Nepal's Every Newborn Action Plan

Government of Nepal
Ministry of Health

2016

Government of Nepal
Ministry of Health

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Ref. No:

Ramshah Path,
Kathmandu, Nepal

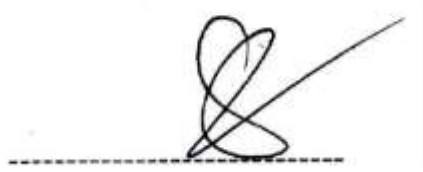
Foreword

The intrinsic link between the survival and health of newborns, stillbirths and the survival, health and nutrition of all women of reproductive age, including before, during, between and after pregnancy is clear.

The Nepal's Every Newborn Action Plan establishes specific national targets and milestones for quality of care, newborn mortality and stillbirth rate, monitoring, investments and the implementation of national plans. Achieving these milestones will help to ensure the vision and goal of reducing the burden of preventable deaths of newborns and stillbirths.

The action plan emphasizes the needs to reach every women and newborn when they are most vulnerable-during labour, birth and in the first days of life. Investment in this critical time period provides the greatest potential for ending preventable neonatal deaths, stillbirths and maternal deaths, would result in triple return on investment.

I heartily thank, the Technical Advisory Group for developing the Action plan.



Dr. Senendra Raj Upreti

Secretary, Ministry of Health

Government of Nepal
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Preface

Newborn health and stillbirths are part of the "unfinished agenda" of the Millennium Development Goals for women's and children's health. With newborn deaths still accounting for more than 60% of under-5 deaths in Nepal, newborn mortality and stillbirths require greater visibility in the post-2015 sustainable development agenda.

In Nepal, more than 80% of all newborn deaths results from three preventable and treatable condition-complications due to prematurity, intrapartum-related deaths (including birth asphyxia) and neonatal infections. Cost-effective, proven interventions exist to prevent and treat each cause. Improving quality of care around the birth will save lives and requires functional health system in place.

Nepal's Every Newborn Action Plan was developed in response to the demand for saving women's live, reducing neonatal death and preventing stillbirths. It sets out a clear vision on how to improve newborn health and prevent stillbirths by 2035. The plan builds on the Global Every Newborn Action Plan and the strategic framework of Nepal Health Sector Strategy.

I firmly believe that the Nepal's Every Newborn Action Plan provides the guidance on amount of investment is required to improve the care of mothers and babies.

I thank all the partners, academia and professional bodies on their commitment to work together with Ministry of Health to take specific action to achieve our vision where there are no preventable deaths of newborns or stillbirths, where every pregnancy is wanted and every birth is celebrated.

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Dr. Padam Bahadur Chand

Chief Specialist, Ministry of Health

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Acknowledgement

In the past two decades, there has been remarkable progress in the survival of mothers and children. Between the period of 1990 and 2014, there has been an unprecedented decline (73%) in under-five mortality in Nepal. However, the neonatal mortality has not reduced proportionately, with only 57% reduction during the same period. As of 2014, the neonate deaths (i.e. deaths during the first 28 days of life) constitute 63% of under-five mortality in Nepal.

Extra efforts will be necessary in overcoming barriers to further accelerate reduction in neonatal mortalities. Nepal's Every Newborn Action Plan proposes cost-effective maternal and evidence-based maternal and newborn health interventions for ending preventable neonatal and fetal deaths to achieve a reduction of newborn mortality to 13 per 1000 live births and 11 stillbirths per 1000 total births by 2035.

NENAP aspires to ensure equitable progress across all sections of society: rich and poor, mountain and terai, between different regions and across all castes and ethnicities. Guided by the Lancet stillbirth and Newborn Series, the six pillars of interventions in this plan 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.

Further, it focuses on building a strengthened health system supported by fully trained and skilled health workers in all tiers of health facilities that are adequately resourced. This includes strengthening the quality and accessibility of our public and private service providers with targeted interventions to reach communities that, so far have remained outside our reach. It also focuses on expanding awareness, health education & demand creation in communities across the country.

I am confident that the Department of Health Services and our partners will do their utmost in translating this Newborn Action Plan into a reality and ending preventable stillbirths and newborn deaths in the country.

.....

Dr. Pushpa Chaudhary
Director General, Department of Health Services

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Way Forward

Nepal's Every Newborn Action Plan aspires towards an ambitious goal where there are no preventable deaths of newborns or stillbirths by 2035. To achieve this goal, we must recognize that newborn survival and health are intrinsically linked with the well-being and survival of mothers before conception, during pregnancies and around the time of birth. Therefore, it is imperative that we focus on a range of interventions across a continuum of quality care addressing reproductive, maternal, newborn, child and adolescent health. Particularly important will be improving accessibility to quality care around childbirth, which can significantly improve newborn survival and prevent stillbirths and disability.

This Action Plan sets a clear direction to ensure mothers and their babies survive and thrive following childbirth and the fragile first month. It calls for adoption of evidence-based practices, which are built around mitigating the main causes of newborn mortality and effective interventions to prevent and manage these. It focuses on building a strengthened health system supported by fully trained and skilled health workers in all tiers of health facilities that are adequately resourced.

In fact, Nepal has already begun implementation of this plan. We have already started rolling out newborn corners in health posts, newborn units in Primary Health Care Centers, Special Newborn Care Units in District and Zonal Hospitals and have laid the foundation for setting up Neonatal Intensive Care Units in tertiary hospitals. Simultaneously, we have initiated new research to better understand the causes of stillbirths and newborn deaths in Nepal.

We call on our partners to join with us towards this commitment and jointly realise the ambitious goals set by this action plan. We are committed in implementing this plan and ending preventable newborn deaths in the country.

Dr. RP Bichha
Director, Family Health Division

Dr. Rajendra Pant
Director, Child Health Division

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ABBREVIATIONS

ANC	Ante-Natal Care
AWPB	Annual Work-plan and Budget
BEmONC	Basic Emergency Obstetric and Newborn Care
CB-IMNCI	Community Based-Integrated Management of Newborn and Childhood Illness
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate; number of infant deaths (under 1 year of age) per 1000 live births
LMD	Logistics Management Division
MoHP	Ministry of Health and Population
NENAP	Nepal's Every Newborn Action Plan
NHSS	Nepal Health Sector Strategy
NMR	Neonatal Mortality Rate; number of newborn deaths (first 28 days since birth) per 1000 live births
PMR	Perinatal Mortality Rate; number of stillbirths and early newborn deaths (from 28 weeks gestation to the first 7 days since birth) per 1000 total births
PNC	Post-Natal Care
SBA	Skilled Birth Attendant
SBR	Stillbirth Rate; number of late fetal deaths (over 1000g or 28 weeks gestational age) per 1000 total births
TAG	Technical Advisory Group
U5MR	Under 5 Mortality Rate; number of deaths of children under 5 years of age per 1000 live births

EXECUTIVE SUMMARY

Nepal's Every Newborn Action Plan (NENAP) sets a vision for the country "in which there are no preventable deaths of newborns or stillbirths, where every pregnancy is wanted, every birth celebrated, and women, babies and children survive, thrive and reach their full potential." The vision is consolidated by ambitious targets to reduce mortality of newborns to below 11 per 1000 live births by 2035 from the current rate of 23, and to also reduce the stillbirth rate to below 13 stillbirths per 1000 total births from the current rate of 18. The plan is guided by the Universal Health Coverage approach adopted by the National Health Policy (2014) and is integrated within the broader National Health Sector Strategy (NHSS, 2015-2020). Importantly, it further cements the commitment of the Government of Nepal and its partners for substantial improvement in the survival of mothers and newborns.

Considering that a large proportion of under-5 mortalities are newborn deaths, which are within the first 28 days after birth (the newborn period), increasing investment for improving the survival of newborns through universal access to evidence-based interventions is paramount. Informed by the barriers to deliver critical maternal and newborn interventions proposed by the *Lancet* 2014 Newborn Series, this plan adopts strategies and interventions to improve availability of quality newborn services at all levels of care, particularly for poor and vulnerable populations.

NENAP adopts four strategic directions or approaches outlined by NHSS: equity; quality; multi-sectoral approach and reform. It aspires towards universal health coverage by availing equitable quality health services, particularly at the most vulnerable times: in labour, during childbirth and in the first days of a newborn's life. The plan recognises that a strengthened health system and persistent collaboration between diverse multi-sectoral actors are pre-requisites to deliver life-saving interventions. Thus, it reflects on the nine strategic objectives of the NHSS and highlights key actions to achieve the goals to reduce newborn mortalities and stillbirths by 2035.

Specifically, these are:

1. Rebuild and strengthen health systems: infrastructure, HRH management, procurement and supply chain management.
2. Improve quality of care at point-of-delivery
3. Equitable utilization of health care services
4. Strengthen decentralised planning and budgeting
5. Improve sector management and governance
6. Improve sustainability of health sector financing
7. Improve healthy lifestyles and environment
8. Strengthen management of public health emergencies
9. Improve availability and use of evidence in decision-making processes at all levels

NENAP seeks to achieve its goals through service delivery arrangements that expand maternal and newborn health services from the community to tertiary levels. New evidence -based interventions will be delivered that promote healthy behaviours and increase utilization of life-saving maternal and newborn interventions. Based on the lessons of the Aama programme, this action plan reduces financial burden to families for seeking preventive and curative newborn services through expansion of free newborn services, including financial subsidies for referrals.

While NENAP sets ambitious goals for reductions in newborn deaths and stillbirths for 2035, it remains an integrated action plan within the prevailing and future national health sector strategies. NENAP will be principally implemented through the Nepal Health Sector Strategy 2015-2020 Implementation Plan and the concomitant Annual Work Plan and Budget, and its progress will be periodically assessed at sub-national and national review forums.

Nepal's Every Newborn Action Plan

1.1 Global and National Objectives for Newborn Health

There has been remarkable progress in reducing the number of child deaths globally, and in Nepal, in recent decades. Still, 2.9 million babies die every year within the first month of life and an additional 2.6 million babies are stillborn globally[1]. An estimated 23,000 children die in Nepal each year before reaching their fifth birthday with three out of five babies dying within twenty eight days after birth, the newborn period[2].

The Government of Nepal is committed to the survival of children, thus, endorsing the *Committing to Child Survival: A Promise Renewed* and the *Sustainable Development Goals* that call for ending preventable child deaths. This translates to a reduction of newborn mortality to 11 or less per 1000 births by 2035[3]. Achieving the target will require sustained and coordinated effort by all stakeholders.

This *Nepal's Every Newborn Action Plan* (NENAP) will guide the sector to achieve this ambitious, yet attainable goal. It puts into practice evidence presented in the *Lancet* Every Newborn Series (published in May 2014) that highlights key interventions to reduce newborn mortalities[4].

The 67th World Health Assembly adopted these evidences as part of the *Global Every Newborn Action Plan* – the inspiration for Nepal and other countries to translate to country-specific strategies and actions. In Nepal, the Newborn Working Group chaired by the Chief of Planning, Policy, and International Cooperation Division within the Ministry of Health and Population (MoHP) finalized the NENAP. The Working Group consisted of senior officials from various government line agencies and development partners. National and sub-national consultations were held for input and feedback to ensure that the plan reflected on-the-ground realities and strengthened horizontal and vertical linkages.

The NENAP is guided by the National Health Policy (2014)[5] and for the first five years operationalized through the Nepal Health Sector Strategy (NHSS, 2015-2020)[6] and its implementation plan. The MoHP will revise this action plan to be consistent with the prevailing country's health sector strategy and in 2020 will review and update this action plan based on the lessons and achievements of its goals in the preceding five years.

The plan aspires towards universal health coverage by availing equitable quality health services, particularly at the most vulnerable times: in labour, during

childbirth and in the first days of a newborn's life. The plan recognises that improving health and wellness of mothers and newborns is a crucial pre-requisite for a prosperous nation, which requires a strengthened health system and persistent collaboration between diverse multi-sectoral actors.

An integrated and collaborative effort under the joint leadership of the Family Health Division and Child Health Division will lead the implementation of this action plan to ensure the desired changes in the service delivery. New maternal and newborn interventions will be integrated into existing facility and community-based programmes to facilitate a seamless continuum of care provided to all women, newborns and children.

[1] UNICEF, WHO, The World Bank, United Nations. *Levels and trends in child mortality: Report 2013.* New York, UNICEF, 2013.
[2] Nepal Multiple Cluster Indicator Survey 2015
[3] UNICEF, *Committing to Child Survival: A Promise Renewed Progress Report 2013.* New York, UNICEF, 2013.
[4] Dickson *et. al* (2014). *Lancet*, 384(9941):438-54
[5] Ministry of Health and Population, *National Health Policy,* Kathmandu, Nepal
[6] Ministry of Health and Population, *Nepal Health Sector Strategy (2015-20),* Kathmandu, Nepal

1.2 Vision, Strategic Directions, and Goals

The MoHP adopts the aspirational vision of the "A Promise Renewed" initiative. The NENAP operationalises this vision through sustained focus on four strategic directions or approaches defined by the NHSS (2015-2020): equitable utilization of health services; quality for all; multi-sectoral approach; and reform. Ambitious targets to significantly reduce newborn mortality rates and stillbirths in the next twenty years are consistent with the Global ENAP's goals.

1.2.1 Vision

A Nepal in which there are no preventable deaths of newborns or stillbirths, where every pregnancy is wanted, every birth celebrated, and women, babies and children survive, thrive and reach their full potential.

1.2.2 Strategic Directions and Approaches

Equitable Utilization of Health Services - Achieving Universal Health Coverage will require sustained effort to reduce barriers to access and utilization of health services, particularly for underserved populations. Critical newborn services will be added to the free package of services to increase access to services that are currently out of reach for many.

Quality for All – Health care services must meet basic standards of quality. It will require effective coordination within facilities and across multiple levels of public and private providers that is centred around client needs. Strengthening of evidence-informed programmes and interventions will ensure clients will receive services that have the highest chance of success.

Multi-sectoral Approach – Collaboration with other sector is paramount to improving access to quality health care. Improving nutritional and educational status, access to clean water, sanitation facilities and healthy neighbourhoods are critical for the health of mothers and newborns. We must reach out to and expand our collaboration with other sectors and partners.

Reform – Reforms are needed within the MoHP to be responsive to the health care needs of the population and reduce inequities in health outcomes. Decision-making, including planning and budgeting authority will be devolved to local bodies. New opportunities for partnerships with the private sector to deliver quality health services will be explored and implemented.

1.2.3 Goal

The NENAP aims to achieve a newborn mortality rate (NMR) of less than 11 deaths per 1000 live births and a stillbirth rate (SBR) of less than 13 stillbirths per 1000 total births by 2035, targets that will be met in all of the provinces of Nepal.

