



NEPAL
SAFE MOTHERHOOD
AND NEWBORN HEALTH
ROAD MAP 2030



**Family Welfare Division
Ministry of Health and Population
Government of Nepal
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LIST OF ABBREVIATIONS

4ANC	Four Antenatal Care Visits
AHW	Auxiliary Health Worker
ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
APH	Antepartum Haemorrhage
BC	Birth Centre
BCC	Behaviour Change Communication
BEONC	Basic Emergency Obstetric and Newborn Care
BHS	Basic Health Services
BNA	Bottleneck Analysis
BP	Blood Pressure
BS	Bikram Sambat
BSc	Bachelor of Science
CAC	Comprehensive Abortion Care
CB-IMCI	Community-based Integrated Management of Childhood Illness
CB-NCP	Community-based Newborn Care Programme
CEONC	Comprehensive Emergency Obstetric and Newborn Care
CPR	Contraceptive Prevalence Rate
CS	Caesarean Section
DC	Delivery Care
DHIS-2	District Health Information Systems 2
DoHS	Department of Health Services
EDP	External Development Partner
EmONC	Emergency Obstetric and Newborn Care
EOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunization
FCHV	Female Community Health Volunteer
FHD	Family Health Division
FIGO	International Federation of Gynaecology & Obstetrics
FP	Family Planning
FWD	Family Welfare Division
GIS	Geographic Information System
GoN	Government of Nepal
HA	Health Assistant
HDP	Hypertensive Disorders of Pregnancy
HFMC	Health Facility Management Committee
HIQAA	Health Institution Quality Assurance Authority
HMIS	Health Management Information System
HP	Health Post
HPV	Human Papillomavirus
HR	Human Resources
ICD	International Classification of Diseases
ICM	International Confederation of Midwives
ICN	International Council of Nurses

IMNCI	Integrated Management of Newborn And Childhood Illnesses
INGO	International Non-governmental Organisation
IPA	International Paediatric Association
IUCD	Intrauterine Contraceptive Device
JAR	Joint Annual Review
KMC	Kangaroo Mother Care
LAM	Lactational Amenorrhea Method
LARC	Long-acting Reversible Contraceptive
LGBTI	Lesbian, Gay, Bisexual, Transgender and Intersex
LMIS	Logistics Management Information System
M&E	Monitoring and Evaluation
MBBS	Bachelor of Medicine, Bachelor of Surgery
MDG	Millennium Development Goal
MDGP	Medical Doctor General Practitioner
MMR	Maternal Mortality Ratio
MNCH	Maternal, Newborn and Child Health
MNH	Maternal and Newborn Health
MoHP	Ministry of Health and Population
MPDSR	Maternal and Perinatal Death Surveillance and Response
MSS	Minimum Service Standards
MVA	Manual Vacuum Aspiration
NCD	Non-communicable Disease
NDHS	Nepal Demographic Health Survey
NeNAP	Nepal's Every Newborn Action Plan
NFPP	National Family Planning Programme
NGO	Non-governmental Organisation
NHEICC	National Health Education, Information and Communication Centre
NHFS	National Health Facility Survey
NHSP	Nepal Health Sector Programme
NHSS	Nepal Health Sector Strategy
NHTC	National Health Training Centre
NICU	Neonatal Intensive Care Unit
NMR	Newborn Mortality Rate
NPR	Nepalese Rupees
OBGYN	Obstetrician-Gynaecologist
OOP	Out-of-pocket
PCL	Proficiency Certificate Level
PHC/ORC	Primary Health Care Outreach
PHCC	Primary Health Care Centres
PHN	Public Health Nurse
PNC	Postnatal Care
PPH	Postpartum Haemorrhage
PPIUCD	Postpartum Intrauterine Contraceptive Device
PSBI	Possible Severe Bacterial Infection
PWD	People Living with Disability
QIP	Quality Improvement Plan

Nepal Safe Motherhood and Newborn Health Road Map 2030

RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
SBA	Skilled Birth Attendant
SDG	Sustainable Development Goal
SDIP	Safe Delivery Incentive Programme
SHI	Social Health Insurance
SMNH	Safe Motherhood and Newborn Health
SN	Staff Nurse
SNCU	Special/Sick Newborn Care Unit
SRH	Sexual and Reproductive Health
TAG	Technical Advisory Group
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
VDC	Village Development Committee
WHO	World Health Organization

EXECUTIVE SUMMARY

Background

Nepal's Safe Motherhood and Newborn Health (SMNH) Road Map 2030 aims to ensure a healthy life for, and the well-being of, all mothers and newborns. The Road Map is aligned with the Sustainable Development Goals (SDGs) to reduce the current Maternal Mortality Ratio (MMR) from 239 to 70 deaths per 100,000 live births (or at least two-thirds from the 2010 baseline) by 2030. It also aims to reduce the Newborn Mortality Rate (NMR) from the current 21 to less than 12 deaths per 1,000 live births, and the stillbirth rate from the current 18 to below 12.5 deaths per 1,000 live births by 2030. The Road Map also provides the framework to realise Nepal's commitments in the Safe Motherhood and Reproductive Health Act 2018.

Nepal is committed to achieving the targets set by the Global Strategy for Women's, Children's and Adolescents' Health (2016–2030), which are in line with the SDGs. The Global Strategy Monitoring Report 2018 highlights that globally and regionally progress towards the SDGs has been slow on several action areas and recommends strengthening multi-stakeholder and multisectoral actions over the life course of women, children and adolescents. These recommendations are applicable to most countries wanting to accelerate progress towards the SDGs, including Nepal.

The Road Map builds upon the review findings of Nepal's SMNH Programme under the Nepal Health Sector Strategy (NHSS, 2015–2020) and other national and international experiences and recommendations. The NHSS has an overall focus on Universal Health Coverage (UHC), with four strategic areas of direction: equitable access, high-quality health services, health systems reform and a multisectoral approach.

For the purpose of the SMNH Programme Review and development of the Road Map, the Family Welfare Division (FWD) formed five thematic groups that included representatives from the government, External Development Partners (EDPs), Non-governmental Organisations (NGOs), professional bodies, and academic institutions. The groups reviewed the programme's successes and conducted a bottleneck analysis to understand the root causes of any challenges and made suggestions on how programmes could be improved.

This was followed by an independent review of how Nepal is implementing proven interventions to reduce maternal and newborn deaths and identified what more could be done to ensure that these interventions are functioning optimally, at scale. The key findings from the working groups and the independent review were then discussed at three national workshops and three provincial-level workshops with a wide range of public and private stakeholders between May 2018 and February 2019, after which priorities for the Road Map were agreed. A team of national experts and international experts also reviewed the draft and made valuable contributions to develop the Road Map.

The Road Map is a national document with key recommendations for Maternal and Newborn Health (MNH) for the first five years of implementation. Based on the national-level recommendations presented in the Road Map it is expected that Provincial and Local Governments will develop context-specific five-year activity-level plans. The Road Map will be reviewed after five years and, if necessary, recommendations and targets will be adjusted.

Key Policies, Strategies and Programmes for Maternal and Newborn Health and their implementation

Nepal took an integrated approach to community health and Family Planning (FP) programmes in the early 1960s that led the way for safer motherhood. The Safe Motherhood programme commenced in 1997 under the Second Long-Term Plan (1997–2017), which emphasised strengthening of infrastructure for the reproductive health service delivery. The National Safe Motherhood and Newborn Health Longterm Plan 2006–2017 aimed to have functioning Comprehensive Emergency Obstetric and Newborn Care (CEONC) sites in 63 districts and functioning Basic Emergency Obstetric and Newborn Care (BEONC) facilities in all 137 Primary Health Care Centres (PHCCs) by 2017, and Health Posts (HPs) with Skilled Birth Attendants (SBAs) increased to 60 percent by 2017. It also strengthened the component of Newborn Health. The Female Community Health Volunteers (FCHVs) Programme was started in 1988. The National Family Planning Costed Implementation Plan 2015–2020 was launched to boost the FP programme and to ensure access to rights-based FP services.

The policy on SBAs was endorsed in 2006, which identified the importance of skilled birth attendance at every birth. The Safe Delivery Incentive Programme (SDIP) was introduced in 2005 to promote delivery by SBA at health institutions, by providing cash to support transport costs for women giving birth in a public health facility. This programme evolved into the Aama Programme in 2009 and was extended to provide free delivery care at public and some private facilities. Abortion was legalised in 2002 and implementation of services at public facilities began in 2004. Nepal's Every Newborn Action Plan (NeNAP) 2016 set 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.' Free newborn care was added in the Aama Programme in 2016/17.

The Social Health Insurance (SHI) Scheme was formally launched in 2016/17 and will be gradually expanded countrywide. The scheme allows for partnerships with private sector organisations and includes maternity care services as well. The Safe Motherhood and Reproductive Health Act (2018) guarantees the reproductive rights of every woman. The most recent addition is the Public Health Act 2018 AD, which focuses on integrated service provision for reproductive, maternal, newborn, children, and adolescent's health with an emphasis on quality of care and strengthening of referral mechanisms.

