes. Each intervention package is identified by a tracer indicator.

The initial phase in development of Bhutan action plan included health system bottle neck analysis. Nine intervention packages were evaluated across the seven health system building blocks from WHO health system blocks and community ownerships and participation.

ANNEXURE 4 Training Package

Strategic Intervention Package	Operational Guidelines	Training Package	Service Provider
PRE-CONCEPTION AND ANTENATAL CARE	• Midwifery standard, 2009 • National Family planning standard,2014 • Health Education package for Pregnant and lactation mothers(health care providers guideline),2014 • MCH handbook guideline • EPI Guideline • STI/HIV guideline • PMTCT guideline • TB guideline • Malaria Guideline • Basic EMONC Guideline for doctors in district hospitals and BHU	Basic EMONC training package for doctors in district hospitals and BHU	
CARE DURING LABOUR AND CHILDBIRTH	• Lactation manual for health care providers,2006 • Midwifery standard,2009 • MCH handbook guideline • EPI Guideline • STI/HIV guideline • PMTCT Guideline		
IMMEDIATE NEWBORN CARE	• National essential Newborn care standard,2006 • Midwifery standard,2009 • MCH handbook guideline • EPI Guideline • STI/HIV guideline • PMTCT Guideline • Essential Newborn care guideline • Neonatal Resuscitation guideline • Newborn care assessment • KMC package	Newborn training package • Facility based(Hospital and BHU level) • IYCF manual	Doctors(GDMO) , HA, Nurses

Strategic Intervention Package	Operational Guidelines	Training Package	Service Provider
CARE OF HEALTHY NEWBORN	• Midwifery standard,2009 • National essential Newborn care standard,2006 • MCH handbook guideline • EPI Guideline • STI/HIV guideline • PMTCT Guideline • IYCF manual • PNC guidelines for babies	• C4CD • Facility based IMNCI • Community based IMNCI • IYCF manual	
CARE OF SMALL AND SICK NEWBORN	• Midwifery standard,2009 • National essential Newborn care standard,2006 • Standard treatment guideline, 2013 • STI/HIV guideline • PMTCT Guideline • Malaria Guideline • Guideline on care of small and sick newborn • Guideline for newborn screening • KMC and developmental care guideline	• Facility based IMNCI • IMNCI at BHU • Community based IMNCI (VHW) • Training package for care of small and sick Newborn	nurses in Regional Referral Hospital and Emonc centers
CARE BEYOND NEWBORN SURVIVAL	• RNDA Manual(mainly assessment) • STI/HIV guideline • PMTCT Guideline • Guideline for high risk follow up • Guideline for newborn screening	• C4CD • RNDA Manual(mainly assessment)	

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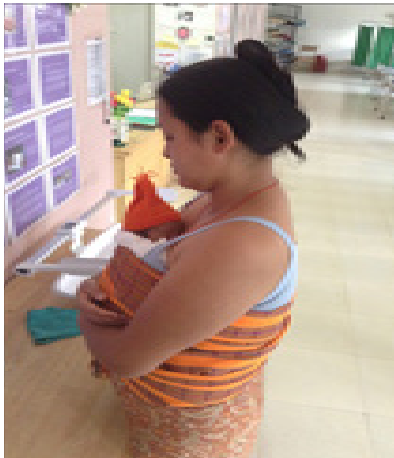

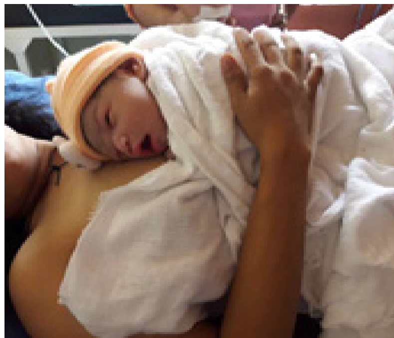

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