Goal 1: Reduce preventable newborn deaths in every province to less than 11 newborn deaths per 1000 live births by 2035

Goal 2: Reduce preventable stillbirths in every province to less than 13 stillbirths per 1000 total births by 2035

Disaggregating the goal to the sub-national provincial level aims to reduce the wide disparity that exists between the various regions of Nepal. The hill and mountain areas of the Far-West and Mid-West regions in particular

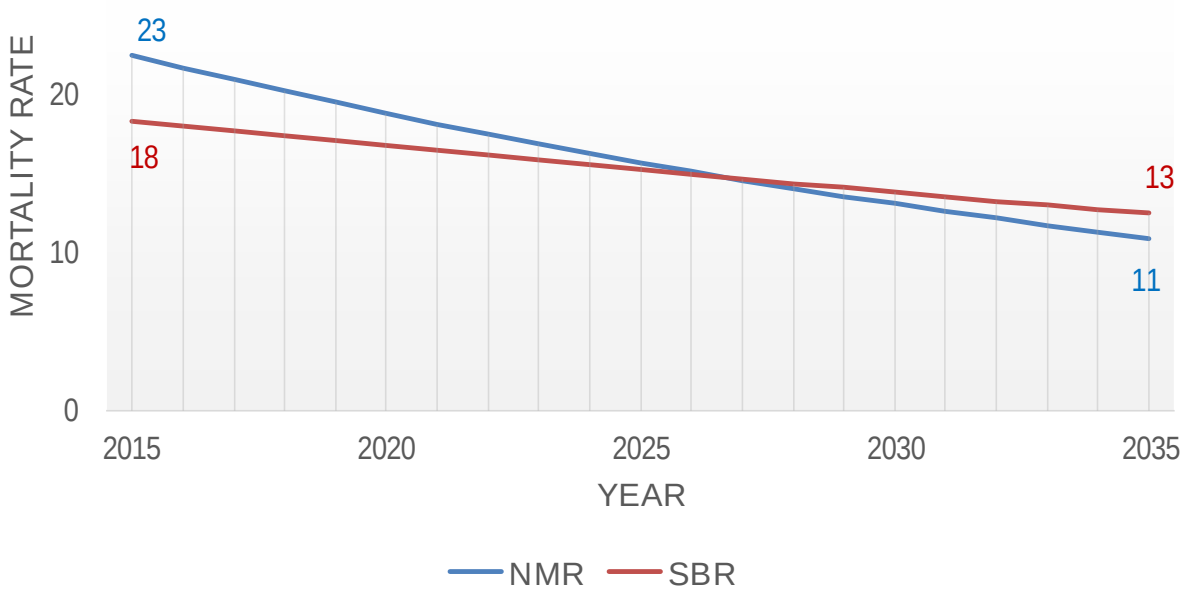

Figure 1.1: NENAP target projection of the newborn mortality rate and stillbirth rate
Source: LiST projection

have Nepal's lowest rating on the human development index and human poverty index[7]. The Far-West region also has the worst NMR (41 per 1000 live births) and worst U5MR of the country (82 per 1000 live births)[8]. The province-focused goal of the NENAP is ambitious, but also critically needed in order to bring much needed attention and resources into these vulnerable areas.

A further challenge is the additional vulnerabilities that lay between populations within regions. Evidence indicates that the annual rate of reduction (ARR) in NMR is variable between demographic groups. For example between 1996 and 2011 when the national ARR for NMR was 3.3%, the ARR for newborns of the wealthiest quintile was almost double at 6.2%, whilst newborns of mothers with no education was just 2.6%[9]. Thus the newborn strategies implemented during this period have been effective, but variably so with less advantaged populations slower to decline mortality rates than more advantaged populations. Strategies to bring equity in the health status of *all* newborns from *all* populations of Nepal will be a major focus of this NENAP.

[7] National Planning Commission and UNDP, (2014). "Nepal Human Development Report 2014", Kathmandu, Nepal
[8] NDHS 2011, Op Cit
[9] Paudel, D, *et. al. (2013). BMC Public Health, 13:1239*

Maternal, Newborn and Child Health in Nepal

2.1 Policies and Programmes

The Government of Nepal has consistently maintained a focus on maternal and child health since the early 1990s. Starting with the National Health Policy (1991), which took primary health care to communities across the country through decentralized district health system[10], the Second Long-Term Health Plan (1997-2017), periodic health plans, health sector plans I (2004-2009), II (2010-2015), III (2015-2020), and the recently endorsed National Health Policy (2014) have prioritized maternal and child care, particularly for poor and vulnerable populations[11].

Guided by these national policies, Nepal successfully scaled-up maternal and child health interventions through effectively linking community-based care to health facilities. The National Safe Motherhood Policy (1998)[12] and subsequently the Nepal Safe Motherhood Programme (2002-2017) emphasized improved access to quality basic and comprehensive emergency obstetric and newborn care (BEmONC and CEmONC), increased availability of skilled attendance at birth and strengthened referral services, particularly for poor and vulnerable populations. To further improve the survival of children under-five years of age, a pioneering community-based approach to Integrated Management of Childhood Illness (CB-IMCI) was launched in 1997 to improve the survival rates of children under five years old. Its main innovation is community health workers that provide first round of treatment and referral for major childhood killers: pneumonia, diarrhoea, and Acute Respiratory Illness. Management of newborn care (ie. local bacterial infection and possible severe bacterial infection) was added in 2009 to ensure issues related to newborn survival were addressed in the CB-IMCI package.

In 2004, Nepal became the first low-income country to respond to the stagnating mortality rates during the newborn period through the National Newborn Health Strategy (2004). The government in 2006 recognised the importance of addressing newborn health as an integral part of safe motherhood programming; thus, endorsed the National Safe Motherhood and Newborn Health - Long Term Plan (2006-2017). Drawing on lessons from the CB-IMCI and the *Lancet* Neonatal Survival Series[13], in 2007, a Community-Based Newborn Care Package was developed and, after successful pilot, scaled up to 39 districts by 2013[14]. The package enhanced the capacity of community health workers to prevent and manage critical treatment to newborns and refer complications to health facilities, which in 2014, was merged into the community based – Integrated Management of Newborn and Childhood Illnesses (CB-IMNCI) to

further derive synergistic impact of both programmes.

In order to promote the use of institutions for deliveries, the Safe Delivery Incentive Programme was started in 2005 that provides financial incentives to mothers and healthcare providers for each delivery at health facilities. The incentives offset the financial burden of transportation for pregnant mothers, which is a major factor causing delays in seeking appropriate healthcare in Nepal[15]. In 2006, the National Skilled Birth Attendant Policy (2006) rapidly expanded in-service training for Skilled Birth Attendants (SBAs), supported by the growing body of evidence that showed availability of skilled delivery health workers with reduced mortalities[16, 17]. The policy set an ambitious target to raise percentage of deliveries attended by a SBA from 18% in 2006 to 60% by 2015.

Starting in 2014, MoHP introduced the application of chlorhexidine gel (CHX 4%)[18] on newborns and continues to scale it up nationwide by integrating its use with existing maternal and child health programmes. The use of chlorhexidine was adopted after randomised trials – including in Nepal – that showed the gel to be effective in preventing infections and improving newborn survival in low-resource settings[19].

Following the Second Popular Movement, the Interim Constitution of Nepal (2006) endorsed basic healthcare as a fundamental right for all citizens, initiating gradual expansion of free essential healthcare services up-to the district level. In 2009, the Aama Surakshya Programme, replaced the Safe Delivery Incentive Programme, and further included incentives to complete four ante-natal care (ANC) check-ups for timely detection and

[10] Ministry of Health, *National Health Policy 1991*, Kathmandu, Nepal
[11] Ministry of Health, *Second Long-Term Health Plan (1997-2017), Nepal Health Sector Plans I (2004-2009; II (2010-2015); III (2015-2020) draft, National Health Policy 2014,* Kathmandu, Nepal
[12] Ministry of Health, *National Safe Motherhood Policy (1998),* Kathmandu, Nepal
[13] Darmstadt GL, *et al.* (2005). *Lancet*, 365(9463):977-988.
[14] Department of Health and Services (2014). "Annual Report: DoHS 2069/2070 (2012/2013)" Kathmandu: Government of Nepal, Ministry of Health, Department of Health Services.
[15] Borghi J, *et. al.* (2006). *Trop M Int Health,* 2(II) 228-237.
[16] Bernis L, et. al. (2003) Brit Med Bull, 67:39-57
[17] Graham W, et. al. (2001) Stud HSO&P, 17:97–129
[18] Child Health Division. "CBIMNCI Treatment Chart Booklet." Kathmandu: Department of Health Services, 2014.
[19] Mullany LC, et. al. (2006), 25(8):665–675.

referral of complications, free delivery, while continuing to expand the availability of life-saving emergency obstetric services through public and private health facilities. Today, primary outpatient care consultations and essential drugs are provided free of charge up-to 25-bedded hospitals.

Further, ANC and post-natal care (PNC) check-ups, and institutional deliveries, including BEmONC and CEmONC in all public and some private facilities are provided free of charge to all citizens, while targeted population groups are also afforded free and subsidized specialist care.

2.2 Health Trends and Demographics

2.2.1 Declining Child Mortality

In the last 15 years, Nepal has made significant achievements in health outcomes, particularly for mothers and children. Extraordinary reductions in maternal and under-5 mortalities has meant that mothers have notably higher chance of surviving child-birth and babies born today are much likelier to reach their fifth birthdays than in the previous 15 years. The target for Millennium Development Goal 4 called on Nepal to reduce under-5 mortality rates (U5MR) by two thirds from 1990 to 2015. During this time, it was reduced by 76% from 162 in 1990 to 38 per 1000 live births by 2014. The infant mortality rate (IMR), a probability measure of dying within the first year, has also declined during this period from 99 to 33 per 1000 live births – a 67% reduction[20] (Figure 2.1).

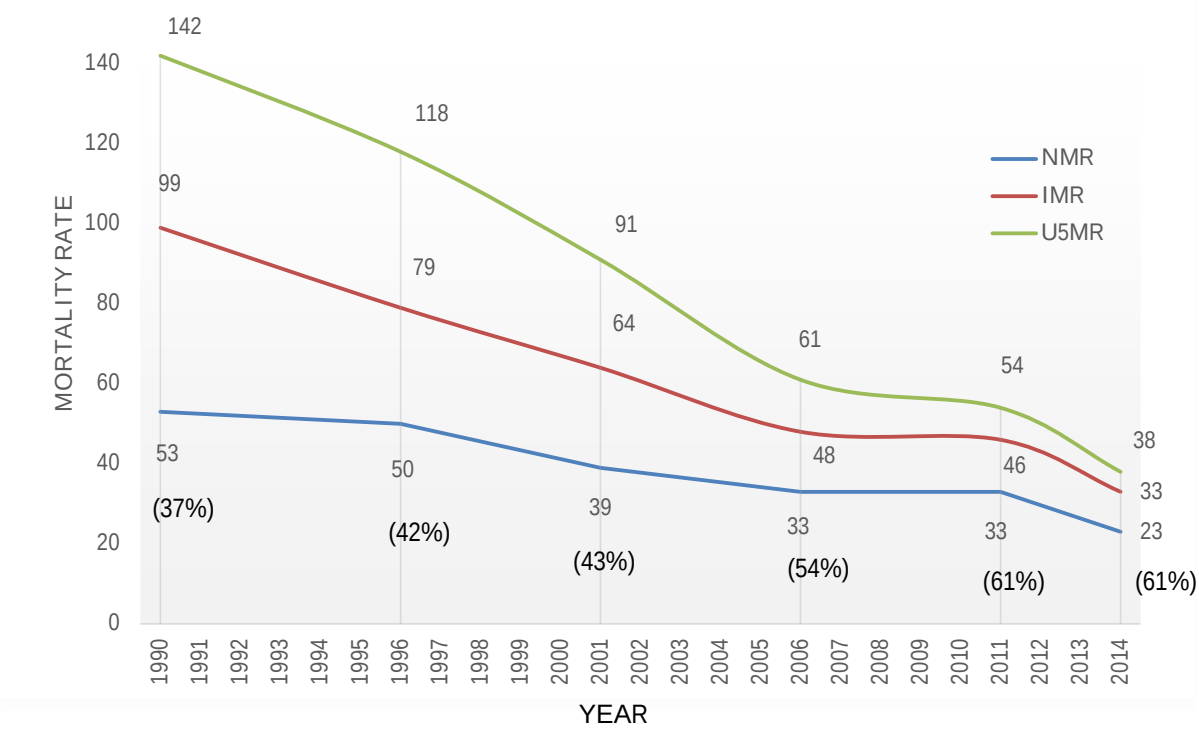

Figure 2.1: Declining trend of child mortality in Nepal

The number of children under 5 years of age including infants and newborns that are dying as proportion of 1000 live births is decreasing in Nepal. However, the proportion of newborn deaths that contribute to under-5 deaths is increasing (percentages in parentheses) (Figure 2.1).

Source: UN Inter-agency Group for Child Mortality Estimation, 1996 Nepal Family Health Survey, 2001/2006/2011 Nepal Demographic and Health Survey, 2014 Nepal Multiple Indicator Cluster Survey

2.2.2 Newborn Mortality and Causes

While these achievements in under-5 and infant mortality have been notable, there has not been a proportional decrease in the NMR (probability of dying within the first 28 days of life). This has translated to a larger proportion of newborns now representing deaths amongst under-5 children. In 2014, newborn deaths were estimated to account for 61% of total under-5 deaths compared to 37% in 1990. Between 1990 and 2014, there was a 57% reduction in the NMR from 53 to 23 deaths per 1000 live births. However when compared to more recent periods, only a 30% reduction has occurred since 2006 (33 newborn deaths per 1000 live births), which includes a period of stagnation of the NMR between 2006 and 2011[21] (Figure 2.1).