The NHSS (2015-20) defines health care as good quality when it is effective, safe, client-centred, timely, equitable, culturally appropriate, efficient and reliable. The Health Institution Quality Assurance Authority (HIQAA) Act has been drafted, which provisions the establishment of an autonomous body for accreditation of private (including NGO) health institutions, and various quality improvement programmes are being implemented across health facilities.

Health System Issues

Human Resources:

The World Health Organization (WHO) global strategy for Nepal estimated needs of approximately six health workers per 1,000 population factoring in all cadres. In 2016, Nepal's health workforce numbered 173,376 in total, with an availability per 1,000 population estimated at 4.45 doctors, nurses, Auxiliary Nurse Midwives (ANMs) and paramedics (Professional Councils, Human Resources (HR) registry data collected in 2017). The Department of Health Services (DoHS) Annual Report 2016/17 highlighted vacancy rates in Provinces 5, 6, and 7 of 44 percent, 45 percent and 39 percent respectively, indicating slight improvements but still showing a big challenge in retaining doctors particularly in rural parts of the country. Specific to maternal and newborn health, the government has provided SBA and advanced SBA in-service trainings to a number of doctors, nurses, ANMs and paramedics (as Anaesthetic Assistants) to work as a team for basic and comprehensive emergency care. As a mid-term strategy adopted by the SBA Policy 2006, the pre-service curriculum of Staff Nurses (SNs) was modified to include more midwifery skills, and the curriculum is being implemented by a few training institutions. Since late 2016, as per the long-term strategy of the SBA Policy 2006, a midwifery education programme has also started in Nepal. The HR for Health Strategic Road Map is under development, which will provide a comprehensive picture of HR availability versus need and help specific strategies on training, deployment and retention in the new federal system of governance.

Infrastructure:

Nearly 50 percent of health facilities nationwide provide normal vaginal delivery services. Forty-six percent of the HPs are listed as Birthing Centres (BCs) but around 50 percent of BCs conduct fewer than 30 deliveries a year (Health Management Information System (HMIS) 2018/19 data). Despite increases in the number of BCs the total number of deliveries in BCs has not increased. Currently, 219 health facilities offer Caesarean Section (CS) services, including those that are not enrolled in the Aama Programme. SNCUs have been established in 21 district hospitals and NICUs in 11 referral hospitals

Studies have shown that referral hospitals are overcrowded and finding it extremely difficult to respond to the increasing demand for institutional births in Nepal. An analysis of service utilisation data in 2013, and anecdotal reports, indicate that out of the 17 higher-level hospitals providing CEONC, 12 were overcrowded, with patient numbers exceeding available beds, leading to women being given makeshift beds on the floor.

Medicines, Equipment and Supplies:

In the past years, procurement of public health commodities had improved: central bidding and local purchasing of drugs were adopted as a modality to ensure both quality and quantity for the price. Procurement was divided between the central (70%), regional (10%) and district levels (20%). During the National Annual Review 2017, The Government of Nepal (GoN) committed to delegating procurement functions to local and provincial levels as per the federal system, whereby arrangements were to be made for 60 percent of procurement to be at the local level, 20 percent at province level and 20 percent at central level. However, this plan has not yet been effectively implemented: procurement is being undertaken by all three levels without proper guidance. Recently, challenges with the availability of medicines have been reported.

Community Service Delivery Platforms:

In addition to the formal cadres of health workers, Nepal's nearly 50,000 FCHVs serve as an important source of information for their communities, a link with government health services

and a source of direct services in a number of important areas of maternal and child health. The FCHV Programme has seen immense successes and continues to be the backbone for primary health care in Nepal. However, in recent years, a decline in some services has been reported, and it is noted that FCHV performance is closely linked to supplies, support and motivation. Additionally, social determinants of health, such as poverty, caste and geographic discrimination, environmental health, and water and sanitation, are some of the issues that need to be addressed. Moreover redefining the role of health workers for collaboration with other sectors is necessary.

In the context of changing epidemiology, with an increase in Non-communicable Diseases (NCDs), nutritional problems and environmental issues, it is now time for Nepal to think about introducing professional Community Nurses for many preventive activities, but primarily with a focus on home-based Postnatal Care (PNC) of mothers and newborns. The Community Nurses Programme could be scaled up quickly as there are a number of trained ANMs/SNs who could be mobilised after a short orientation on community issues. As an interim measure, the terms of reference of nurses working at the HP/BC level could be revised to include postnatal home visits in their job descriptions. In collaboration with FCHVs, who provide information on postnatal cases, nurses can make home visits for PNC, especially for detecting postpartum complications and making timely referrals.

Key Maternal and Newborn Health Issues

There is little change in the leading causes of maternal deaths over time: Postpartum Haemorrhage (PPH) and Hypertensive Disorders of Pregnancy (HDP) continue to be the leading causes of maternal deaths. Infection and NCDs are becoming increasingly important as causes of maternal death. One-third of maternal deaths and a substantial proportion of pregnancy-related life-threatening conditions are attributed to NCDs. Maternal death reviews at hospitals revealed that nearly 70 percent of maternal deaths could have been prevented.

Causes of newborn mortality have also not changed: The most common causes of newborn death are respiratory and cardiovascular disorders of the perinatal period (31%) and complications of pregnancy, labour and delivery (31%). Within respiratory and cardiovascular disorders, perinatal asphyxia accounted for more than half of the deaths. Most newborn deaths (57%) occurred within the first 24 hours of life, with 17 percent occurring within one hour and 40 percent from one hour to 23 hours. This highlights the need for continued attention to labour, delivery and immediate PNC of the newborn.

Women's awareness about maternal health issues remains limited: Women's low social status and inability to make decisions related to their own health, plus their poor knowledge of obstetric and newborn danger signs, are mediated by their relative wealth, caste or ethnicity, and by where they live. Targeted, context-specific interventions will be necessary rather than a blanket approach to meet the needs of different population groups. Strengthening the FCHV Programme will be of paramount importance in this regard.

Short birth-intervals persist: Short intervals between births are known to increase risks of morbidity and mortality to mothers and newborns. The proportion of babies born within a short interval (less than 24 months) in Nepal has remained constant at 21 percent since 2011. Birth intervals were shorter amongst certain groups of mothers, such as those less than 19 years of age, living in the Terai and/or in Province 2 and in rural areas, and among

those who had lost a child from the previous pregnancy. Postpartum FP needs to be promoted, especially for vulnerable women.

Rate of pregnancies is high and contraceptive use is low among teenagers: Child marriage is still high, especially in Province 2. The Contraceptive Prevalence Rate (CPR) among currently married adolescents is 23 percent, against a national average of 43 percent for modern methods, resulting in high teenage pregnancy. Adolescent health programmes are few and scattered and adolescent-friendly health clinics are not functioning well.

Fertility rates reduced and FP increased, but low contraceptive prevalence continues among some groups: Use of any FP method by married women has increased from 29 percent in 1996 to 53 percent in 2016, with 43 percent using a modern method and 10 percent using a traditional method. The National Health Facility Survey (NFHS) 2015 found that 98 percent of health facilities in Nepal provide at least one modern FP method. However, only around one in five facilities where FP services are available provide Long-acting Reversible Contraceptives (LARCs). There has also been a decline in exposure to information on FP among women and men over the past five years. FP is a highly effective strategy for reducing maternal and infant death and disability by lowering women's exposure to the risks of unintended pregnancy and childbirth; the Road Map therefore recommends further strengthening the FP programme.

Overall ANC coverage has increased, but quality has been relatively weak: In 2016, 84 percent of pregnant women had at least one ANC contact with a skilled provider. There was a 25-percentage-point increase in the proportion of women receiving ANC from skilled providers from 2011 to 2016. However, 76 percent had their first ANC appointment on time and 59 percent had Four ANC Visits (4ANC). Long waiting times in antenatal clinics and poor counselling are some of the deterring factors. While access has increased, it appears that quality has not kept pace as only 76 percent receive care as per the protocol.

Institutional deliveries and skilled birth attendance increased: Between 2011 and 2016, there was a remarkable 22-percentage-point increase in the proportion of institutional deliveries (Nepal Demographic Health Survey (NDHS) 2016), with institutional birth reaching 57 percent. Despite this, high levels of disparity persist, varying according to the mother's educational status, wealth and place of residence. Analysis of NDHS 2016 reveals that institutional deliveries are disproportionately concentrated in richer households, but the inequities are decreasing over time. Geographical barriers are prominent in the mountains, but access is relatively easy in the Terai. Despite easy access, institutional delivery is low in the Terai primarily because of sociocultural practices.

Awareness about legality of abortions and compliance with service standards is low: Abortion was legalised in 2002 and services became available in 2004, but only 40 percent of people know that abortion is legal. About 27 percent of pregnancies end in induced abortion among 35–49-year-old women. Among health facilities that provide normal delivery, 14 percent currently provide surgical and 26 percent provide medical abortions. Only forty-two percent of abortions fully comply with service standards.

PNC is crucial for preventing maternal and newborn deaths, but current coverage levels are low: The GoN protocol on PNC includes three postnatal checks: the first at 24 hours after birth, then at three and seven days after birth. The first postnatal check is particularly important given that the majority of maternal and newborn mortality occurs within 48 hours of birth. Severe bleeding (PPH) can kill a healthy woman within hours of birth and

yet only 45 percent of mothers had a postnatal check within four hours of birth at a facility and another 10 percent between four and 23 hours. In 2016, approximately half (54%) of newborns had a postnatal check within 24 hours.

Access to health services has improved but quality of care is still poor: As a result of irregular and poor-quality services, women bypass lower-level health facilities to go directly to higher centres, which, in turn, are overcrowded. Poor service readiness, long waiting times, barriers in discussing concerns/problems and inadequate explanations given by service providers are some of the challenges with regard to quality. This again is linked with health workers' workload, availability, training and skills. A study in 2014 showed many gaps in the knowledge, skills and practices of trained SBAs with very little difference from untrained nurses.

Patient satisfaction and respectful and high-quality care are low across facilities: Observation of the client provider interaction during NHFS 2015 revealed that compliance with standard service delivery protocols was limited, especially in HPs and private hospitals. Only one-quarter (25%) of women had received all components of care, including at least one ANC visit, giving birth in a health facility and having at least one postnatal check for the mother or the newborn within two days of birth (NDHS 2016 – further analysis). The Road Map focuses on improving the quality of care around the time of birth and immediate post-partum period, which has been identified as the most impactful strategy for reducing maternal deaths, stillbirths and neonatal deaths.

The Road Map

Vision, Mission, Goal

The Road Map contributes to deliver Nepal's 2030 vision: 'Nepal as an enterprise-friendly middle-income country, peopled by a vibrant and youthful middle class living in a healthy environment, with absolute poverty in the low single digits and decreasing.'¹

But more directly, the Road Map will help deliver the vision and mission of the National Health Policy 2014:

Vision: All Nepali citizens have the physical, mental, social and spiritual health to lead productive and high-quality lives.

Mission: Ensure citizens' fundamental rights to stay healthy by optimally utilising the available resources and fostering strategic cooperation between health service providers, service users and other stakeholders.

Goal: Ensuring healthy lives and promoting wellbeing for all mothers and newborns.

The Road Map will adopt the SDG 3 2030 goal of 'Ensuring healthy lives and promoting well-being for all at all ages' with a focus on mothers and newborns. The Road Map will also

¹ National Planning Commission (2016) 'Envisioning Nepal 2030'

adopt the same targets at goal level as the SDG 3 targets. Other outcome- and output-level indicators will be aligned with NHSS 2015–2020, Nepal’s Every Newborn Action Plan 2016–2035.

Outcomes and outputs

The Road Map is laid out according to the outcomes and outputs given below, and specific recommendations for strategies and activities to be taken up to achieve them are suggested in detail later in this document.

Outcome 1: The availability of high-quality maternal and newborn health services increased, leaving no one behind

Output 1.1 Reproductive, maternal and newborn health services are available, and health facilities that comply with the standards are located in strategically accessible areas, with functional referral linkages

Output 1.2 Readiness of health facilities (public and private) to provide services is ensured

Output 1.3 An enabling environment is ensured for health staff to provide high-quality services

Outcome 2: The demand for and utilisation of equitable maternal and newborn health services increased

Output 2.1 Mothers and families have appropriate and accurate information and knowledge to seek care in a timely manner

Output 2.2 Health managers have adequate capacity and address users’ needs

Output 2.3 More effective and equitable outreach services are ensured

Output 2.4 Parliamentarians and locally elected leaders are empowered to demand adequate investment in maternal and newborn health

Outcome 3: The governance of maternal and newborn health services is improved, and accountability is ensured

Output 3.1 Adequate financing is ensured for maternal and newborn health services

Output 3.2 Effective and sustainable partnerships are ensured for maternal and newborn health services

Output 3.3 Accountability for maternal and newborn health services is enhanced at all levels

Outcome 4: Monitoring and evaluation of maternal and newborn health improved

Output 4.1 Monitoring of maternal and newborn health is improved

Output 4.2 Evaluation of maternal and newborn health and health services is planned during the programme design and is effectively carried out

Outcome 5: Emergency preparedness and response for maternal and newborn health strengthened

Output 5.1 Preparedness of maternal and newborn health services to address

emergencies is improved

Output 5.2 Response to maternal and newborn health care in emergencies is strengthened

Globally the burden of mortality attributable to poor care is now larger than the burden due to lack of access to care, making quality paramount. Quality is a central principle of the Road Map and will be integrated across the five outcomes.

Major recommendations

- Ongoing Safe Motherhood and Reproductive Health Programmes should be strengthened, with a focus on improving quality and equity and a particular focus on the specific needs of the community. For example, in the mountain and hills, the focus should be on strengthening access to services, whereas in the more accessible Terai regions, the focus should be on improving utilisation of available services by removing sociocultural barriers.
- A life-cycle approach is to be encouraged, with a focus on reducing early marriage, on adolescent reproductive health, and on continuum of care through pre-pregnancy, pregnancy, labour, delivery and PNC for both mothers and newborns, focussing on promoting the physiological process of birth and minimising complications. In this context, it is recommended that the government focuses on providing four high-quality ANC visits and encourages a further four ANC contacts with a health worker, improves delivery services and closely monitors CS rates by using Robson's criteria.
- All women should be encouraged to give birth in a BEONC/CEONC site; such sites should be easily accessed and within two hours' walking distance of the woman's home. The existing BEONC sites should be made fully functional and selected existing BCs should be upgraded to BEONC sites. While this is being done, a few BCs that are most accessible to communities but far from BEONC/CEONC sites should be made functional 24 hours a day (strategic BC), with strong referral facilities, including ambulances, means of communication and linkages with pre-identified fully functional CEONC sites.
- It is recommended that the capacity of the local and provincial governments is enhanced for planning and monitoring. Using the Geographic Information System (GIS) the Provincial and Local Governments complete a profile of their population, health HR, infrastructure and caseload for each existing health facility and develop a joint five-year plan. This plan outlines which HPs or health facilities will become strategically located BCs or BEONC sites and formalises clear referral pathways from these strategically located BCs to pre-identified CEONC sites.
- Since the majority of maternal and newborn deaths occur in the postnatal period when mothers are mostly unsupervised by skilled healthcare providers, it is important that mothers and newborns are encouraged to stay in health facilities for at least 24 hours after an institutional childbirth and be monitored closely for complications. This will mean that health facilities where deliveries are conducted are further strengthened to accommodate the needs of postnatal mothers, newborns and their families.

- Capacity for prevention and management of PPH should be increased through the promotion and strengthening of the PPH Bundle, including temperature regulation of oxytocin storage (provision of refrigerator with electric/solar power back-up), making ergometrine, tranexamic acid and prostacycline available, improving blood transfusion services, and enhancing surgical skills of doctors. The oral misoprostol programme must be scaled up and made available where SBAs are unlikely to be available at home births.
- Arrangements should be made for postnatal home visits for women who have given birth at home and for continued supervision of all postnatal mothers and newborns. To start with, the HR necessary for PNC can be made available by relocating existing ANMs after analysing their workload, providing resources to facility-based ANMs to also cover postnatal home visits if feasible, or by hiring extra ANMs/SNs on contract. Such health personnel should be given orientation on community approaches and guidance on their function at postnatal mothers' homes and in the community. In the longer term a cadre of Community Nurses should be developed, who not only take care of reproductive and maternal health but of other health services and the sanitation and nutrition information needs of the community.
- To improve the quality of midwifery care, it is recommended that the Federal government finalise the draft National Nursing and Midwifery Strategy and Action Plan (2020 - 30) and both Federal and Provincial governments ensure the production of midwives (Proficiency Certificate Level (PCL) and Bachelor-level) as projected by the Nursing and Midwifery Strategic Plan (—2020-30). While production is going on, the GoN should prioritise deployment and transition plans for relevant health personnel, including revising the SBA Policy 2006.
- High-caseload CEONC service sites with more than 300 deliveries per month should have on-site birthing units led by midwives or by SBA-trained nurses. A protocol should be developed by a technical team of senior midwives and obstetricians.
- Care of newborns should be strengthened using feedback from studies that review the effectiveness of implementation of NeNAP.
- To make maternal and perinatal death reviews more effective, health care providers' concerns, including confidentiality, must be addressed to ensure more accurate and complete reporting. Including analysis of near misses in the review mechanism could boost the morale of health workers. The review system should be scaled up across the country and used to monitor the conditions that contributed to deaths and whether improvements have been made in health system response to critical cases. One aspect of the Accountability Mechanism will be for the Health Facility Management Committee (HFMC) to follow up if, how and what preventive actions have been taken after Maternal and Perinatal Death Surveillance and Response (MPDSR), and make necessary provisions to support the implementation of the recommendations.
- The Road Map further recommends that Peoples' Representatives have the tools and use them to advocate to the government for greater investment in MNH. The leaders should be encouraged to use the tools to develop sound plans for their constituencies as well as to advocate to stakeholders about the economic benefits of investing in the health system, especially for MNH and other social and environmental determinants of health.