In Nepal, an estimated 12,975 newborn deaths occurred in 2013. Of these deaths, the primary cause of newborn death was pre-term birth complications (31%), followed by intra -partum related events (birth asphyxia or birth trauma, 23%) and newborn infection (excluding pneumonia or acute lower respiratory infections and HIV/AIDS, includes sepsis, tetanus, pertussis and other newborn infections, 19%) (Figure 2.2)[22]. The estimates for pre-term and intra-partum causes are comparable to observed data collected from 12

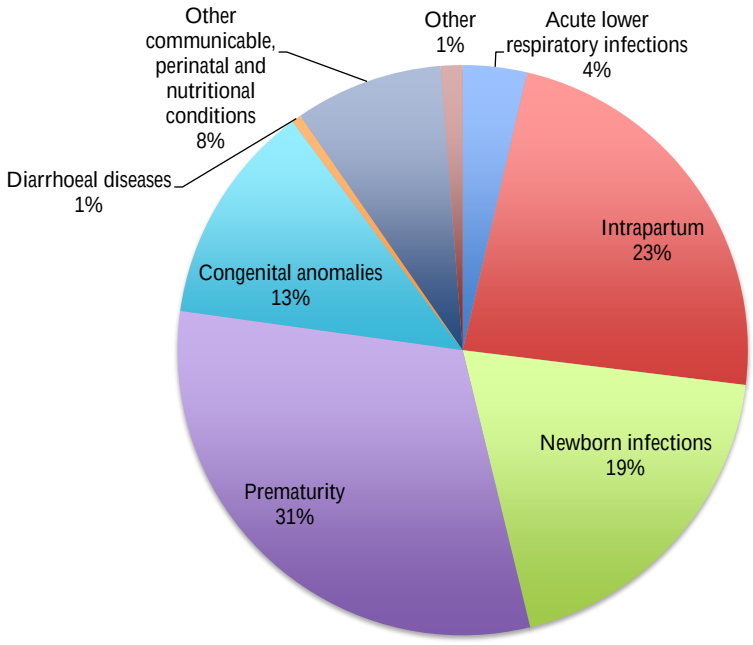

Figure 2.2: Distribution of causes of newborn death in 2013

Source: WHO 2013 estimates

hospitals in Nepal in 2013, where the major causes were found to be infection (40%), pre-term complications (30%) and intra-partum complications (23%)[23]. An analysis of newborn mortality by specific causes between the period of 2000 and 2013 shows that the greatest reductions that have contributed to the overall decline in newborn deaths have occurred in intra-partum related events (66% reduction), sepsis, meningitis or tetanus (66% reduction) and pre-term birth complications (43% reduction)[24], indicating that improvements at the time of labour including clean practices have greatly contributed to reducing the incidence of newborn deaths (Figure 2.3).

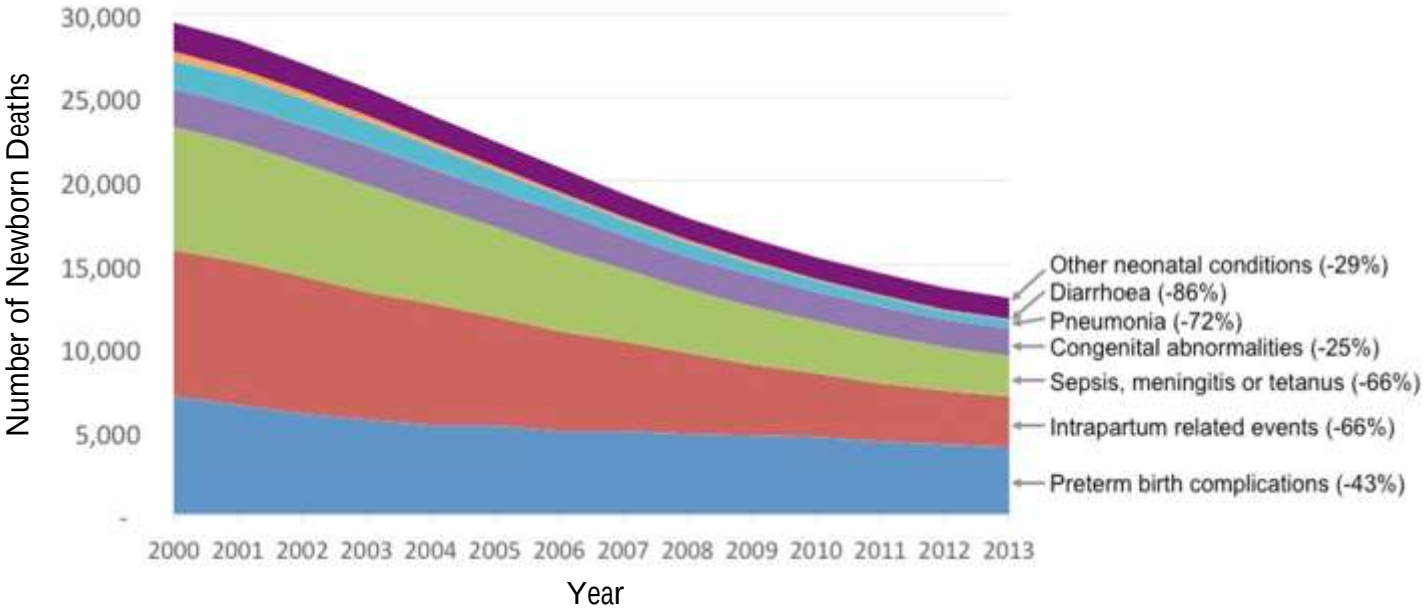

Figure 2.3: Time trend of specific causes of newborn deaths in Nepal

Since 2000 there has been a marked reduction in newborn mortality due to large reductions in the incidence of intra-partum related events, newborn infections (sepsis, meningitis or tetanus) and preterm birth complications (reduction percentage of specific causes between 2000-2012 given in parentheses).

Source: WHO 2013 estimates

[20] 1991 MDG est; Central Bureau of Statistics. 2014. Nepal Multiple Indicator Cluster Survey 2014, Key Findings. Kathmandu, Nepal: Central Bureau of Statistics and UNICEF Nepal.
[21] 1991 MDG est; Central Bureau of Statistics. 2014. Nepal Multiple Indicator Cluster Survey 2014, Key Findings. Kathmandu, Nepal: Central Bureau of Statistics and UNICEF Nepal.
[22] WHO database
[23] "Assessment of service availability, readiness and quality of newborn care of 12 hospitals in Nepal", UNICEF
[24] Liu, Li, et. al. (2015). Lancet 385: 430-440; Sekine, K, (2015), UNICEF Nepal unpublished data

The rate of stillbirths in Nepal is also on the decline, from 29 to 18 stillbirths per 1000 total births (stillbirths and live births) estimated for 1995 and 2015, respectively (Figure 2.4)[25, 26]. During the past two decades, there has been a 38% reduction in the stillbirth rate (SBR).

The incidence of stillbirths of total newborn deaths was found to be 38% in a 2013 verbal autopsy study conducted in six representative districts of Nepal. The majority of the stillbirths were fresh (73%) suggesting that many could have arisen due to complications during labour. This is corroborated by the finding that more than half of the total newborn deaths occurred in and around the home (53%) compared to 39% at a health facility and 6% in transit to a health facility[27].

A large proportion of newborn deaths occur early during the perinatal period (within the first week of life): 69% in the 2013 verbal autopsy study (27% on the day of birth, 42% on days 1 to 6)[28, 29] and 85% in the most current NDHS of 2011 (36.5% on the day of birth, 47.8% on days 1 to 6). The perinatal mortality rate (PMR, stillbirths and newborns that die on day 0 to 6) has also declined from 57 to 37 deaths per 1000 total births between 1996 and 2011 (35% reduction) (Figure 2.4)[30, 31]. Perinatal or early newborn death is commonly due to pre-term complications (includes intrauterine growth retardation and prematurity), intra-partum complications and congenital anomalies. Major reductions in intra-partum related deaths due to improved care provided at the time of birth is likely to have contributed to the falling PMR in Nepal.

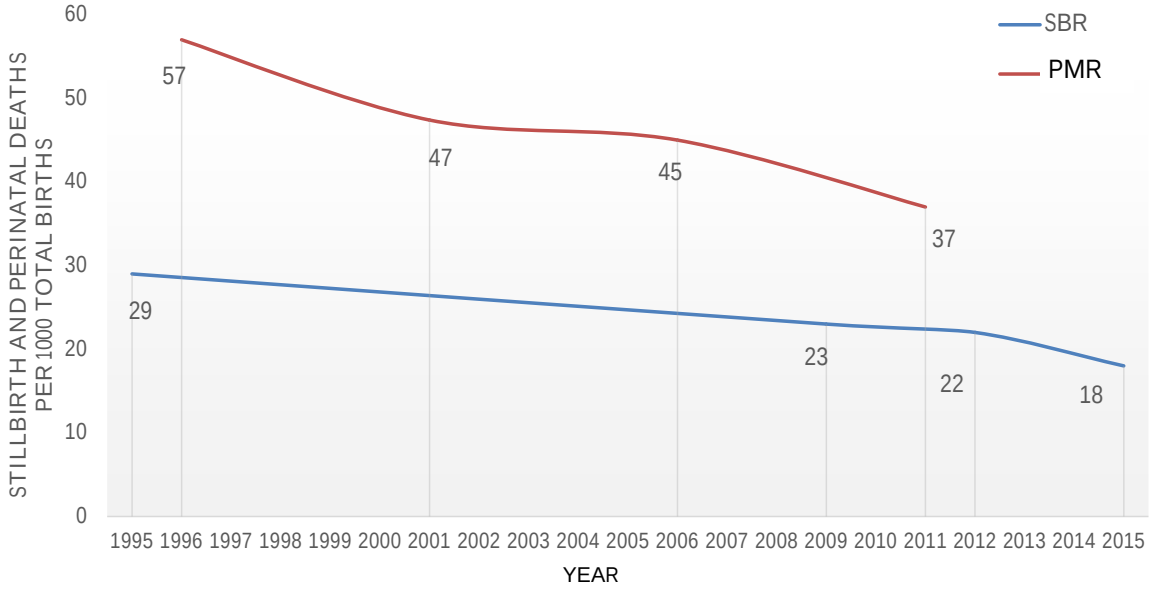

Figure 2.4: Trend in the stillbirth and perinatal mortality rate

Source: Stillbirth rate estimates by Cousens et al. (2011), Lawn et al. (2014) and Blencowe et al. (2016). Perinatal mortality rate estimates from NFHS 1996, NDHS 2001, 2006 and 2011.

Determinants of Newborn Mortality

Information gathered from household interviews with Nepalese women regarding past deliveries and pregnancies provides some insight into potential determinants of newborn mortality (See Annex 1). Young women under 20 years of age from rural, low wealth backgrounds and with no education were found to have the highest rates of newborn mortality compared to older women from urban areas with some education and greater wealth. For example, a baby from a family of the lowest wealth quintile is almost three times more likely to die as a newbown than a baby from a family of the highest wealth quintile (57 and 22 deaths per 1000 live births, respectively). Similarly, the incidence of newborn morality amongst women with no education is more than double compared to women with higher level education (26 and 12, respectively).

The timing of pregnancies also influences chances of survival. Birth intervals of less than 2 years have NMR that are more than three times greater than birth intervals exceeding 4 years (45 and 13, respectively).

2.2.3 Improving the Health and Nutrition of Women and Children

While there are some improvements in the stunting rate of under-5 children from 57% in 2001 to 37% in 2014, Nepal still faces chronic malnutrition and 30% of children are still underweight[32, 33]. Improvements in management and supply of vaccinations, and mobilization of approximately 52,000 strong Female Community Health Volunteers (FCHV) have resulted in the eradication of smallpox, elimination of newborn tetanus, virtual eradication of polio, substantial decline in malaria cases, and significant reduction in iodine, Vitamin A deficiency and iron deficiency anaemia affecting large numbers of women and children. Further, the FCHV programme has resulted in better preparedness for birth and awareness on dangers signs, directly related to birth outcomes.

[25] Cousens, S. et al. (2011). Lancet 377: 1319-30.
[26] Lawn, JE et al. (2014). Lancet 384(9938):189-205
[27] Integrated Rural Health Development Training Centre (2014), "A report on verbal autopsy to ascertain causes of neonatal death in Nepal 2014", USAID
[28] Ibid
[29] NDHS 2011, Opt cit
[30] Ibid
[31] Family Health Division, MOHP (1997), "Nepal Family Health Survey 1996", Kathmandu, Nepal
[32] Ministry of Health, New ERA, and ICF International Inc. "Nepal Demographic and Health Survey 2011." Kathmandu: Ministry of Health, New ERA, ICF International Inc., 2012.
[33] Lee AC. et al. (2014). Lancet Global Health

These achievements in health have been enabled in part by significant changes within Nepali society. Enrolment in primary education has shot up from only 64% in 1990 to 95% in 2013[34]. An average Nepali woman went from having five children in the early 1990s to almost replacement level (2.3)[35], reducing unplanned pregnancies and contributing to improved health of young women and their children.

2.2.4 Disparities in Service Utilization

There are wide disparities in the utilization of maternal and child health services by users depending on their place of residence (urban or rural, ecological zones of mountain to Terai), wealth status, women's education (no education to School Leaving Certificate) and ethnicity (See Annex 1). Over 80% of pregnant Newar women will make at least four ANC visits compared to just 35% of Madhesi or Muslim pregnant women. Just over one quarter of the poorest pregnant women will use an institution for a delivery while over 93% of the wealthiest pregnant women deliver in institutions. Also in stark contrast, over 82% of mothers with higher level education will bring their newborn for a PNC check within two days after delivery compared to 40% of mothers with no education[36].

While Nepal Demographic and Health Surveys show improving trend in women's education status and economic independence, gender roles and relationships still play a significant role in determining women's use of SBAs during pregnancy and at the time of delivery[37]. Women have limited freedom in decision -making and often need the consent of their family and husband for their own healthcare needs.

These nationally measured disparities mask the under-reported inequities including socio- cultural and institutional barriers that further exist at sub-national levels within districts, village development committees, and communities. Institutional deliveries largely vary between and within districts. Dalits from Terai (i.e. Dom and Badi) are not reflected in national discourse because of their relatively small population, yet face significant socio-cultural and institutional barriers to accessing care, requiring micro-level analysis and response to reduce disparities in health outcomes.

2.3 Quality of Care

Since the introduction of the 1991 Health Policy, the Government of Nepal has expanded the network of health facilities to remote corners of Nepal to improve access to health care with modern facilities to the rural population. It also encouraged private sector investment in the health sector. Since 1990, there has been a remarkable increase in the number of health institutions, including hospitals. 4,027 public health posts and primary health care centers serve the public across the country, four times the number since two decades[38, 39]. Today, there are 405 hospitals operating in Nepal: 301 of them are private and mostly concentrated in urban centers[40]. An impressive number of 196 academic and training institutions –19% of which are public – produce approximately 10,000 graduates annually[41].