- Recommendations are made to foster collaboration between the public and private sector and improve utilisation of innovative approaches in service delivery, eHealth and mHealth to ensure an effective and efficient health system that takes into account the voices of the people and enhances accountability at all levels.

2 INTRODUCTION

2.1 BACKGROUND

The health of the nation and in particular Maternal and Newborn Health (MNH) has always been given high priority in Nepal. The 1991 National Health Policy expanded primary health care services, including reproductive, maternal, newborn and child health, to rural and disadvantaged areas by establishing a health facility in every Village Development Committee (VDC). The primary health care system in Nepal is based on networks of Primary Health Care Centres (PHCCs), Health Posts (HPs) and outreach services that link with district and higher-level hospitals, including university teaching hospitals.

The fundamental right of citizens to free basic health services from the State is enshrined in the Constitution of Nepal, which provisions the GoN as morally and legally accountable for providing inclusive public health services that are available to all. More recently, the 2018 Safe Motherhood and Reproductive Health Act respects, preserves and commits to fulfil the rights of women to safe motherhood and reproductive health services and to ensure their safety, quality and accessibility.

2.2 KEY POLICIES, STRATEGIES AND PROGRAMMES FOR MATERNAL AND NEWBORN HEALTH

Nepal began developing significant policies guiding programmes for safe motherhood and improved newborn health several decades ago. In the early 1960s Nepal took an integrated approach to community health and Family Planning (FP) programmes that led the way for safer motherhood.

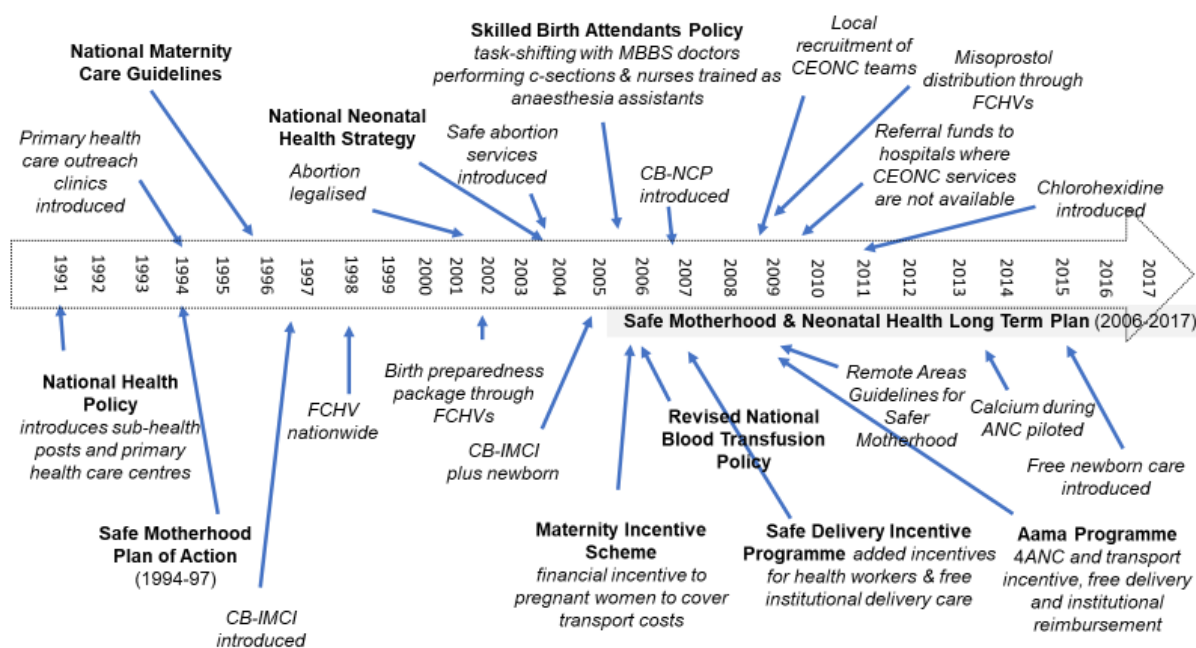
The First Long-term Health Plan (1975–1990) contributed to scale up the 1968 Family Planning and Maternal and Child Health Project to all 75 districts. The Safe Motherhood programme commenced in 1997 under the Second Long-term Plan (1997–2017) and has further grown significantly under the guidance of the Safe Motherhood Policy 1998 and the National Safe Motherhood Plan 2002–2017, which was later revised in 2006 to include newborns. Nepal's Female Community Health Volunteer (FCHV) Programme was started in 1988. Currently there are more than 50,000 FCHVs, whose roles have gradually expanded beyond FP to maternal and child health information and services nationwide.

The National Adolescent Health and Development Strategy was developed in 2000, and has been recently revised with aims to improve the health and socioeconomic status of adolescents. Recognising that unsafe abortion contributes directly to maternal mortality, abortion was legalised by the GoN in 2002 and implementation of services in public facilities began in 2004.

The Safe Delivery Incentive Programme (SDIP) was introduced in 2005 to promote delivery by Skilled Birth Attendants (SBAs); the programme provided cash to subsidise transport costs for women giving birth in a public health facility. The SDIP was modified in 2009 into the Aama Programme to include free delivery care for pregnant women nationwide. In 2012, it was further modified to include incentives for attending Four Antenatal Care Visits (4ANC) and institutional delivery, and in 2016 to include free care for newborns as well.

The National Policy on SBAs was endorsed in 2006 and identifies the importance of SBAs being present at every birth. This policy embodies the GoN's commitment to training and deploying doctors, nurses and Auxiliary Nurse Midwives (ANMs) with the required core skills for safer motherhood across the country. The policy led to the following SBA training strategies: in the short term, doctors, nurses and ANMs would receive in-service SBA training; in the medium term, pre-service training would be given, incorporating SBA skills into the curriculum of nurses, ANMs and doctors; and in the long term, pre-service education would be introduced to professional midwives. The Midwifery Education Programme commenced in late 2016, and the Ministry of Health and Population (MoHP) is working on the deployment plan. Midwives will practise within the scope of practice as defined by the Nepal Nursing Council.

Figure 1: Selection of Policies and Programmes for Safe Motherhood and Newborn Health



Notes: 4ANC = Four Antenatal Care Visits; CB-IMCI = Community-based Integrated Management of Childhood Illness; CB-NCP = Community-based Newborn Care Programme; CEONC = Comprehensive Emergency Obstetric Care; C-sections = Caesarean sections; FCHV = Female Community Health Volunteer

The National Health Policy 2014 takes into account the aspirations of the people and guarantees their reproductive health rights.

The National Family Planning Costed Implementation Plan (2015–2020) aims to enable women and couples to attain their desired family size and have healthy birth spacing by improving access to rights-based FP services and reducing unmet need for contraceptives.

The GoN built on the achievements of the National Neonatal Health Strategy 2004, which focused primarily on community care, with the introduction of the Community-Based approach to the Integrated Management of Childhood Illness (CB-IMCI) in 2005, which cared for newborns and children less than two months old, and the Community-Based Newborn Care Programme (CB-NCP) in 2007. Nepal's Every Newborn Action Plan (2016–2035) 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.” More recently, newborn care corners have been established in Birthing Centres (BCs), Special/Sick Newborn Care Units (SNCUs) in hospitals and Neonatal Intensive Care Units (NICUs) in tertiary-level health facilities.

The Constitution of Nepal 2015 (2072 BS) moved the country from a unitary system to one with seven provinces, and has firmly established people’s health as a fundamental right, guaranteeing every woman the rights to safe motherhood and reproductive health. The Nepal Health Sector Strategy (NHSS) 2015–2020 has an implementation plan and monitoring indicators for Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH), which are currently being used.

The Health Insurance Act BS 2074 (2017) is an ambitious government Social Health Insurance (SHI) programme, created to ensure Universal Health Coverage (UHC). The scheme also allows for partnership with private sector organisations and includes maternity care services as well.

The Safe Motherhood and Reproductive Health Act 2018 (2075 BS) guarantees the reproductive rights of every woman and makes specific provisions for maternity care, maternity leave, newborn care, birth registration, FP, abortion and treatment for reproductive morbidities and care for survivors of violence, among other things. The Act also gives direction to provincial and local governments to allocate funds for reproductive health services.

The Public Health Act 2018 focuses on integrated service provision for reproductive, child and maternal health, with an emphasis on quality of care and strengthening of referral mechanisms. The regulations to implement the law are being drafted, which is expected to further streamline coordination mechanisms and accountabilities of various levels of the government in the federal context.

All MNH care programmes contributed significantly to achieving Millennium Development Goal (MDG) 4 on reducing child mortality and partially achieving MDG 5 on maternal health², through large increases in the coverage of ANC visits and in the proportion of facility-based deliveries and improvements in the number of sick newborns treated.

2.3 RATIONALE FOR SAFE MOTHERHOOD AND NEWBORN ROAD MAP 2030

There was a steep decline in maternal mortality in Nepal from 539 per 100,000 live births in 1996 to 281 in 2006; from 2006 onwards, however, progress has been slow, with the Maternal Mortality Ratio (MMR) reaching 239 per 100,000 live births in 2016. In contrast, the reduction in newborn mortality accelerated after remaining almost static between 2006 and 2011: it was recorded to be 21 per 1,000 live births in the 2016 Nepal Demographic Health Survey (NDHS). Although much progress has taken place in outcome- and output-level indicators under the National SMNH Long-term Plan (2006–2017), such as increased institutional delivery and skilled birth attendance rates it has not led to the desired levels of

² National Planning Commission (2016) ‘The Millennium Development Goals, Final Status Report, 2000–2015’ GoN.

decline in maternal death. It is highly unlikely that Nepal will attain Sustainable Development Goal (SDG) 3 targets on maternal and newborn mortality, unless concerted efforts are made to accelerate reductions in MMR and Newborn Mortality Rate (NMR) through a Road Map that focuses on improving effective coverage and quality of services.

Nepal's Safe Motherhood and Newborn Health (SMNH) Road Map 2030 is therefore developed with a focus on ending preventable maternal and newborn deaths, by building on the successes of the SMNH Programme and addressing the remaining challenges, especially around strengthening community health system platforms and improving institutional quality of care in an equitable manner. The Road Map provides the framework around which Nepal can realise its commitments to MNH, as outlined in the GoN's 2018 Safe Motherhood and Reproductive Health Act. The Road Map is aligned with NHSS 2015–2020³, the Family Planning Costed Implementation Plan (2015–2020) and Nepal's Every Newborn Action Plan (NeNAP 2016–2035)⁴.

Most of the causes of maternal and newborn deaths are preventable or treatable and the interventions to address them are well-known and cost-effective⁵. Preventing maternal deaths is inextricably linked to preventing stillbirths and newborn deaths and the Road Map will build upon activities that are already outlined in NeNAP (2016–2035)⁶. The implementation period for the Road Map will be just over 10 years and during this period it is expected that the majority of maternal deaths will continue to be from direct obstetric causes (haemorrhage, pre-eclampsia/eclampsia, sepsis) although indirect causes such as Non-communicable Diseases (NCDs), infections and anaemia are increasingly contributing to maternal deaths. In addition to high-quality curative services, community-based interventions to prevent such conditions, including birth preparedness and demand generation for services, also receive priority in the Road Map.

At the implementation level, Postnatal Care (PNC) remains the weakest component of the SMNH Programme so far: mothers and newborns are discharged early from health facilities due to multiple constraints, and there is no system of follow-up at home during the postnatal period. The Road Map makes recommendations to change this situation by introducing home-based PNC so that mothers and newborns are looked after better during the most vulnerable period of their lives.

The Road Map recognises that health interventions alone are often not sufficient to bring about change and outlines strategies that will enable the MNH interventions to operate optimally. Approaches such as improving road and telecommunication networks and providing water and sanitation in health facilities will result in better access to and quality of maternal health care services, emphasising the importance of a multisectoral approach. Nepal is extremely vulnerable to the impacts of climate change, flooding and landslides, and has a high seismic vulnerability, which means preparedness against external shocks is a key part of the Road Map. In addition, collaboration with other sectors, such as nutrition and agriculture, and women's empowerment programmes continues to be a priority for Nepal.

³ Ministry of Health (2015) 'Nepal Health Sector Strategy 2015–2020' GoN.

⁴ Ministry of Health (2015) 'National Family Planning Costed Implementation Plan' GoN.

⁵ World Health Organization (2015) 'Strategies Towards Ending Preventable Maternal Mortality'

⁶ Ministry of Health (2016) 'Nepal's Every Newborn Action Plan (2016–2035)' GoN.

The Road Map is a national document *with key recommendations for MNH for the first five years*. It is expected that Provincial and Local Governments will develop context-specific five-year activity-level plans that are based on the recommendations of the Road Map. The Road Map will be reviewed after five years and, if necessary, based on results, the recommendations and targets will be adjusted. The Road Map's results framework is consistent with the targets and indicators of the NHSS, SDGs and the NeNAP. An evaluation will take place in 2030, at the end of the Road Map period, to assess progress and achievements.

2.4 PROCESS FOR DEVELOPING SAFE MOTHERHOOD AND NEWBORN HEALTH ROAD MAP 2030

The Family Health Division (FHD) called for a stakeholders meeting in December 2017 to discuss the determinants of MNH, in response to concerns expressed from all corners (including policy makers and media) about the stagnant MMR from 2006 to 2016. After a number of meetings, in March 2018, the FHD, now merged with Child Health Division and renamed as the Family Welfare Division (FWD), commissioned a review of its Safe Motherhood Programme with the following objectives:

1. Analyse the progress made against NHSS programme targets
2. Describe processes and factors that have determined successes or failures of the SMNH Programme
3. Identify and prioritise strategic interventions and activities for the SMNH Road Map 2030.

For the purpose of the review, the FWD formed five thematic groups led by a Senior Programme Manager with membership representing External Development Partners (EDPs), International Non-governmental Organisations (INGOs) and academic institutions. A consultant supported the thematic groups to review the programme's successes and challenges. The root causes of the challenges were identified through a Bottleneck Analysis (BNA)⁷ and recommendations were drawn up to address the challenges.

The process of BNA was complemented by an extensive literature review of national and international publications, including reports of the 2018 Joint Annual Review (JAR), organised in early 2018 by the MoHP and External Development Partners (EDPs)⁸, the NDHS 2016, the Nepal Health Facility Survey 2015, and the Nepal National Micronutrient Status Survey 2016, specifically on its MNH, nutrition and related components.

Further, the lessons learned from provincial and national annual reviews in December 2018 also contributed to the Review Report. The draft SMNH Road Map was shared with national and international experts for comments and further widely discussed with all levels of the government, with key partners and health stakeholders through two central-level workshops in November 2018 and February 2019, and three provincial workshops in December 2018 - January 2019.

⁷ https://www.unicef.org/health/files/BNA-Ghana-April_2015_Final.pdf

⁸ JAR_Report_Progress_of_the_Health_Sector_2018

Feedback from field visits and provincial consultations has been extremely valuable in shaping the recommendations in the Road Map and these recommendations are based on the situation on the ground. The learning from the challenges and opportunities was utilised to the maximum in forming the Road Map.

3 SITUATION ANALYSIS

3.1 POPULATION

Nepal has a population of approximately 26.5 million with an average annual growth rate of 1.35 percent and an estimated 724,000 births per year. The low growth rate is largely attributed to the 1.92 million people working abroad, leaving 25.7 percent of households headed by women⁹. Life expectancy is more than 70 years for both men and women. The population is still overwhelmingly rural, yet Nepal is one of the fastest-urbanising countries in the world¹⁰ with 33.5 percent of the population concentrated in 16 urban centres that have a population of over 100,000 people¹¹. Over the past two decades, Nepal has more than halved the proportion of people living in absolute material poverty, from 49 percent in 1992 to 23 percent in 2015. Primary school enrolment now exceeds 96 percent and has gender parity¹², although at tertiary levels of education the gender disparity persists.

3.2 PROGRESS ON UNIVERSAL HEALTH COVERAGE

SDG 3 focuses on ensuring healthy lives and promoting well being for all, at all ages. Achievement of SDG 3 is determined by a number of targets, including target 3.8 for 'achieving Universal Health Coverage (UHC)'. This target is measured by two indicators on service coverage and financial protection^{13,14}. In terms of this UHC target, the WHO South East Asia region is reported to have an average of 55 percent coverage of essential services, with Nepal at 46 percent, Bangladesh at 46 percent and India at 56 percent (Table 1).

Table 1: Service Coverage and Financial Protection for Countries in South Asia

	Service coverage	Financial protection	
		OOP >10%	OOP >25%
WHO SE Asia Region	55%	-	-
Bangladesh	46%	13.57%	4.84%
India	56%	17.33%	3.9%
Nepal	46%	27.4%	3.3%

Data source: WHO and World Bank, 2017

Notes: OOP >10% = out-of-pocket spending on health exceeding 10% of the household's total expenditure or income. OOP >25% = out-of-pocket spending on health exceeding 25% of the household's total expenditure or income.

In terms of financial protection, Nepal does not perform as well as its neighbours: 27.4 percent of the Nepal population experience catastrophic expenditure exceeding 10 percent of their total household income, and 3.3 percent spend more than 25 percent of their total household income. In Bangladesh, these rates are 13.6 percent and 4.8 percent

⁹ Central Bureau of Statistics (2017) 'Statistical Yearbook Nepal' National Planning Commission, GoN

¹⁰ United Nations Department of Economic and Social Affairs (2014) 'World Urbanisation Prospects'

¹¹ Ministry of Urban Development (2015) 'National Urban Development Strategy' GoN

¹² National Planning Commission (2017) 'Nepal Sustainable Development Goals: Status and Road Map 2016-2030' GoN

¹³ The indicator on service coverage is an index indicator computed from 16 tracer indicators used to measure progress. The financial protection indicator is measured by the proportion of the population suffering catastrophic expenditures and is defined and measured at two levels: out-of-pocket spending on health exceeding 10% of the household's total expenditure or income and out-of-pocket spending on health exceeding 25% of the household's total expenditure or income.