Despite the impressive gains in numbers of physical facilities and health workforce, delivering quality healthcare services to the population remains a challenge. Primary care facilities across the nation are struggling with persistent absence of health workers, stock-out of drugs and commodities, poorly maintained infrastructure and equipment, insufficient opening hours, and insufficient control of hazardous waste and basic infection practices[42, 43, 44]. The larger referral hospitals are further challenged by increasing demand for services by people and by-passing of lower levels of care, especially for maternity services[45]. The country's

[34] Government of Nepal, National Planning Commission / United Nations Country Team of Nepal (2013), "Nepal Millenium Development Goals Progress Report 2013", Kathmandu, Nepal
[35] MICS 2014, Op cit
[36] Ibid
[37] Sreeramareddy et al (2006). BMC Pregnancy Childbirth; 6:27.
[38] Dixit H. (2005). "Nepal's Quest for Health: Health Services of Nepal" 3rd Ed. Educational Publishing House: Kathmandu, Nepal.
[39] Department of Health and Services (2014). "Annual Report: DoHS 2069/2070 (2012/2013)" Kathmandu: Government of Nepal, Ministry of Health, Department of Health Services.
[40] Central Bureau of Statistics (2013). "A Report on Census of Private Hospitals in Nepal 2013", Kathmandu: National Planning Commission.
[41] Ministry of Health (2013). "Human Resources for Health Nepal Country Profile." Kathmandu: Government of Nepal.
[42] Mehata, S. et. al., (2013). "Service Tracking Survey 2012". Ministry of Health, Government of Nepal: Kathmandu, Nepal.
[43] Ministry of Health, Health Research and Social Development Forum (HERD), and Nepal Health Sector Support Programme (NHSSP) (2014). "Service Tracking Survey 2013 Nepal Health Sector Programme II." Kathmandu: Ministry of Health.
[44] Pradhan A, et. al. (2009) "Nepal Maternal mortality and morbidity study 2008/2009". Family Health Division, Department of Health services, Ministry of Health, His Majesty's Government of Nepal.
[45] Family Health Division (2014). "Responding to increased demand for institutional childbirths at referral hospitals in Nepal: situational analysis and emerging options." Kathmandu: Department of Health Services.

Quality of Care in Newborn Health

The government's progressive expansion of facilities – birthing centres, BEmONC and CEmONC – to support 24-hour deliveries coupled with the mobilisation of increased numbers of SBA to such facilities, and incentives to drive demand for institutional deliveries has resulted in more than half of all live births now occurring in institutions (55.2%)[48] compared to just 17.7% in 2006[49]. As the barriers inhibiting access are progressively reduced, closer attention now is required on the quality of care being delivered.

The need for better quality of care in maternal and newborn care services is evidenced by recent research. An assessment of 131 representative public and private birthing centres across Nepal conducted in 2014 found that only 5% of the birthing centres were fully compliant with the "Safe Motherhood Program Guidelines 2065/69" in the minimum requirements for infrastructure, equipment, basic furniture, essential medicine and supplies for infection prevention. Only 57% of health workers assigned to the birthing centres had received SBA training. Just 53% and 44% of the health workers overall had received pre-service or in-service training in delivery services including the management of complications and newborn care services within the last 3 years, respectively. When the health workers were clinically assessed on newborn resuscitation, only 66% of them correctly resuscitated a demonstration newborn model (NeoNatalie) after two ventilation attempts. However, even with skilled health workers present, many birthing centres were found not to be adequately equipped to perform newborn resuscitation. During observations of live deliveries, all health workers wore sterile surgical gloves during the second and third stage of labour. However, only 63% washed their hands with soap and water or used an alcohol hand rub before conducting a physical examination[50].

A survey of 17 public and private hospitals in Kathmandu in 2013 indicates that there is general poor practice of infection prevention. The hospitals were found to have a shortage of infection control staff and fundamental equipment including personal protective equipment, inadequate practice of basic techniques such as standard precautions, inappropriate use of surveillance results, improper disinfection and sterilization methods[51]. It may not be a surprise, then, that an investigation at the Neonatal Intensive Care Unit in an urban hospital found alarming prevalence of nosocomial infections in newborns (33%) and found high prevalence of multi-drug resistant Citrobacter spp (38%) that were traced to nasal prongs[52].

inability to retain skilled workforce has resulted in 0.67 doctor, nurse, and midwife for every 10,000 population, significantly lower than the WHO recommendation ratio of 2.3[46].

Necessary regulatory framework to mobilize and regulate the private sector, including not-for-profit, councils, and academic institutions to ensure quality and equitable healthcare services remains largely unrealized. The MoHP drafted a Quality Assurance Policy in 2009 to ensure the quality of services provided by governmental, non-governmental and private sector according to set standards[47]. The implementation of the policy remains poor and the steering committees at various levels of government with authority to regulate health services and quality improvement committees at public facilities are largely non-functional.

[46] "Human Resources for Health Nepal Country Profile". Op Cit
[47] Ministry of Health (2009). "Policy on Quality Assurance in Health Care Services: Unofficial Translation," Kathmandu: Government of Nepal.
[48] MICS 2014, Op Cit.
[49] NDHS 2006, Op. Cit.
[50] "Results from Assessing Birthing Centres in Nepal." Op Cit.
[51] Ohara H, et. al. (2013). Trop. Med. Health. 41(3):113-9.
[52] Khadka SB, et. al. (2011). J. Nepal Paediatric Soc 31(2):105-109.

Strategic Objectives of the NENAP

Nepal's Every Newborn Action Plan adopts strategic objectives (see Figure 3.1) that are the essential blueprint for how Nepal will ensure that all newborns will have the best start in their lives. Informed by the bottleneck analysis (see Annex 2), they are guided by the four strategic directions and outcomes adopted by the Nepal Health Sector Strategy (2015-2020). They are anchored on the nine outcomes adopted by the Nepal Health Sector Strategy (2015-202), which strengthens health system functions to deliver maternal and newborn interventions. Particularly, this action plan focuses on universal access and utilization of key evidence-based maternal and newborn interventions surrounding 24 hours of labour, birth and the first few hours of life as proposed by the Newborn Lancet Series[53].

This chapter further elaborates the strategic outcomes and identifies key actions, which will be implemented through the NHSS Implementation Plan. Activities will be further planned and monitored through the Ministry of Health's AWPB and review cycles.

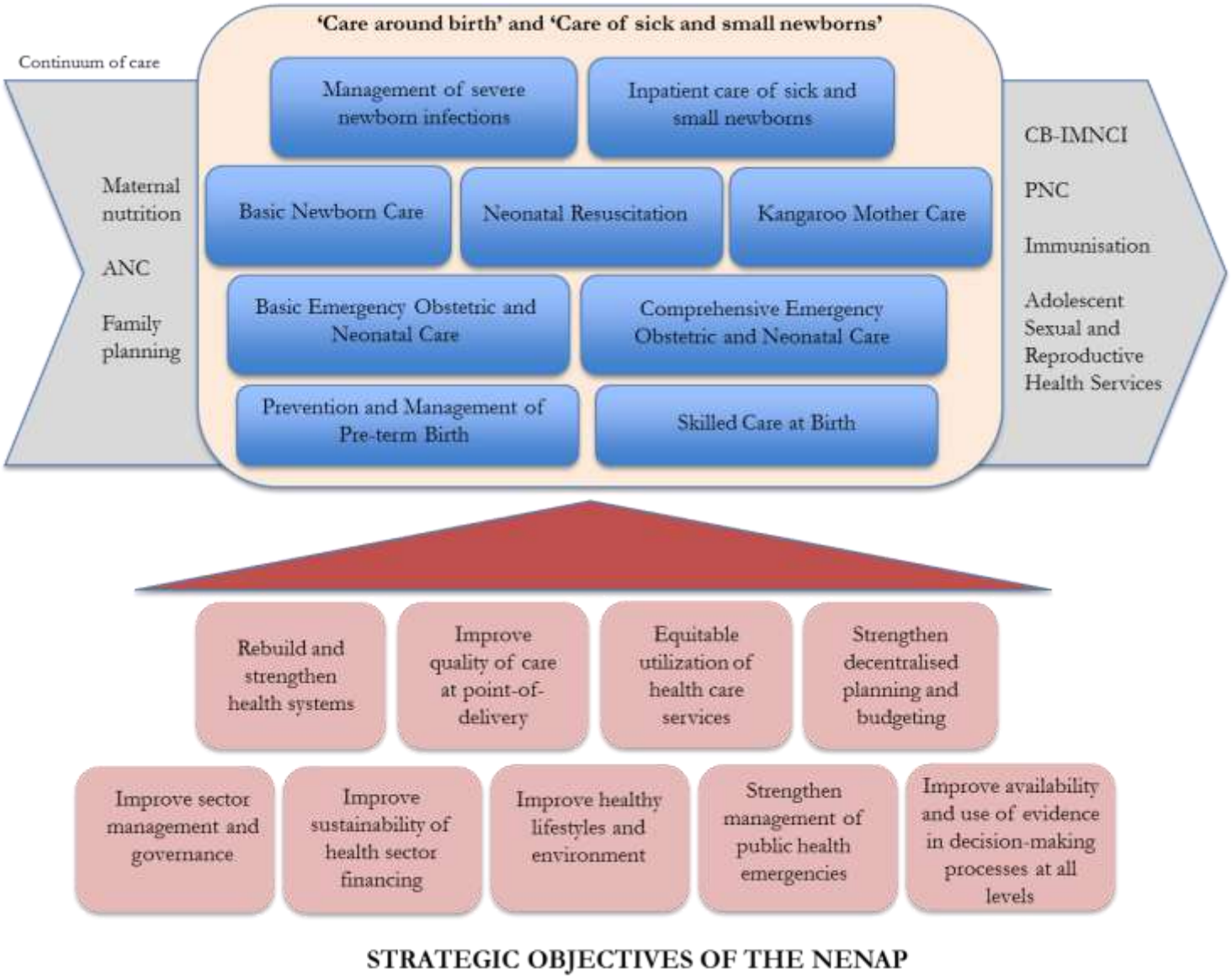

Figure 3.1: Strategic objectives of the NENAP to improve equity, delivery and quality of health care services for all newborns

[53] Dickson et. al (2014). Lancet, 384(9941):438-54

3.1 Strategic Objective 1: Rebuild and Strengthen Health Systems: Infrastructure, HRH Management, Procurement and Supply Chain Management

Nepal's Newborn Action Plan addresses a number of core systems that are essential and interconnected that need to function well at every level to equitably deliver quality maternal and newborn health services. This plan recognises that strengthening the health system is accomplished by comprehensive changes to policies and regulations, organizational structures, and relationships across the health system functions that remove bottlenecks to improve maternal and newborn health services and allow for more utilisation of available resources.

The NHSS proposes new levels of infrastructure to be established across the country. These new infrastructures need to be erected that improve access to maternal and newborn services for the catchment population – particularly in districts that were affected by the 2015 earthquake. Further planning for infrastructure at the local and national will be guided by National Health Policy (2013), which calls for "one village, one health facility" within 30 minutes of people's reach. For the next five years, this translates to establishing Health Posts with BEmONC services for every 10,000 people for the terai. For hill and terai, Birthing and Newborn Centers will be erected (with BEmONC services) within 2 hours of people's reach and CEmONC services within 6 hours. New equipment and the capacity to operate and maintain them will also be required for the new and already established health facilities.

The highest quality of care requires a skilled and motivated health workforce. A challenge for the sector has been the retention of health workers in rural and remote parts of the country. Thus, this action plan recognizes that innovative strategies are required to deploy and retain health workers to provide health services to under-served populations, while also developing a national strategy on task-shifting to ensure regular availability of maternal and newborn services. As envisioned in the NHSS, extended health workers will be deployed in the communities to deliver home-based care.

Expansion of new services to be delivered from community-based care to tertiary services will require substantial capacity development measures to upgrade the skills of existing health workforce. While traditional capacity building measures (ie. trainings) remains an important medium to impart knowledge and skills, innovative

approaches such as e-learning, on-site visits and mentoring at referral training sites will be expanded. Further, this action plan foresees work to improve timely procurement and distribution to ensure uninterrupted supply of medicines and commodities.

KEY OUTPUTS AND ACTIONS

3.1.1 Improve Availability of Human Resources at all Levels with a Focus on Rural Retention and Enrolment

- Develop and implement a HR strategic plan for maternal and newborn care that considers projection, enrolment, retention and deployment, including for a midwifery workforce;
- Develop and implement job descriptions for each sanctioned position for maternal and newborn services at the various levels;
- Develop a locum system for CEmONC teams from the regional hospitals to ensure CEmONC services are not discontinued; and
- Adopt Task shifting approach to build the capacity of the health workers (for example Advanced SBA, SBA, Anesthesia Assistant) to ensure the availability of trained health workers at the appropriate health facilities.

3.1.2 Improve Human Resource Education and Competencies

- Improve the incorporation and implementation of CEmONC, BEmONC and SBA training in the respective pre-service curriculum of MBBS, NS and ANM programmes;
- Review and revise newborn health care training packages for different level health cadres working at different health facilities that includes components on patient counseling;
- Build capacity of physicians including obstetrician gynecologists and MDGPs on the use of corticosteroids and tocolytics for the management of preterm labour;
- Review and accelerate pre-service and in-service training of health workers to include evidence-based newborn care interventions, rotations through BEmONC facilities, refresher trainings, clinical mentoring and on-site coaching to build the competency of health workers;

- Provide clinical mentoring at IMNCI clinical sites, birthing centres, BEmONC and CEmONC sites;
- Develop cadres of midwives;
- Introduce e-learning in IMNCI training to improve efficiency and quality of training;
- Introduce facility based IMNCI and establish referral mechanisms for IMNCI from community to facility;
- Build capacity of health workers to refer cases in a timely manner using the aid of partographs; and
- Develop monitoring standards for maternal, newborn and child health training.

3.1.3 Develop Health Infrastructure as per Plans and Standards

- Endorse standard operating procedures for newborn care services for different levels of health facilities;
- Establish BEmONC sites in strategic locations accessible to the majority of communities, which are equipped for a stabilization unit for newborns and a KMC corner;
- Establish and/or strengthen CEmONC sites and tertiary hospitals (maternal and children hospital) for catering NICU services with a KMC unit; and
- Provide ultrasound equipment and other diagnostic services to detect congenital anomalies at zonal and higher level facilities.

3.1.4 Improve Procurement and Supply Chain Management

- Strengthen the coordination mechanism between divisions (i.e. FHD, CHD, LMD) for timely procurement and distribution of supplies required for newborn and maternal health services.

3.2 Strategic Objective 2: Improve Quality of Care at Point-of-Delivery

The expansion of newborn care services needs to be well supported by mechanisms focused on the maintenance of quality in service delivery. As highlighted by the recent study of birthing centres across Nepal that indicated poor implementation of national standards and guidelines, there is a strong need to renew the focus on quality of care at all levels of health facilities, including those of public and private service providers.

The bottleneck analysis emphasized that there is ambiguity concerning some of the critical newborn interventions due to a lack of guidelines and training to support their effective implementation. This is especially noted for Kangaroo Mother Care, the management of congenital anomalies, pre-term deliveries, severe newborn infections and inpatient care for sick and small newborns. Updating existing newborn care guidelines will facilitate health care workers and health facilities to implement interventions according to acceptable standards.

Additional attention will also be given to infection prevention measures practiced by health facilities particularly in terms of better biohazard waste management and improved water, sanitation and hygiene facilities for health workers and users. Cleaner health facilities will pave the way for cleaner and improved quality in delivery and newborn care services.

Quality assurance systems will be strengthened through regular monitoring of quality and the implementation of quality improvement initiatives to address areas of concern. Adherence to standards by service providers will be promoted by communities mobilized to monitor provision of quality, and by a strengthened regulation authority.

KEY OUTPUTS AND ACTIONS

3.2.1 Deliver Quality Health Services as per Protocols and Guidelines

- Develop and enforce national guidelines, standards and clinical protocols regarding newborn care including the management of congenital anomalies, pre-term deliveries, KMC, severe newborn infections and inpatient care for sick and small newborns;

- Develop national guidelines and training on the proper use of corticosteroids and tocolytics during the management of preterm labour for physicians including obstetrician gynecologists and MDGPs to implement;
- Develop and conduct newborn health care training packages for different health cadres working at different health facilities, which will include up-to-date high impact evidence-based interventions;
- Expand the use of chlorhexidine on the cord of every newborn born at all levels of health facilities, and provide chlorhexidine to women presenting for ANC visits in the 8th and 9th month of gestation to utilise in case of home delivery;
- Encourage health workers to refer cases in a timely manner using the aid of partographs;
- Develop quality improvement strategies such as continued in-service training and audits to improve adherence to standards; and
- Expand current licensing authority to become a regulation system that will closely monitor quality of public and private service providers to enforce adherence to acceptable standards.

3.2.2 Strengthen Quality Assurance System

- Develop a system to monitor the quality of care at the point of service delivery from pregnancy through to the newborn period that includes monitoring of pre-term prevention in ANC, use of corticosteroids for the management of pre-term deliveries, infection prevention in maternal and newborn health care, skill birth attendant at delivery and the functionality of CEmONC services;
- Develop mechanisms for the use of self-assessments and standardized checklists as a quality improvement tool; and
- Build the capacity of district level quality assurance working groups to monitor quality of care at the point of delivery.

3.2.3 Improve Infection Prevention and Healthcare Waste Management Practices

- Conduct site infection prevention training including proper waste management and placenta pits;
- Ensure availability of functional toilets and running water facilities in the health facilities; and
- Revise on-site coaching to ensure the continuity of proper infection prevention practices in facilities including focus on hand hygiene.

3.3 Strategic Objective 3: Equitable Utilization of Health Care Services

The current form of the Free Health Care Policy provides free essential health care services including maternity and child health services, but it is yet to encompass newborn services into its basic package. At present, payment is required for all newborn related services from the administration of antenatal corticosteroids for pre-term deliveries through to more demanding highly specialized inpatient care in NICUs. Bringing newborn care under the umbrella of the Free Health Care will alleviate financial barriers that discourage users from seeking care for sick and small newborns. This action plan addresses the significant equity gap dividing the health of newborns of underserved populations.

The range of services provided will also be expanded to include more evidence-based interventions. Each health facility will have space and resources for health workers to provide basic or specialised newborn care services. Supporting the service expansion will require improvements in infrastructure, national guidelines, protocols and training, and adequate resource allocation. In addition, delivery and emergency services will be strengthened to promote healthy births of newborns including improving blood transfusion services and evaluating location of birthing centres, BEmONC and CEmONC facilities.

KEY OUTPUTS AND ACTIONS

3.3.1 Improve Access to Health Services, especially for Unreached Populations

- Update Free Health Policy to include evidence-based, critical newborn health care interventions at all levels;
- Introduce low cost evidence-based interventions to identify preterm and LBW babies for timely referral to higher level facilities;
- Include tocolytics in the essential drugs list;
- Revise the Community-based Birth Preparedness Package to include information about the referral system and network of available health facilities and services;
- Scale up CB-IMNCI nationwide;
- Ensure the provision of newborn services in all existing birthing centres;
- Establish birthing and newborn

care centres with newborn and KMC corners in strategic and needs-based locations, considering the underserved communities;

- Expand laboratories services in all health facilities in a phased manner in line with the NHSS (2015-2020); and
- Provide free transportation for complicated deliveries and newborns both to and from health facilities

3.3.2 Functionalise Health Service Networks, Including Referral System

- Implement national referral guidelines for safe motherhood and newborn throughout the country;
- Establish transit or stay homes at strategic and needs-based care centre of excellence birthing and newborn care centres and hospital vicinity;
- Develop a locum system for health workers from regional facilities to service district CEmONC to conduct caesarean surgeries; and
- Implement a telemedicine or mobile health system to provide support to service providers and increase communication networking between service providers

3.4 Strategic Objective 4: Strengthen Decentralised Planning and Budgeting

As the NHSS strategy re-focuses its efforts on decentralized approach to health sector planning and budgeting, we must ensure that critical services for newborns are adequately planned, budgeted and implemented. This action plan envisions working with local bodies and other sub-ordinate authorities for participatory planning, budgeting and achieving their respective targets for maternal and newborn health. It proposes to devolve authority to local bodies in management of human resources and block grants to facilitate implementation of planned activities at the local level. Strengthening decentralized planning and budgeting also requires central level authorities to revise the existing annual planning and budgeting processes. It must be informed by the health outcomes at the decentralised level and by the capacity of local bodies to deliver the expanded maternal and newborn health services proposed by this action plan.

KEY OUTPUTS AND ACTIONS

3.4.1 Build Institutional Capacity for Strategic Planning

- Evaluate NENAP performance against NENAP indicators in annual district, regional and national review workshops;
- Accelerate the process of authority transfer and facilitate fund management for human resources to local governments including authorizing the use of block funding and resolving funding gaps between fiscal years;
- Build capacity of health facility operation and management committees (HFOMC) and increase the involvement of local bodies (VDC/DDC) for planning and management of health facilities;
- Ensure that maternal and newborn health issues are addressed in local health governance planning processes, including targeted programming for underserved populations;
- Provide equal opportunities for capacity development to locally hired health workers to ensure high competency and skill amongst all government and non-government health workers;

- Revise national planning processes that considers performance of health outcomes and delivery of health services at local levels; and
- Strengthen the service of birth certificates provided by health facilities to newborns born at facilities to facilitate birth registration at the VDCs

3.5 Strategic Objective 5: Improve Sector Management and Governance

In the next five years, the MoHP will reorganize itself as per the broader state re-structuring and the emerging health needs. Nepal's Every Newborn Action Plan proposes functions and responsibilities of the ministry – from community to central level – to be revised, including allocation of sanctioned posts at all tiers of care. The reorganization must be designed to deliver quality maternal and newborn care and meet the ambitious target reductions in the NMR and stillbirth rate.

Achieving these targets will require the concerted and coordinated efforts of all stakeholders and effective utilization of available technical and financial resources. This action plan explores new opportunities for public-private partnerships with academic institutions and private sector to increase the access, quality, and equity of the health services. The technical assistance received by the ministry will also be reviewed and better aligned to the priorities to this action plan.

KEY OUTPUTS AND ACTIONS

3.5.1 Improve Governance and Accountability

- Develop and implement public-private partnerships with medical schools and private hospitals for human resources to ensure uninterrupted CEmONC services;
- Expand use of social audits to improve utilization and quality of maternal and newborn services at the local level and build relationships between service providers and communities; and
- Strengthen monitoring and supervision of maternal and newborn programs.

3.5.2 Improve Public Financial Management

- Ensure funds for maternal and newborn programmes are properly utilized through the use of TABUCS

3.6 Strategic Objective 6: Improve Sustainability of Health Sector Financing

Sustainable financing is crucial to ensure universal access to critical maternal and newborn interventions. The NENAP calls for increasing financial resources such that adequate funds are available to deliver critical newborn services free-of-charge or with minimal financial burden to clients. This action plan also sets in place processes to improve existing social protection mechanisms. The Aama programme will be revised based on the implementation lessons of recent years and as the country moves towards scaling up social health insurance, an informed benefit package of maternal and newborn health services, including referral benefits, will be provided to the people.

Key Outputs and Actions

3.6.1 Strengthen Health Financing System

- Develop the costing of newborn interventions to support planning and budgeting;
- Develop a free newborn care package;
- Expand budget allocation for maternal and newborn health services at central and local level;
- Improve the efficiency of the CEmONC fund including mechanisms to counter gaps in funding due to budget release delays; and
- Review and inform the benefit package for mothers and newborns in the social health insurance benefit package.

3.7 Strategic Objective 7: Improve Healthy Lifestyles and Environment

Improving services for newborn health will have limited impact if they cannot incite service utilization and orientate social behaviours towards healthy practices. Building community ownership of local services by enhancing community participation in planning, implementation and monitoring of newborn care programmes will increase the awareness of newborn health and availability of services, and will help maintain quality in service delivery. Inclusion of all representatives of the community will be critical including male and female genders and those from all disadvantaged groups to ensure that services are client orientated and equitable across the entire community.

KEY OUTPUTS AND ACTIONS

3.7.1 Promote Health Practices and Lifestyle

- Support and promote breastfeeding through the revitalization of the Baby Friendly Hospital Initiative, endorse policies to protect breastfeeding and develop a Code of Marketing for breastmilk substitutes;
- Implementation of adolescent and maternal nutrition strategy to improve the nutritional status of expectant mothers;
- Develop social behaviour change communication in local languages regarding the importance of preventing preterm labour, birth preparedness, ANC, PNC, newborn care, postpartum family planning, institutional delivery, delivery by SBA, timely referral of complicated cases both maternal and newborn;
- Increase the awareness of available services at all levels amongst female community health volunteers, health workers, traditional healers and communities using mass media and community mobilization;
- Implement a telemedicine or mobile health system to raise community awareness about newborn health and service availability; and
- Develop approaches to raise awareness of child marriages and delaying of pregnancy amongst adolescents and families using a multi-sectoral approach

3.8 Strategic Objective 8: Strengthen Management of Public Health Emergencies

Lessons from past experiences in disasters and particularly, the recent April 2015 earthquake show us that our readiness in the face of these disasters needs to be improved and our responses better coordinated. This action plan will concentrate on revising and implementing protocols and guidelines that will ensure continuity and restoration of critical maternal and newborn services in disaster affected areas, particularly for displaced or vulnerable populations. This will include ensuring that post-disaster human resource mobilization plans adequately address the health needs of mothers and newborns, that adequate buffer stocks of medicines and supplies are available at strategic locations, and that the Rapid Response Teams are financially and technically equipped to respond to disease outbreaks.

KEY OUTPUTS AND ACTIONS

3.8.1 Improve Public Health Emergencies and Disaster Preparedness for Newborn Care

- Integrate maternal, newborn and child health into the National Health Emergency Preparedness Plan that will ensure continuity of service provision;
- Develop sub-national level protocols and operational guidelines for maternal and newborn care during emergency situations;
- Review Disaster Risk Reduction components are included for major maternal and newborn programmes;
- Preposition buffer stocks of supplies and medicines including rapid response kits required for maternal and newborn care at strategic locations, at national and sub-national levels during disasters; and
- Review human resources mobilization plan for emergencies to include newborn specialists.

3.9 Strategic Objective 9: Improve Availability and Use of Evidence in Decision-Making Processes at all Levels

Structural and policy reforms to drive improvements in service delivery and health workforce require policy and planning that are evidence-based and informed of implementation challenges and successes. Nepal's achievement of significant reduction of child mortalities can be traced to the use of scientific evidence in public health interventions. The CB-IMCI and Newborn Care Package initiatives that links community-based care to health facilities and has saved countless children, will continue to save lives as it evolves into a joint intervention, namely CB-IMNCI. These and other interventions to improve survivability of newborns and stillbirths could still be further improved with relevant data on causes of newborn and stillbirth deaths in Nepal. Thus, in the next five years, this action plan focuses on new research that better informs the sector on these causes while also focusing our efforts at scaling-up evidenced-based interventions highlighted by the Lancet Newborn Series. Adopting and implementing these interventions at the community and facility level will require routine information systems and nation-wide surveys to measure, report and analyse maternal and newborn related indicators.

Nepal's Newborn Action Plan will ensure that routine information systems will collect and analyse data in the disaggregated form to monitor issues of inequality of access and health outcomes. At district, regional and national reviews, the implications will be discussed for their implications in annual planning and budgeting cycles.

KEY OUTPUTS AND ACTIONS

3.9.1 Promote Integrated Information Management Approach

- Advocate for effective implementation and expand the use of Civil Registration and Vital Statistics;
- Initiate e-health to monitor the program and for timely feedback and utilisation at all levels, particularly at point of care;
- Ensure global quality ENAP indicators to monitor newborn care are incorporated into the Health Management Information System (HMIS);

- Introduce regular monitoring systems at all facilities such as introducing check lists to facilitate recording information of sick and LBW newborns;
- Implement the maternal and perinatal death surveillance and response system from the community to all health facilities levels including private institutions to support the understanding of case fatalities; and
- Expand the National Network for newborn and perinatal database to collect information on newborn morbidity and birth defects and link to the HMIS.

3.9.2 Conduct Survey and Research in Priority Areas

- Perform regular monitoring assessments and periodic surveys to capture quality of care;
- Conduct research to better understand causes of newborn mortalities and stillbirths;
- Include newborn indictors and verbal autopsies in national surveys including the NDHS and MICS that are conducted every 5 years, and in routine health facility surveys; and
- Conduct research to assess the effectiveness of new and low cost newborn care interventions on reducing stillbirths and newborn morbidity and mortality in Nepal

3.9.3 Improve Health Sector Reviews with Functional Linkage to Planning Process

- Prepare technical briefs on strategic issues for maternal and newborn health for national review meetings;
- Ensure review of maternal and newborn achievement, bottlenecks and plans for way forward during the annual district, regional and national reviews; and
- Develop quarterly and yearly plans with benchmarks and targets for district, regional and national plans. This will allow consistent monitoring and timely action.

Targets for Success

4.1 Indicators to Track NENAP Progress

The NENAP presents a significant goal to end all preventable newborn deaths in Nepal by expanding coverage of quality services and increasing access for all populations. Regular and sustained progress guided by target indictors will keep the NENAP on track towards this goal. The NENAP monitoring and evaluation framework will be integrated into the Government of Nepal's existing Health Management Information Systems. To this effect, some new indicators will be added into the system.