¹⁴ Hogan DR., et al (2018) 'Monitoring universal health coverage within the Sustainable Development Goals: development and baseline data for an index of essential health services' Lancet Global Health 6: e152-68

respectively, and in India 17.3 percent and 3.9 percent respectively¹⁵. This indicates that, according to World Health Organization (WHO) and World Bank 2017 data, Nepal needs to extend essential services to at least half of the population and needs to reduce the proportion of the population experiencing catastrophic health expenditure, in particular those with expenditure exceeding 10 percent of total household income.

Against the backdrop of low resource availability, the GoN has continued to provide financial protection for SMNH through the Aama Programme. The GoN is currently in the process of defining the Basic Health Services (BHS) Package as per the spirit of the new Constitution and expanding the scope of its service coverage through the SHI Scheme.

3.3 HEALTH SERVICE STRUCTURE

The 2015 Constitution declared that Nepal should be a Federal Democratic Republic with one Federal Government, seven Provincial Governments and 753 Local Government Units (293 urban, 460 rural). The federal level is responsible for policy and law-making, determining quality and standards, specialised health services, research and development, coordination and Monitoring and Evaluation (M&E), international relations and capacity development. The key responsibilities at the provincial level are: policy and law-making, regulating quality and standards and enforcement, management of health services, specialised health services, promotional programmes, coordination and M&E, capacity development and emergency health service management. At the local level the key responsibilities are: local-level policy and programmes related to health service management, basic and specialised health service management and promotional programmes, coordination and M&E.

In terms of health facilities and services, basic health care is the responsibility of Local Government, including the management of infrastructure, Human Resources (HR), equipment and drugs and health facilities that have fewer than 15 beds (HPs, PHCCs, primary hospitals). The local governments are also in the process of establishing 15-bedded hospitals at each Palika level that will also function as Basic Emergency Obstetric and Newborn Care (BEONC) sites.

All existing district, zonal, sub-regional and regional hospitals are the responsibility of Provincial Governments, except six hospitals under the Federal Government¹⁶; medical colleges and specialised hospitals are the responsibility of the Federal Government. The long-term plan is to have at least one government medical college in each of the seven provinces.

Referral services are being strengthened at all levels, including through the “Rashtrapati Mahila Utthan Karyakram” that is being implemented by the Ministry of Women, Children and Social Welfare.

¹⁵ WHO and World Bank (2017) 'Tracking universal health coverage: 2017 global monitoring report'

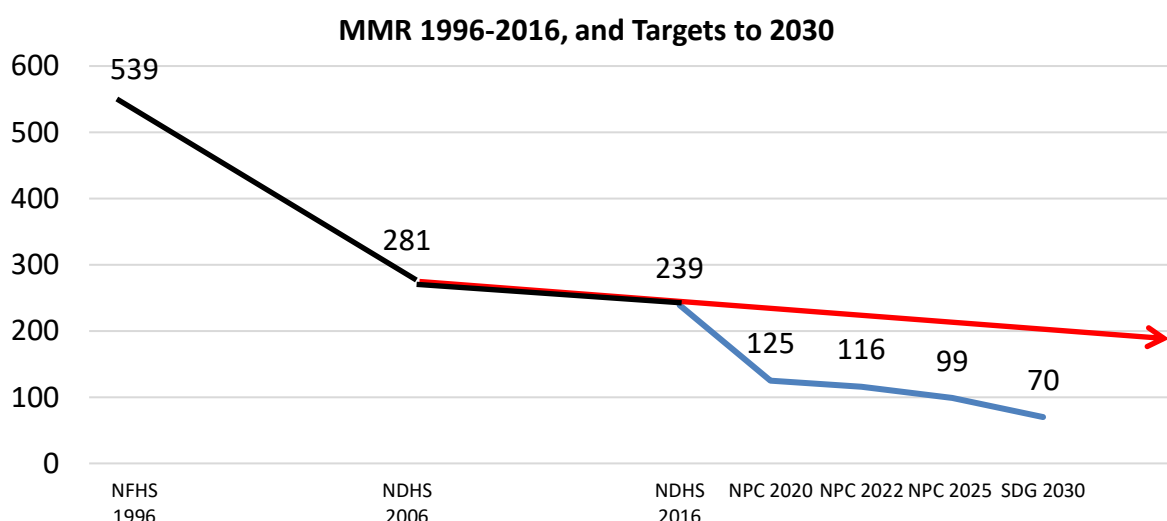
¹⁶ Koshi Zonal Hospital, Sagarmatha Zonal Hospital, Narayan Sub-regional Hospital, Bharatpur Hospital, Bheri Zonal Hospital, Dang Sub-regional Hospital and Dhadedhura Regional Hospital.

3.4 TRENDS, LEVELS AND TARGETS OF MATERNAL AND NEONATAL MORTALITY

Nepal has made substantial progress in reducing maternal mortality from 539 per 100,000 live births in 1996 to 239 in 2016¹⁷. With a MMR of 239, one out of every 167 women aged between 15 and 49 years in Nepal could die unnecessarily from complications in pregnancy or childbirth¹⁸.

Using a different methodology from the NDHS, the WHO provides similar 2015 estimates of maternal mortality at 258 per 100,000 live births¹⁹. The SDG global MMR target for Nepal, set by the National Planning Commission, is 70 deaths per 100,000 live births. The SDG commission recommends a two-thirds reduction from the 2010 United Nations (UN) estimated baseline, which for Nepal was 349 per 100,000 live births. Based on this the 2030 SDG MMR target for Nepal should be approximately 117 deaths per 100,000 live births.

Figure 2: Maternal Mortality Decline, 1996–2016, with Projected Targets to 2030



Data source: Nepal Family Health Survey 1996, Nepal Demographic and Health Surveys, 2006, 2016

Targets from National Planning Commission ‘Sustainable Development Goals Status and Road Map: 2016–2030’

Following a period of stagnation between 2006 and 2011, neonatal mortality has started to decline: in 2016, it was estimated to be 21 deaths per 1,000 live births. Newborn mortality (death during the first 28 days of life) now comprises half (54 percent) of under-five mortality,

¹⁷ Maternal deaths are defined as deaths that occur during pregnancy or childbirth, or within 42 days after the birth or termination of a pregnancy but are not due to accidents or violence. Maternal mortality was measured in the 1996 and 2016 NDHSs; between these two surveys the definition of maternal mortality changed and now excludes deaths from accidents or violence. Therefore, the 1996 figure is essentially pregnancy-related mortality and is not directly comparable to the 2016 estimate. Figure 2 presents both pregnancy-related mortality ratios and maternal mortality ratios.

¹⁸ MoHP, New ERA and ICF (2017) ‘Nepal Demographic and Health Survey, 2016’

¹⁹ WHO (2015) ‘Trends in Maternal Mortality: 1990 to 2015’ Estimates generated by WHO, UNICEF, UNFPA, World Bank and the United Nations Population Division.

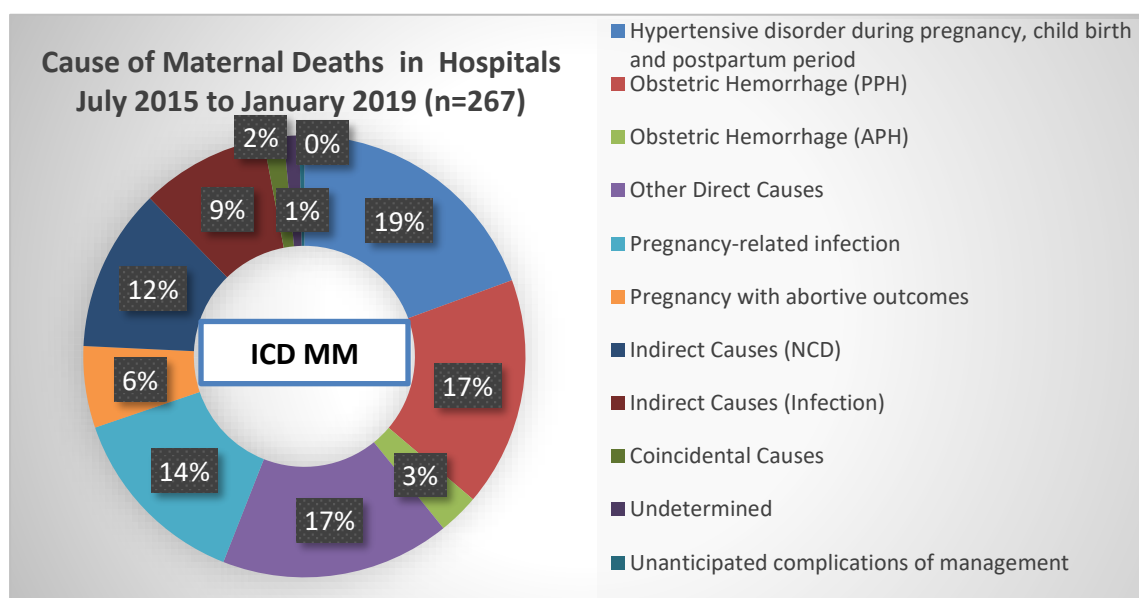
a decline from 62 percent in 2011. Mortality is higher among babies born to mothers who have short birth intervals and to mothers who are poor and less educated²⁰. The 2030 SDG NMR target for Nepal is 12 deaths per 1,000 live births and the NeNAP target is 11 deaths per 1000 live births by 2035.