The NENAP indicators are aligned to the Global ENAP indicators to facilitate comparison to other ENAP countries, in particular our regional neighbours (Table 3.1). The impact of the NENAP interventions will be indicated by changes in mortality rates and birth rates for small or early babies. Notably, the strength of the monitoring progress will be dependent on the reliable collection and analysis of quality data derived from equipped health facilities with trained health workers.

The Lives Saved Tool (LiST) software was used to determine the 2035 targets for the NMR and SBR based on the scale up of evidenced-based interventions. The outcome indicators selected for monitoring presented in Table 3.1 will closely monitor key interventions to reduce mortality from the main known causes of newborn death in Nepal (asphyxia, infection and preterm delivery), as well as interventions to improve the management of complications during pregnancy to reduce the incidence of stillbirths. A detailed description of the target setting exercise conducted with LiST and indicator definitions are presented in Annex 4.

Table 4.1: Monitoring Indicators of the NENAP

INDICATORS	2015	2016	2017	2018	2019	2020	2025	2030	2035
Impact									
Maternal mortality ratio	170	165	161	156	152	148	128	112	98
Newborn mortality rate	23	22	21	20	20	19	16	13	11
Stillbirth rate	18	18	18	17	17	17	15	14	13
Under-5 mortality rate	38	37	36	35	34	33	28	25	21
Preterm birth rate	14	14	14	14	14	14	14	14	14
Small for gestational age	39	39	39	39	39	39	39	38	38
Outcome									
Pregnancy									
Antenatal care (4 visits)	60	62	64	66	69	72	79	87	95
Iron folate supplementation	63	65	66	68	69	71	79	87	95
Syphilis detection/ treatment	10	14	19	23	27	31	53	74	95
Calcium supplementation	3	7	11	15	18	22	42	61	80
Balanced energy supplementation	0	4	7	11	14	18	35	53	70
Hypertensive disease management	0	4	8	12	16	20	40	60	80
Diabetes case management	3	7	11	15	18	22	42	61	80
MgS04 management of	3	7	11	15	18	22	42	61	80
Fetal growth restriction detection and management	3	7	11	15	18	22	42	61	80

INDICATORS	2015	2016	2017	2018	2019	2020	2025	2030	2035
Child birth									
Skilled birth attendance	56	58	60	62	64	66	75	85	95
Institutional delivery	55	57	59	61	63	65	75	85	95
Essential delivery care	14	14	13	13	13	13	12	11	10
BEmONC	8	9	11	12	13	14	19	25	30
CEmONC	33	34	35	36	38	39	44	50	55
Clean birth practices	47	49	52	54	57	59	71	83	95
Immediate assessment and stimulation	43	46	49	51	54	56	69	82	95
Labour and delivery management	56	58	60	62	64	66	75	85	95
Antenatal corticosteroids for preterm delivery	41	44	47	49	52	55	68	82	95
MgSO4 management of eclampsia	41	44	47	49	52	55	68	82	95
Postnatal care									
Clean postnatal practices	41	44	47	49	52	55	68	82	95
Chlorhexidine cord cleansing	45	48	50	53	55	58	70	83	95
Exclusive breastfeeding	86	86	87	87	87	87	88	89	90
Case management of asphyxiated newborns									
Newborn resuscitation	25	28	31	34	37	40	55	70	85

INDICATORS	2015	2016	2017	2018	2019	2020	2025	2030	2035
Case management of premature newborns	2	7	12	17	22	27	51	76	100
Thermal care	2	3	3	3	4	4	6	8	10
Kangaroo Mother Care	0	2	4	5	7	9	18	26	35
Full supportive care for prematurity	0	3	6	8	11	14	28	41	55
Case management of severe newborn infection	13	18	22	26	31	35	57	78	100
Oral antibiotics	6	7	7	7	7	7	8	9	10
Injectable antibiotics	0	2	4	5	7	9	18	26	35
Full supportive care for sepsis	7	10	12	14	17	19	31	43	55

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Annex

Annex 1 Demographics of Service Utilization and Mortality

Newborn mortality and perinatal mortality among births in the ten years proceeding the MICS 5 2014 by mother's background characteristics

Factor	4 ANC[a] (%)	Institutional Delivery[b] (%)	PNC[c] (%)	NMR[d]
National average	59.5	55.6	57.6	23
Residence				
Urban	84	90.3	87.1	15
Rural	55.9	50.5	53.3	24
Mother's education				
None	40.8	36.2	40.2	26
Primary	62.1	47.2	49.1	26
Secondary	64.7	66.6	67.4	22
Higher	83.2	82.3	82.5	12
Mother's age at birth				
<20 years	51.8	56.1	58.2	29
20-34 years	62.6	56.8	58.8	21
35-49 years	40.7	38.1	39.6	26
Birth order				
1				27
2-3				21
4-6				19
7+				20
Birth interval				
<2 years				45
2 years				18
3 years				11
4+ years				13
Wealth Index quintile				
Poorest	40.6	25.5	32.9	57
Second	52.8	45.0	47.1	42
Middle	56.5	55.7	57.2	31
Fourth	68.6	71.1	70.9	31
Richest	88.4	93.3	91.2	22

[a] Percentage of pregnant women of reproductive age (15-49 years) who had a live birth that made at least four antenatal care visits during pregnancy
[b] Percentage of institutional deliveries of total live births. Figures in brackets indicate alternative age range or birth order range.
[c] Percentage of postnatal care visit within 48 hours for a newborn of total live births. Figures in brackets indicate alternative age range or birth order range.
[d] Neonatal mortality rate, number of newborn deaths per 1000 live births.
Source: MICS, 2014

Annex 2 Bottleneck Analysis of Newborn Care in Nepal

To facilitate the development of strategies for the NENAP, existing challenges and issues currently inhibiting effective service delivery of newborn services were assessed using the Global Every Newborn Steering Group's Bottleneck Analysis Tool.

The process used a two-part analytical approach to identify the bottlenecks and solutions. An analysis of bottlenecks within individual health systems blocks related to all newborn services was first conducted. The identified bottlenecks were then prioritized as either: good, needs some improvements, needs major improvements or inadequate. Then for each high priority bottleneck, strategies or solutions were recommended.

A second analysis was then conducted concerning bottlenecks specific to the service delivery of nine critical newborn interventions that are evidence-based known to be high impact in reducing newborn mortality around the critical day of birth, from the time of labour to the immediate postnatal care period. For each intervention, a proxy procedure or set of procedures essential to the critical intervention was analysed for bottlenecks in terms of health systems blocks. For example as a core component of "skilled care at birth", the "use of partographs" was dissected in the analysis. Similar to the first analysis, the bottlenecks were prioritized and solutions were then determined.

The nine critical interventions and proxy procedure(s) were:

1. Prevention and management of pre-term birth: detection of women at risk or in pre-term labour, use of tocolytics to delay labour or a different route of delivery.

- Proxy: use of antenatal corticosteroids to promote lung maturity before pre-term delivery

2. Skilled care at birth: delivery by a skilled birth attendant trained to manage normal uncomplicated deliveries, immediate newborn care, and the identification and management of complications.

- Proxy: use of partographs to facilitate regular monitoring of mother and foetus during labour for the early detection of complications.

3. Basic Emergency Obstetric and Newborn Care: the performance of seven signal functions to manage complicated deliveries without the need of an operating theatre.

- Proxy: assisted vaginal delivery that includes the use of vacuum devices or forceps to facilitate vaginal delivery of a baby.

4. Comprehensive Emergency Obstetric and Newborn Care: the performance of nine signal functions including caesarean sections and safe blood transfusion.

- Proxy: caesarean section, an abdominal surgical procedure for the delivery of a baby.

5. Basic newborn care for all newborns: preventive procedures to promote the survival of all newborns.

- Proxy: cleanliness, warmth and breastfeeding that include hygienic practices, thermal control, drying, wrapping, delayed bathing and breastfeeding support.

6. Newborn resuscitation: procedures at the time of birth to establish breathing and circulation.

- Proxy: use of a bag and mask to facilitate breathing.

7. Kangaroo Mother Care: procedures to support premature and small newborns weighing less than 2 kg.

- Proxy: Skin-to-skin, breastfeeding and feeding support to help regulate newborn temperature and foster good feeding practices.

8. Management of severe newborn infections: requires proper assessment, capacity to deliver injectable antibiotics and full supportive care.

- Proxy: use of injectable antibiotics to treat infections

9. Inpatient supportive care for sick and small newborns: provision of regular monitoring and assessment of newborns who are unable to maintain body temperature, breath or feed through inpatient care.

- Proxy: Intravenous fluids, feeding support and safe oxygen that includes the provision of intravenous fluids, application of an intragastric tube feeding and safe oxygen administration.

Involved in the process was a wide range of stakeholders with intimate knowledge and close experience of the issues at hand. They included health workers and health managers at the first line delivering health care, policy makers, district and central level representatives from various MOHP divisions, and experts in newborn care from various international government and non-government development agencies.

Summary of identified bottlenecks

The bottleneck analysis elucidated the extent of the task at hand and highlighted, which interventions and health systems block present the largest challenges, requiring significant attention in the NENAP. In terms of health systems, major gaps were deemed to be in health financing, workforce, essential medical products and technologies, and governance. The analysis by critical interventions highlighted that management of pre-term newborns, management of sick and small newborns, Kangaroo Mother Care and newborn resuscitation require better implementation.

Out-of-pocket expenses are a barrier that deters users from seeking health care for their sick and small newborns, which can lead to mortality. Although immediate post-natal care for healthy newborns is free as part of delivery services covered by the Basic Health Care Package, payment is required for the treatment of sick and small newborns (for example antibiotics or services in Newborn Intensive Care Units).

The health workforce for newborn care was considered to have deficiencies in several areas. There is low competency amongst health workers, which is acute in the management of pre-term newborns, newborn resuscitation, and inpatient care for sick and small newborns, primarily due to insufficient training, lack of supporting national guidelines and poor supportive supervision. The availability of health workers is also low due to unfilled sanctioned positions and high absenteeism in rural health facilities, compounded by central level restrictions on local hiring, centralized planning and delayed budgeting.

The practice of the critical newborn interventions is not well institutionalized within the services provided for newborns. Multiple factors including incomplete guidelines and standards, lack of training and poor supporting infrastructure and equipment has prevented health workers from effectively implementing the life-saving interventions. Kangaroo Mother Care is the least well practiced with no guidelines, training or private space within health facilities for mothers to provide life-saving skin-to-skin to their newborns. Other interventions such as the management of pre-term newborns is compromised by the under utilisation of antenatal corticosteroids and tocolytics, the latter of which is not listed on the essential drugs list. Many health facilities also lack essential equipment such as a bag and mask ventilation to perform newborn resuscitation.

Summary priority ranking of bottlenecks by health system blocks and interventions

HEALTH SYSTEM / INTERVENTIONS	Leadership and Governance	Health Financing	Health Workforce	Essential Medical Products and Technologies	Health Service Delivery	Health Information System	Community Participation and Ownership
Management of Pre-term Birth							
Skilled Care at Birth							
BEmONC							
CEmONC							
Basic Newborn Care for all newborns							
Newborn resuscitation							
Kangaroo Mother Care							
Management of Severe Newborn infections							
Inpatient supportive Care for Sick and Small							

Source: National Newborn Consultative Workshop 2012

Legend

Good *(not a bottleneck to scale up)*	
Needs some improvement *(minor bottleneck to scale up)*	
Needs major improvement *(significant bottleneck to scale up)*	
Inadequate *(major bottleneck to scale up)*	

Annex 3 Proposed IMNCI and Newborn services

Level	Services categories	Programme	Cadre
Community (up to ward level community)	• Counsel the mother and care-giver on essential care for newborn, danger signs for newborn, postpartum women and place for management of sick newborn and women • Provide Chlorhexidine gel for pregnant women and counsel about its use • Counsel about the importance of exclusive breast feeding, supplementary foods and growth monitoring	CB-IMNCI	Female Community Health Volunteer (would be supported by local volunteers, social workers and child friend)
	Assess the babies with danger signs • Provide zinc and ORS if the baby has diarrhoea, refer the baby to health facility for further management if the baby has dehydration and dysentery		
	• Refer the baby to the health facility for treatment if the baby has pneumonia, ear infection, fever or any danger signs		
PHC/ORC	• Counsel the mother and care-giver on essential care for newborn, danger signs for newborn, postpartum women and place for management of sick newborn and women. • Provide chlorohexidine gel for application to babies umbilical stump and counsel about its use. • Counsel about the importance of exclusive breast feeding, supplementary foods and growth monitoring	CB-IMNCI	Health Workers (AHW and ANM)
	Assess the babies with danger signs Refer the babies as per need. • Provide zinc and ORS if the baby has diarrhoea/dehydration, manage dysentery and provide Vitamin A for chronic diarrhoea • Provide amoxicillin if the baby has pneumonia Refer the baby to health facility for further management if the baby has severe diarrhoea and severe pneumonia. • Treat/manage child with measles and ear infection • Refer baby with severe malnutrition.		

Level	Services categories	Programme	Cadre
Community Health unit (extended health workers)	Same as PHC/ORC with the additional facilities of: • Management of severe dehydration with IV fluid and severe diarrhoea	CB-IMNCI	Health Workers (HA, AHW and ANM)
Urban Health Clinic	Same services provided by Community Health Unit	CB-IMNCI	Health Workers (HA, AHW and ANM)
Health Post without Birthing Center	Same services provided by Community Health Unit	CB-IMNCI	Health Workers (AHW and ANM)
Health Post with Birthing Center	Same services provided by Community Health Unit with the additional services of: Newborn Care Corner (in labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Treat and manage newborn infection and Refer as per need KMC counseling, skin-to-skin, feeding support	SBA	HA, AHW and SBA (ANM)
Birthing Center	Same services provided by Community Health Unit on the operation day of newborn care.		HA, AHW and SBA (ANM)
Primary Health Care Center <5 bedded	Newborn Care Corner (in operating theatre and labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Referral if the baby is sick KMC unit KMC (skin-to-skin contact; on-demand breast feeding; early discharge) for babies weighing 1000-1800 gram who are stable. Referral if the baby is unstable Laboratory services Total serum bilirubin, HbsAg/HIV test, blood grouping, total blood count, blood glucose and urine albumin for pregnant women	SBA	Medical Officer, HA, Staff Nurse, AHW, ANM and Lab Assistant

Level	Services categories	Programme	Cadre
Sub-district Hospitals <15 bedded	Free treatment for sick newborns Newborn Care Corner (in operating theatre and labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Referral if the baby is sick KMC unit KMC (skin-to-skin contact; on-demand breast feeding; early discharge) for babies weighing 1000-1800 gram who are stable. Referral if the baby is unstable Special Newborn Care Unit Feeding support, warmth, i.v. fluids, infection management, safe oxygen, phototherapy, refer babies of birth weight >1.5 kg, follow up and manage sick newborns and refer babies <1.5 kg and who require CPAP and ventilation services Special Newborn Care Unit Laboratory services Plus: blood culture, renal function test and urine culture	SBA Special Newborn Care Unit package	Medical Officer, HA, Staff Nurse, AHW, ANM and Lab Assistant

Level	Services categories	Programme	Cadre
District Hospital <25 bedded hospital	Free treatment for sick newborns Newborn Care Corner (in operating theatre and labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Referral if the baby is sick KMC unit KMC (skin-to-skin contact; on-demand breast feeding; early discharge) for babies weighing 1000-1800 gram who are stable. Referral if the baby is unstable Special Newborn Care Unit Management of Hypoxic Ischemia Encephalopathy (HIE), Management of hyper-bilirubinemia, Management of Meconium Aspiration Syndrome (MAS), Management of Newborn Sepsis, Management of Respiratory Distress Syndrome (RDS), Management of hypoglycemia, Management of Pre-term/VLBW babies without Ventilation support Laboratory services Plus: X-ray and USG	SBA Special Newborn Care Unit package	Paediatrician, Medical Officer, HA, Staff Nurse, AHW, ANM and Lab Technician

Level	Services categories	Programme	Cadre
Regional and Zonal Hospitals 25-200 bedded hospital	Free treatment for sick newborns Newborn Care Corner (in operating theatre and labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Referral if the baby is sick KMC unit KMC (skin-to-skin contact; on-demand breast feeding; early discharge) for babies weighing 1000-1800 gram who are stable. Referral if the baby is unstable Special Newborn Care Unit Management of Hypoxic Ischemia Encephalopathy (HIE), Management of hyper-bilirubinemia, Management of Meconium Aspiration Syndrome (MAS), Management of Newborn Sepsis, Management of Respiratory Distress Syndrome (RDS), Management of hypoglycemia, Management of Pre-term/VLBW babies without Ventilation support Laboratory services: Plus lumber puncture	SBA Special Newborn Care Unit package	Paediatrician, Medical Officer, HA, Staff Nurse, AHW, ANM and Lab Technologist and Lab Technician

Level	Services categories	Programme	Cadre
Specialty and Academic Hospitals >200 bedded	Newborn Care Corner (in operating theatre and labour room) Immediate Newborn Care Resuscitation for non-breathing babies Early initiation of breastfeeding Weighing the newborn Referral if the baby is sick KMC unit KMC (skin-to-skin contact; on-demand breast feeding; early discharge) for babies weighing 1000-1800 gram who are stable. Referral if the baby is unstable Newborn Intensive Care Unit Management of Hypoxic Ischemia Encephalopathy (HIE), Management of hyper-bilirubinemia, Management of Meconium Aspiration Syndrome (MAS), Management of Newborn Sepsis, Management of Respiratory Distress Syndrome (RDS), Management of hypoglycemia, Management of Pre-term/VLBW babies with Ventilation support Laboratory services (as for regional and zonal hospital)	SBA Special Newborn Care Unit package NICU package	Paediatrician, Medical Officer, Nursing officer, HA, Staff Nurse, AHW, ANM and Lab Technologist and Lab Technician

Annex 4 Target setting of mortality and indicators using LiST computer modelling

The 2035 NENAP target for the NMR and SBR was determined using the computer-based model, LiST, which estimates the impact of increasing coverage of evidence-based interventions on maternal, newborn and child mortality. The interventions selected into the LiST model included several key interventions to improve care during pregnancy, child-birth, management of sick or premature newborns and essential postnatal care. In addition as part of the continuum of care, pre-pregnancy, family planning and safe abortion services to improve maternal health and pregnancy planning, infant nutritional supplementation, and improved water and hygiene interventions to reduce the incidence of water borne diseases and infant diarrhea were included into the expanded LiST analysis.

The coverage of interventions in 2015 was set as the base year, which was derived from various data sources (for example NDHS, MICS). Coverage targets for 2035 were then set for each intervention. From baseline to target coverage, the figures were interpolated based on single year intervals based on the previous five-year annual rate change. Using the resulting scaled up coverage of the included interventions, LiST modeled projection estimates for NMR, SBR, maternal mortality ratio, proportion of neonates born preterm and proportion of neonates born small for gestational age (SGA) between 2015 and 2035. The interpolated calculated coverages for the various interventions between 2015 and 2035, and the projected mortality, SGA and preterm incidences is presented below with a definition of the indicators.

Indicator	Definition	2015	2020	2025	2030	2035
Impact						
Maternal mortality ratio	Maternal deaths per 100,000 live births	170.0	147.6	128.4	112.0	98.1
Neonatal mortality rate	Newborn deaths per 1000 live births	22.5	18.9	15.8	13.1	10.9
Stillbirth rate	Stillbirths per 1000 total births	18.4	16.8	15.3	13.9	12.5
Under-5 mortality rate	Under 5 deaths per 1000 live births	38.0	32.7	28.3	24.5	21.4
Preterm birth rate	Proportion of newborns born preterm	14.0	14.1	14.2	14.2	14.3
Small for gestational age rate	Proportion of newborns born small for gestational age	39.3	39.0	38.6	38.3	37.9
Outcome						
Peri-conceptual						
Folic acid supplementation/ fortification	% of married women receiving folic acid supplementation or fortification at conception	0	12.5	25.0	37.5	50.0
Safe abortion services	% of terminations that are performed safely	35.1	41.3	47.6	53.8	60.0
Post abortion case management	% of women treated for abortion who receive post abortion care	0.0	2.5	5.0	7.5	10.0
Pregnancy						
Antenatal care (4 visits)	% of pregnant women with at least 4 antenatal care visits	59.5	71.5	79.3	87.2	95.0
Tetanus toxoid vaccination	% of children protected at birth from tetanus	82.0	85.3	88.5	91.8	95.0
Syphilis detection and treatment	% of pregnant women screened for syphilis with the rapid plasma reagent test and treated, if needed	10.0	31.3	52.5	73.8	95.0
Calcium supplementation	% of pregnant women taking 1g of calcium per day	3.0	22.2	41.5	60.7	80.0
Iron folate supplementation	% of pregnant women receiving 90+ days of iron folate supplementation	63.0	71.0	79.0	87.0	95.0
Balanced energy supplementation	% of undernourished pregnant women receiving high protein and calorie dietary supplements	0.0	17.5	35.0	52.5	70.0
Hypertensive disease case management	% of pregnant women with hypertensive disease that are managed appropriately	0.0	20.0	40.0	60.0	80.0
Diabetes case management	% of pregnant women with diabetes that are managed appropriately	3.0	22.2	41.5	60.7	80.0
MgSO4 management of pre-eclampsia	% of pregnant women with signs of pre-eclampsia that are treated with MgSO4	3.0	22.2	41.5	60.7	80.0
Fetal growth restriction detection/ treatment	% of pregnant women who are detected with fetal growth restriction using appropriate equipment and who are treated, if needed	3.0	22.2	41.5	60.7	80.0

Indicator	Definition	2015	2020	2025	2030	2035
Child birth						
Skilled birth attendance	% of infants delivered by a skilled birth attendant	55.6	65.6	75.3	85.2	95.0
Institutional delivery	% of infants delivered in a facility	55.2	65.2	75.1	85.1	95.0
Essential care	% of infants delivered in an essential birthing care facility	13.8	12.9	11.9	11.0	10.0
BEmONC	% of infants delivered in a BEmONC level facility	8.3	13.7	19.1	24.6	30.0
CEmONC	% of infants delivered in a CEmONC level facility	33.1	38.6	44.1	49.5	55.0
Clean birth practices	% of neonates delivered with appropriate clean birth practices (hand washing, cleaning the perineum, clean birth surface, clean cord cutting and clean cord tying) at home or in facility	47.0	59.0	71.0	83.0	95.0
Immediate assessment and stimulation	% of neonates with appropriate drying and stimulation immediately after birth under the care of a skilled birth attendant at home or in a facility	43.4	56.3	69.2	82.1	95.0
Labour and delivery management	% of neonates delivered under appropriate standards for each given place of delivery (includes SBA in homes, SBA in essential care facilities with appropriate equipment and infection control, health workers in BEmONC facilities that are functional in 7 signal functions and health workers in CEmONC facilities that are functional in 9 signal functions)	55.6	65.5	75.3	85.2	95.0
Antenatal corticosteroids for preterm delivery	% of pregnant women suspected of preterm labour that are treated with antenatal corticosteroids in a facility	41.3	54.7	68.1	81.6	95.0
Antibiotics for pPRoM	% of pregnant women with premature rupture of membranes who are not in labour that are treated with antibiotics (oral erythromycin) in a facility	41.3	54.7	68.1	81.6	95.0
MgSO4 management of eclampsia	% of women with eclampsia that are treated with MgSO4 in a facility	41.3	54.7	68.1	81.6	95.0
Active management of third stage of labour	% of women with access to active management of third stage of labour (includes controlled cord traction to deliver the placenta and oxytocics) in a facility	41.3	54.7	68.1	81.6	95.0
Induction of labour for pregnancies lasting 41+ weeks	% of women who are 41 weeks or more pregnant who are managed with induction of labour, if needed, in a CEmONC facility	6.6	18.7	30.8	42.9	55.0

Indicator	Definition	2015	2020	2025	2030	2035
Management of small and sick newborns						
Case management of premature newborns	% of premature newborns who are treated appropriately at home or in a facility	2.2	26.7	51.1	75.6	100.0
Thermal care	% of premature newborns delivered in facilities whose mother delays the newborn's bath and who practices skin-to-skin to maintain thermal control of the infant at home or in a facility	2.2	4.2	6.1	8.1	10.0
Kangaroo mother care	% of premature newborns with access to Kangaroo mother care (includes continuous skin-to-skin contact, frequent and exclusive breastfeeding) in a B/CEmONC facility	0.0	8.8	17.5	26.3	35.0
Full supportive care for prematurity	% of premature newborns treated with oral/injectable antibiotics and full supportive care in a CEmONC facility	0.0	13.8	27.5	41.3	55.0
Case management of severe neonatal infection	% of newborns with suspected pneumonia, sepsis or acute respiratory infection that are managed in a facility	13.4	35.1	56.7	78.4	100.0
Oral antibiotics	% of newborns with suspected pneumonia, sepsis or acute respiratory infection treated with oral antibiotics in a facility	6.3	7.2	8.2	9.1	10.0
Injectable antibiotics	% of newborns with suspected pneumonia, sepsis or acute respiratory infection treated with injectable antibiotics in a B/CEmONC facility	0.0	8.8	17.5	26.3	35.0
Full supportive care for sepsis/pneumonia	% of newborns with suspected pneumonia, sepsis or acute respiratory infection that are given full supportive care (includes injectable antibiotics, oxygen, IV fluids, blood transfusion, phototherapy) in a CEmONC facility	7.1	19.1	31.1	43.0	55.0
Neonatal resuscitation for asphyxia	% of newborns delivered in B/CEmONC facilities with asphyxia that are resuscitated in a facility	24.8	39.9	54.9	70.0	85.0
Postnatal care and nutrition						
Exclusive breastfeeding	% of infants who receive exclusive breastfeeding	86.2	87.1	88.1	89.0	90.0
Clean postnatal practices	% of infants with a postnatal health contact/visit within 2 days of birth	41.0	55.0	68.0	82.0	95.0
Chlorhexidine core cleansing	% of newborns with chlorhexidine applied to the umbilical cord after birth in any health facility	45.0	58.0	70.0	83.0	95.0
Complementary feeding-education only	% of mothers intensively counselled on the importance of continued breastfeeding after 6 months and appropriate complementary feeding practices as well as given appropriate supplements	57.0	67.0	76.0	86.0	95.0
Complementary feeding-supplementation	% of mothers of malnourished infants who are intensively counselled on the importance of continued breastfeeding after 6 months and appropriate complementary feeding practices	57.0	67.0	76.0	86.0	95.0
Neonatal resuscitation for asphyxia	% of newborns delivered in B/CEmONC facilities with asphyxia that are	24.8	39.9	54.9	70.0	85.0

Indicator	Definition	2015	2020	2025	2030	2035
Water, sanitation and hygiene						
Improved water source	% of homes with improved water	88.1	89.8	91.6	93.3	95.0
Water connection in the home	% of households with water piped into the home or yard	21.4	28.6	35.7	42.9	50.0
Improved sanitation (utilisation of latrines)	% of homes with access to an improved latrine or flush toilet	36.7	51.3	65.9	80.4	95.0
Hand washing with soap	% of mothers washing their hands with soap appropriately	17.0	36.5	56.0	75.5	95.0
Hygienic disposal of children's stools	% of children whose fecal matter is adequately contained	41.2	54.7	68.1	81.6	95.0
Other curative care						
Oral rehydration solution for diarrhoea	% of children of 0-59 months with diarrhoea given oral rehydration solution from sachets	45.9	56.9	68.0	79.0	90.0
Zinc treatment for diarrhoea	% of children of 0-59 months with diarrhoea that are treated with zinc	18.2	36.2	54.1	72.1	90.01
Oral antibiotics for pneumonia	% of children 1-59 months with suspected pneumonia or acute respiratory infection that are treated with antibiotics	10.0	30.0	50.0	70.0	90.0

Nepal's Every Newborn Action Plan Implementation plan (2016-2021)

NENAP IP has been developed based on the guiding framework of Nepal Health Sector Strategy (2015-2020). The NENAP Implementation plan has been developed for a period of 5 years- 2016-2021. The NENAP Implementation Plan will used as a basis to translate the plan in the Annual Workplan and Budget for responsible Divisions in the Department of Health Services. The NENAP IP document will be reviewed on an annual basis to track the progress made in the implementation of the implementation plan.