3.5 CAUSES AND TIMING OF MATERNAL DEATHS

The leading causes of reported maternal deaths from 28 hospitals during a four-year period (2015–18) were eclampsia (19%) and Postpartum Haemorrhage (PPH) (17%) (Figure 3)²¹. The leading causes of maternal death have not changed since the 2008/9 Maternal Mortality and Morbidity Study²², but indirect causes such as NCDs (12%) and pregnancy-related infections (14%) are on the rise. Interventions will therefore be directed mostly towards prevention and timely management of these complications.

At the community level, PPH continues to predominate as the most important cause of maternal deaths (23%), with hypertensive disorder (eclampsia/pre-eclampsia) at 14 percent, NCDs at 11 percent and pregnancy-related and other infections at 12 and 10 percent respectively (Figure 4).

Figure 3: Causes of Maternal Deaths in Hospitals (%)



²⁰ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

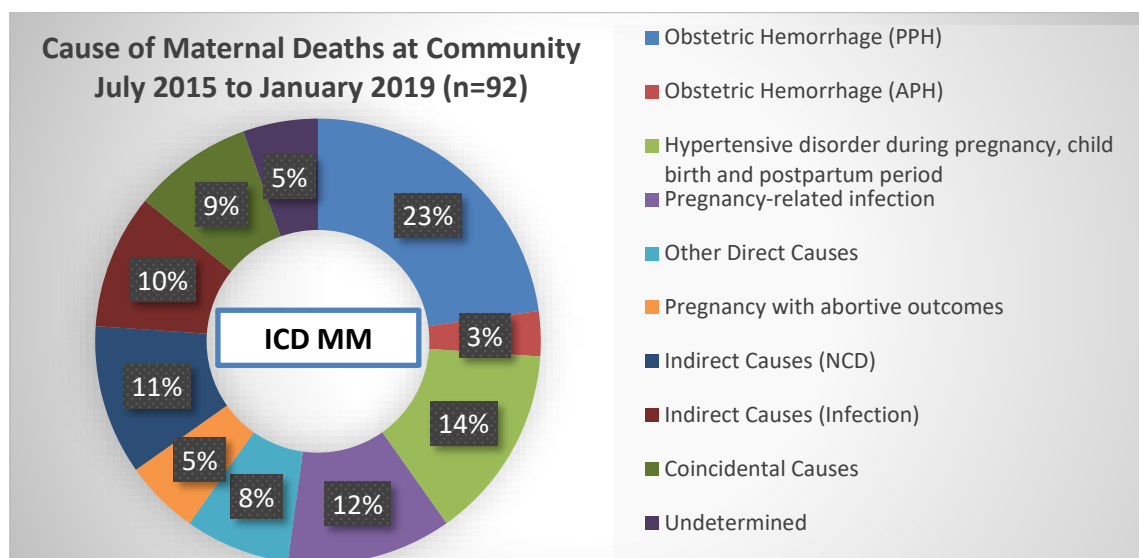
²¹ WHO, Nepal (2019) Maternal and Perinatal Death Surveillance

²² Pradhan A., Suvedi BK. et al. (2010) 'Nepal Maternal Mortality and Morbidity Study 2008/9' Department of Health Services, Ministry of Health

Notes: ICD = International Classification of Diseases

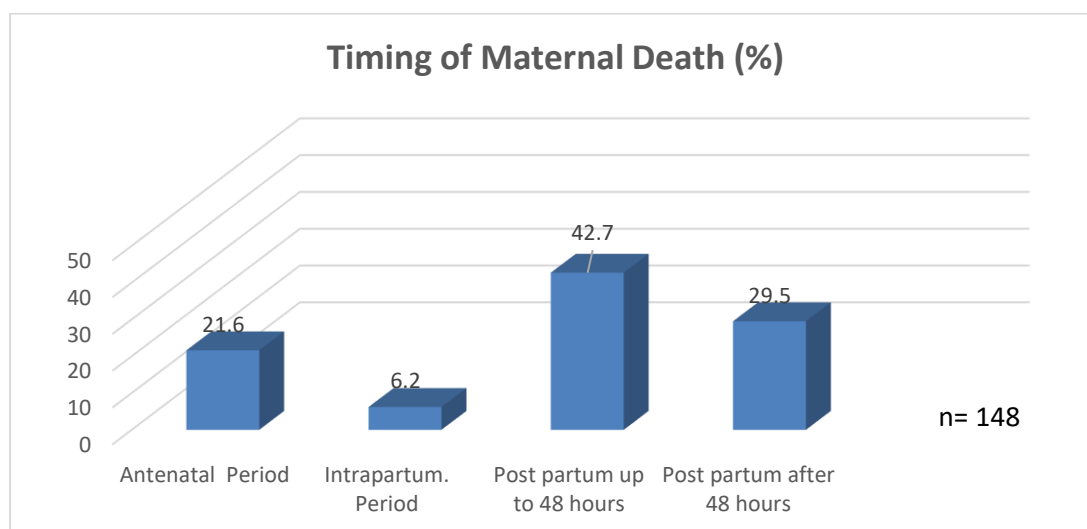
Data source: MOHP/WHO Maternal and Perinatal Death Surveillance 2015, 2016, 2017, 2018

Figure 4: Causes of Maternal Deaths at Community Level (%)



Most maternal deaths occur within 48 hours of delivery (42.7%) and then in the late postpartum period (from 48 hours after birth to up to six weeks after childbirth) (29.5%) (Figure 5).

Figure 5: Timing of Maternal Death (%)



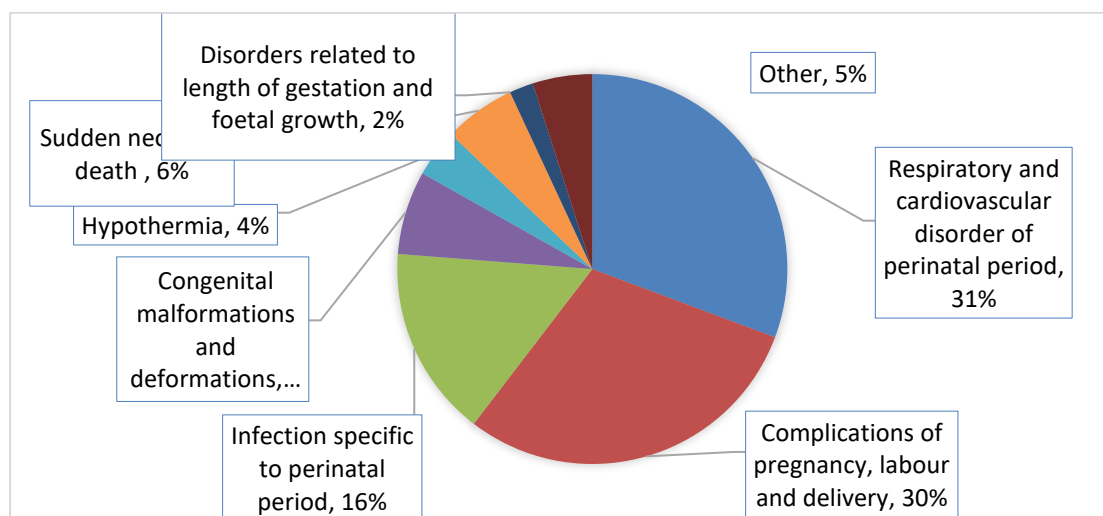
Data source: MOH, WHO Maternal and Perinatal Death Surveillance 2015, 2016, 2017, 2018

3.6 CAUSES OF AND TIMING OF NEONATAL DEATHS

The most common causes of neonatal death are respiratory and cardiovascular disorders of the perinatal period (31%) and complications of pregnancy, labour and delivery (30.5%) (Figure 6). Within respiratory and cardiovascular disorders, perinatal asphyxia accounted for

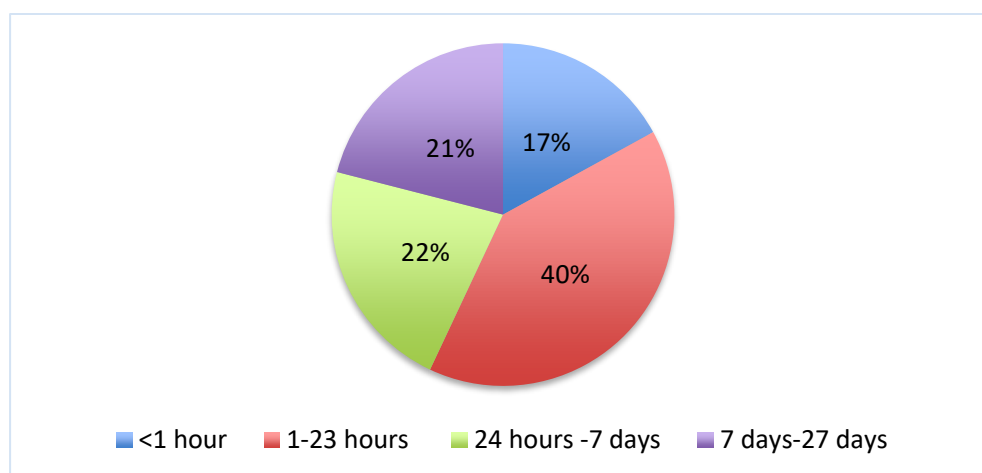
more than half of deaths. Most neonatal deaths (57%) occurred within the first 24 hours of life, with 17 percent occurring within one hour and 40 percent between one hour and 23 hours after birth.