Outcome, Outputs and Key Interventions

Outcome 1: Rebuilt and strengthened health systems: Infrastructure, HRH management, Procurement and supply chain management

OP1a1 Health infrastructure developed as per plan and standards									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
1.a.1.1	Establish level III pediatric centers in zonal/Regional/ Central Hospitals	CHD	Hospital	6	6	4	0	0	CHD
1.a.1.2	Establish level III neonatal care services –NICU in Zonal/Regional/Central Hospitals	CHD	Hospital	6	6	4	0	0	CHD
1.a.1.3	Establish level II newborn care services-SNCU-(including district, community hospital)	CHD	Hospital	20	20	15	0	0	CHD
1.a.1.4	Establish level I neonatal care services –newborn care corner-(at PHCCs/HPs with BC)	CHD/FHD	Hospital	120	180	200	200	300	CHD
1.a.1.5	Establish Kangaroo Mother Care (KMCs) Unit in level II Hospital (SNCU)	CHD/FHD	Hospital	20	20	15	0	0	CHD
1.a.1.6	Establish Kangaroo Mother Care (KMCs) Unit in level III Hospital (NICU)	CHD/FHD	Hospital	6	6	4	0	0	CHD
1.a.1.7	Establish/strengthen IMNCI training site in RHTC with clinical exposure in Zonal and regional and sub-regional hospitals	IMNCI/RHTC	Training site	1	2	2	0	0	CHD
1.a.1.8	Establish Newborn Training Site in zonal and regional hospitals	NHTC	Training site	2	2	2	2	2	NHTC
1.a.1.9	Construction of birthing centre to manage low risk delivery within or in proximity of overcrowded hospitals	MD	Training site	0	3	2	2	1	FHD
1.a.1.10	Construction of waste disposal site in health facilities	MD	Health facility	350	200	200	200	200	MD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

OP1a1 Health infrastructure developed as per plan and standards									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
1.a.3.1	Review and update specifications for equipment and commodities for MNH services	CHD/FHD/ LMD	Workshop	2	2	2	2	2	FHD
1.a.3.2	Develop multi-year procurement plan for equipment and commodities for MNH services	CHD/FHD/ LMD	Workshop	2	2	2	2	2	FHD
1.a.3.3	Procurement and supply of the equipment and commodities for setting up level III neonatal care services – NICU in the hospitals	CHD/FHD	Equipment	6	6	4	0	0	CHD
1.a.3.4	Procurement and supply of the equipment and commodities for setting up level II newborn care services-SNCU in the hospitals	CHD/FHD	Equipment	20	20	15	0	0	CHD
1.a.3.5	Procurement and supply of the equipment and commodities for setting up level I neonatal care services-newborn care corner	CHD/FHD	Equipment	120	180	200	200	300	CHD
1.a.3.6	Procurement and supply of equipment and beds for setting up KMC in level II and III hospitals	CHD/FHD	Equipment	26	26	19	0	0	CHD
1.a.3.7	Preventive maintenance and repair of the equipment in the level I, II and III health facilities	CHD/FHD	Equipment	166	226	234	200	300	CHD
1.a.3.8	Auctioning of the non-functioning equipment and commodity	LMD	Districts	75	75	75	75	75	LMD
1.a.1.9	Construction of birthing centre to manage low risk delivery within or in proximity of overcrowded hospitals	MD	Training site	0	3	2	2	1	FHD
1.a.1.10	Construction of waste disposal site in health facilities	MD	Health facility	350	200	200	200	200	MD
OP1b1 Improved availability of human resource at all levels with focus on rural retention and enrolment									
1.b.1.1	Develop database of trainer and trained human resource in MNH training package	NHTC	Database	1	0	0	0	0	CHD
OP1b2 Improved medical and public education and competencies									
1.b.2.1	Integrate updated maternal and newborn in pre-service curriculum-doctors, nurses and paramedics	CHD/FHD/ academia	Workshop	3	4	4	3	3	FHD
1.b.2.2	Integrate relevant newborn and child health content in induction training package	NHTC	Workshop	3	4	4	3	3	CHD/FHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Outcome 2: Improved quality of care at point-of-delivery

SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
OP2.1 Quality health service delivered as per protocols/standards									
2.1.1	Develop and update clinical protocol for management of sick new-born and children for different cadre in the level I, II and III health facilities	CHD/FHD	Workshop	3	4	4	3	3	CHD
2.1.2	Develop and update the training package for management of newborn in in the level I, II and III health facilities	CHD/FHD	Workshop	3	4	4	3	3	CHD
2.1.3	Capacity building of health workers for management of new-born in in the level I health facilities	NHTC	Training	120	180	200	200	300	CHD
2.1.4	Capacity building of health workers for management of sick newborn in the level II health facilities	NHTC	Training	100	100	75	75	75	CHD
2.1.5	Capacity building of health workers for management of sick newborn in the level III health facilities	NHTC	Training	40	40	30	30	30	CHD
2.1.6	Develop and update guideline to provide services for sick newborn and children in remote/unreached population	CHD	Workshop	3	4	4	3	3	CHD
2.1.7	Develop the capacity of level III hospitals for making baby friendly hospital	CHD	Workshop	6	6	4	0	0	CHD
2.1.8	Orientation on the standard clinical protocol to provide services for sick newborn and children in private sector service delivery point (hospitals and pharmacies)	CHD	District	5	10	15	20	25	CHD
2.1.9	Implement on-the-job skills enhancement for MNH service (clinical mentoring/update and onsite coaching)	FHD/NHTC	District	26	36	48	61	75	FHD
OP2.2 Quality assurance system strengthened									
2.2.1	Supportive supervision and monitoring of MNCH programs in both public and private sector	CHD/FHD/ MD	Travel	56	56	56	56	56	CHD
2.2.2	Expand and strengthen MPDSR in hospitals (public and private)	FHD	hospital	65	20	20	20	0	FHD
2.2.3	Implement birth defect implementation plan	FHD	Hospital	16	5	5	5	5	FHD
2.2.4	Develop and implement the system for accreditation of the SNCU (level II) and NICU (Level III) health facilities	CHD	Hospital	0	0	26	26	19	CHD
OP2.3 Improved infection prevention and health care waste management practices									
2.3.1	Strengthen infection prevention and waste management practices to handle newborn and babies at HF (linked with 4.1.1)	MD	Health facilities	150	150	150	150	150	CHD
2.3.2	Community mobilization to improve infection prevention practices to handle newborn at community	NHEICC	districts	75	75	75	75	75	CHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Outcome 3: Equitable utilizations of health care services

OP3.1 Improved access to health services									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
3.1.1	Expand CB-IMNCI programme in districts	CHD	District	35	20	20	0	0	CHD
3.1.2	Introduce and scale up facility-based IMNCI	CHD	District	0	5	10	15	20	CHD
3.1.3	Implement remote area guideline for management of pneumonia and early treatment of neonatal infection	CHD	District	9	20	20	20	6	CHD
3.1.4	Urban slum focused interventions for child health	PHCRD/CHD	Municipalities	0	10	15	25	50	CHD
3.1.5	Strengthen implementation of updated Birth Preparedness Package Program with misoprostol and Chlorhexidine	FHD/CHD	District	0	20	20	20	15	FHD
3.1.6	Expand integration on PMTCT with ANC/PNC	FHD/NCASC	District	56	19	0	0	0	FHD
3.1.7	Continue and expand free blood transfusion services	FHD	District	72	75	75	75	75	FHD
3.1.8	Ensure continuity and functionality of C/S services at all CEONC sites (continue CEONC fund till fulfilment of HR through sanction post)	FHD	district	72	75	75	75	75	FHD
OP3.2 Health service networks									
3.2.1	Strengthen referral system for maternal and newborn complications as per national MNH referral guideline including communication and transportation	FHD	District	60	75	75	75	75	FHD

Outcome 4: Strengthened decentralized planning and budgeting

OP4.1 Strategic planning and institutional capacity enhanced at all levels									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
4.1.1	Expand and strengthen implementation of minimum service standard (Hospital Management Strengthening program and quality improvement processes) linking Annual Workplan and Planning and Budgeting	MD/FHD/ Curative	District	48	75	75	75	75	FHD
4.1.2	Expand the review and planning processes to increase resource allocation at local level (HFOMC) for strengthening MSS and QoC using the Local Health Governance and collaborative framework (expand VDC coverage)	MD/FHD/ CHD	district	0	75	75	75	75	FHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Outcome 5: Improved sector management and governance

SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
OP5.2 Improved governance and accountability									
5.2.1	Update the citizen charter in the hospitals on free sick newborn care	FHD	District	0	75	0	0	0	CHD
5.2.2	Display of information on the number of newborns receiving free sick newborn care at the hospital	FHD/CHD	hospital	90	100	100	100	100	CHD
5.2.3	Strengthen the social audit process to ensure the issues related to MNH are discussed and addressed	PHCRD/ NHEICC	District	0	30	30	30	30	FHD
5.2.4	Continue public hearing on MNH issues and disseminate through media	PHCRD/ NHEICC	District	0	75	75	75	75	FHD
5.2.5	Conduct periodic rapid assessment of Aama and free sick newborn care and take appropriate action based on findings	CHD/FHD	Times	1	1	1	1	1	FHD
OP5.4 Multi-sectoral coordination mechanisms strengthened									
5.4.1	Strengthen the existing multi-sectoral platform such as RHCC /District Ambulance Committee to conduct periodic multi-sectoral meeting to improve MNH services including referral (linked with 3.2.1)	FHD	District	60	75	75	75	75	FHD
5.4.2	Expand and strengthen mobilization of local organizations and networks (youth group, user group – water, forestry, agriculture) to generate demand for MNH services utilization	FHD	District	75	75	75	75	75	FHD
5.4.3	Collaborate with MoFALD in all levels (community, ward, VDC/Municipality, province and central) to strengthen CRVS	FHD/CHD	District	75	75	75	75	75	FHD
5.4.4	Support the Child Friendly local governance campaign and declaration	CHD	VDC/ Municipality	5	15	15	15	15	CHD
OP5.5 Improved public financial management									
5.5.1	Monitor and improve the financial disbursement process of Aama and Free sick newborn care program	FHD/CHD	District	75	75	75	75	75	FHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Outcome 6: Improved sustainability of health sector financing

OP6.1 Health financing system strengthened									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
6.1.1	Ensure budget allocation in the district level to procure and distribute the key MNH commodities/equipment	FHD/CHD/ LMD	District	75	75	75	75	75	CHD/FHD
6.1.2	Ensure budget allocation for local contracting of human resource to manage delivery at birthing center, BEONC and CEONC	FHD	Human Resource	1626	1650	1675	1675	1700	FHD
6.1.3	Ensure budget allocation for local contracting of human resource to manage sick newborn at Special newborn care unit and NICU	CHD	District	0	5	10	10	10	CHD
6.1.4	Ensure budget allocation for increasing number of clinical trainer as service providers in the training site	NHTC	Training site	0	0	20	20	20	FHD/CHD
5.2.5	Conduct periodic rapid assessment of Aama and free sick newborn care and take appropriate action based on findings	CHD/FHD	Times	1	1	1	1	1	FHD
OP6.2 Social health protection mechanisms strengthened									
6.2.1	Introduce and continue free sick newborn care along with Amaa Program	FHD/CHD	Person	50000	50000	50000	50000	50000	FHD
6.2.2	Strengthen free sick newborn care in Aama program	FHD	Workshop	4	4	4	4	4	FHD
6.2.3	Continue Nyano jhola for newborn and mothers	FHD	Person	200000	360000	370000	380000	390000	FHD
6.2.4	Intensive monitoring of free newborn care program	FHD/CHD	District	75	75	75	75	75	FHD

Outcome 7:Improved healthy lifestyles and environment

OP7.1 Healthy behaviors and practices promoted									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
7.1.1	Identify and minimize existing harmful MNH social and use inter-personal and mass communication for improved healthy practices	NHEICC	Times	75	75	75	75	75	CHD/FHD
7.1.2	Engage with schools to discuss about MNH through school health education programs (in collaboration with MoE/DoE)	NHEICC	District	75	75	75	75	75	CHD
7.1.3	Initiate/identify local champions for promoting newborn and child health care behaviors in hard to reach/disadvantaged communities	NHEICC	District	75	75	75	75	75	CHD
7.1.4	Implement different district specific programs e.g. pregnant mothers gathering, quiz, song/ dance competition to increase awareness for utilizing the available MNH services	NHEICC	District	4	4	4	4	4	FHD
7.1.5	Celebrate MNH related days – SM Day, International women day, Teej, World pre-maturity day, breast feeding week	NHEICC	Times	4	4	4	4	4	FHD

Outcome 8: Strengthened management of public health emergencies

OP8.1 Public health emergencies and disaster preparedness improved									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
8.1.1	Develop and update guidelines for providing MNH services in emergency situation	CHD/FHD	Workshop	2	2	1	1	1	FHD
8.1.2	Ensure pre-positioning of emergency supplies in central and provincial level for MNH services	CHD/FHD/ EDCD	Supplies	7	7	7	7	7	FHD
8.1.3	Incorporate Disaster Risk Reduction in regular MNH program guideline	CHD/FHD/ LMD, EDCD	Workshop	2	2	1	1	1	FHD
OP8.2 Strengthened response to public health emergencies 7.1.6									
8.2.1	Provide MNH services during emergencies as per guideline	FHD	Supplies/ commodities	1	1	1	1	1	CHD
8.2.2	Allocate annual flexible budget to delivery MNH services during emergency situation	CHD/FHD	Supplies/ commodities	1	1	1	1	1	FHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Outcome 9:Improved availability and use of evidence in decision-making processes at all levels

OP9.1 Integrated information management approach practiced									
SN	Key Interventions	Programme Component	Unit	Y1	Y2	Y3	Y4	Y5	Responsible Division
9.1.1	Improve the recording and reporting of MNH services at health facilities	CHD/FHD/ MD	Workshop/ travel	6	6	6	6	6	CHD/FHD
9.1.2	Improve data quality and use at all level to improve performance of MNH program	CHD/FHD/ MD	District	0	10	10	10	10	CHD
9.1.3	Periodic programmatic assessment to identify gaps and improve the program performance for MNH services	CHD/FHD	Workshop/ travel	2	2	2	2	2	CHD
9.1.4	Conduct operational research and use of evidence-based practice on MNH	CHD/FHD	Study	2	2	2	1	3	CHD
9.1.5	Conduct national level study on quality of neonatal infection management in private sector	CHD	Study	0	1	0	0	0	CHD
9.1.6	Conduct national level study on quality of in-patient sick newborn care in hospitals	CHD	Study	0	1	1	0	0	CHD
9.1.7	Conduct study to assess care seeking behavior and health workers attitude towards management of neonatal sepsis	CHD	Study	0	1	0	0	1	CHD
9.1.8	Introduce updated child health card and evaluate its availability, utilization and retention	CHD	Study	1	1	0	0	0	CHD
9.1.9	Conduct periodic evaluation of MNH program to provide evidence for revision	CHD	Study	1	0	1	0	1	CHD
9.1.10	Use of ICT technology (toll free, SMS, notice board, help line) to increase awareness and access to MNH services	SMNH	Training/travel	1	1	1	1	1	FHD
OP9.2 Survey, research studies conducted in priority areas									
9.2.1	Conduct feasibility study of folic acid intake in 'pre-conception period' by potential mother to prevent birth defect			0	0	1	0	0	FHD

Y1-2016/17, Y2-2017/18, Y3-2018/19, Y4-2019/20, Y5-2020/21

Nepal's Every Newborn Action Plan

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