Figure 6: Causes of Newborn Deaths (%)



Data source: NDHS 2016

Figure 7: Timing of Newborn Deaths (%)



Data source: NDHS 2016

3.7 PROGRESS ACROSS THE CONTINUUM OF CARE: ANTENATAL CARE, DELIVERY AND PNC

The continuum of care approach promotes care for mothers and babies from pregnancy to delivery, through to the postnatal period, childhood and throughout the life-cycle, including adolescence and old-age. As part of the continuum of care, ANC, safe childbirth and PNC, are recognised as critical to the health of women and newborns in order to provide the healthiest start in life. Saving lives during this period depends upon high and equitable

coverage of integrated services throughout the continuum, with linkages between the levels of care in the health system and the community²³.

A full assessment of Nepal's progress with delivering FP, abortion, Antenatal Care (ANC), delivery and PNC services is included in Annex 1.

The assessment shows that ANC coverage has increased overall, but quality has been relatively weak. Seventy-six percent of pregnant women had their first ANC visit on time and 59 percent attended 4ANC. Only 76 percent received care as per the protocol.

Deliveries conducted by a skilled provider have increased from 36 percent in 2011 to 58 percent in 2016. In 2016, the highest proportions of home births occurring in Province 6 (63%) and Province 2 (55%).

Following the recommendations of the Safe Motherhood Policy (1998) and SMNH Long-term Plan (2006–17), Nepal focused on the expansion of delivery care services. In 2007/8, 291 BCs were available; this had increased to 2,296 by 2017/18. The Health Management Information System (HMIS) data of 2017/18 show 34.5 percent of deliveries occurred in BCs at the HP/PHCC level, 18.8 percent at the District Hospital level, 27.6 percent at the referral hospital level and 23.1 percent at non-public facilities. Overall, 28% of BC/BEONC (638 sites) conduct more than 96,000 deliveries a year (more than 70% of total BC/BEONC deliveries). Such high-volume facilities must be further supported with better connections to higher referral sites for management of complicated cases. 49 percent of BCs/BEONC sites conducted 25 or fewer deliveries per year.

The provision of seven signal functions of BEONC is lower, with just three percent of PHCCs providing BEONC. Only five percent of the BCs at HPs comply with Safer Motherhood Programme Guidelines in terms of infrastructure, HR, equipment and drug availability. Special attention must be given to health workers' retention of skills in such low-volume BCs/BEONC sites. It should be explored whether fewer health facilities that are strategically located to be accessible to most communities could be selected for capacity enhancement rather than maintaining the current status of several low-volume BCs with challenges in staff skill retention and quality. A study in 2014 showed many gaps in the knowledge, skills and practices of trained SBAs with very little difference from untrained nurses.

At the higher Comprehensive Emergency Obstetric and Newborn Care (CEONC) levels, functionality of CEONC services is better, with 68 percent of referral hospitals (zonal-level and above) providing all nine signal functions of CEONC services in the last three months, NHFS 2016. However, there is lower functionality of CEONC services at lower levels of facilities with only 22 percent of district hospitals providing all nine signal functions of CEONC in the same period.

The GoN protocol on PNC includes three postnatal checks, the first at 24 hours after birth, then at three and seven days after birth. The first postnatal check is particularly important given that the majority of maternal and neonatal mortality occurs within 48 hours of birth. Severe bleeding (PPH) can kill a healthy woman within hours of birth yet only 45 percent of mothers had a postnatal check within four hours of delivery at a facility and only 10 percent

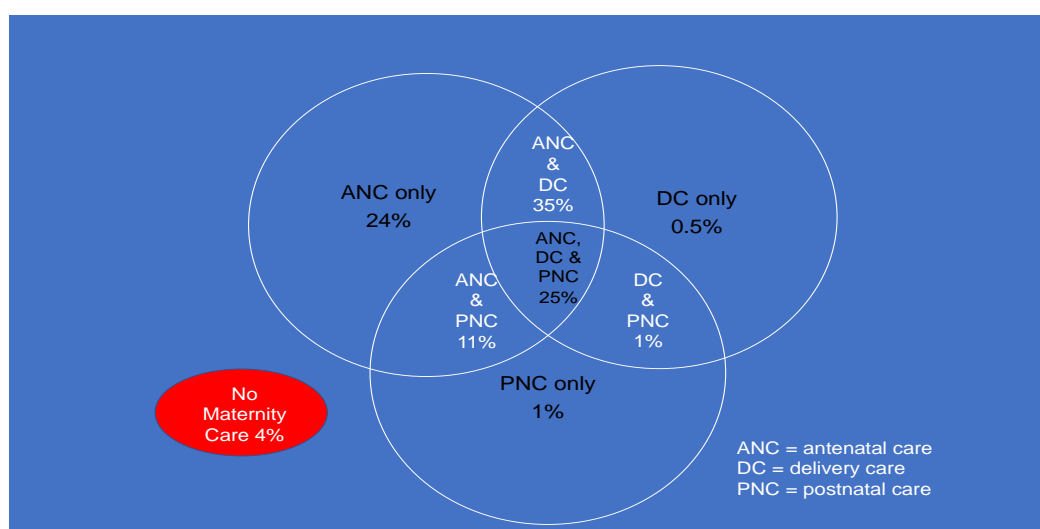
²³ Kerber KJ et al (2007) 'Continuum of Care for Maternal, Newborn and Child Health: from slogan to service delivery' Lancet vol 370 pp 1358-69

had a check between four and 23 hours after delivery. In 2016, approximately half (54%) of newborns had a postnatal check within 24 hours. Nearly 45 percent of mothers reported they had received post-partum care within four hours of delivery (NDHS 2016) and anecdotal findings suggest that many of them were discharged from the health facility soon afterwards either due to lack of adequate infrastructure (BCs) or overcrowding (referral hospitals).

Although access to services seems to be improving, as shown by the data above, it is important not to look at MNH care services in isolation, but to look at how many and which women and newborns are receiving the entire package of services, including ANC, delivery care and PNC. The GoN's protocols recommend that women attend at least 4ANC, give birth in a health facility attended by a SBA and receive at least three postnatal checks.

Using data from 2016²⁴, Figure 8 shows that only one-quarter (25%) of delivering women had received all services, i.e. a minimum level of contacts, receiving at least one ANC visit, giving birth in a health facility and having at least one postnatal check for the mother or the newborn within two days of birth. Although not shown here, this proportion was highest in Province 7 (38.4%) and lowest in Province 6 (12.9%) and Province 2 (14.8%). However, there is at least some awareness of the need to seek ANC, delivery and PNC services, with only a small proportion of women (4%) not receiving any maternity care (no ANC, no PNC and no facility-birth).

Figure 8: Continuum of Care for Safe Motherhood



Data source: Nepal Demographic and Health Survey 2016.

²⁴ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

3.8 SOCIAL BARRIERS TO ACCESSING SERVICES

Women's low social status and lack of freedom to make decisions related to their own health, plus their poor knowledge of obstetric and newborn danger signs, mediated by levels of poverty, caste or ethnicity, and place of residence, play significant and overlapping roles in determining their health status and the underutilisation of maternal health services. The key domains of access (geographic, availability, affordability, acceptability) and the range of supply- and demand-side constraints that affect access to health care are illustrated in Table 2. Despite improvements, there are consistent disparities among different caste and ethnic groups in the use of ANC and delivery care in a health facility (Figures 9 & 10). Poverty plays a critical role, with women in the highest wealth quintile almost three times more likely to deliver at a health facility than those in the lowest quintile (90% in the highest quintile, compared to 34% in the lowest). Further analysis of NDHS 2016 has revealed that although utilisation of MNH services is disproportionately concentrated in richer households, inequities are decreasing over time

Poor physical access to health facilities is particularly critical in the hills and mountains of Nepal. Despite having a network of primary health care facilities and outreach services, 62 percent of Nepalese people can reach a HP within 30 minutes, but only 34 percent can reach a hospital or PHCC within 30 minutes²⁵. However, geographic access is not the only factor determining access to care. In the Terai region, where health facilities are more accessible, only 45 percent of women living in Province 2 delivered in a health facility²⁶.

Attempts have been made to promote free referral for complicated cases, along with health facility strengthening, in two districts of Nepal. The following case study illustrates that pre-arranged referral services are helpful in the timely management of complications and saving lives.

Case Study

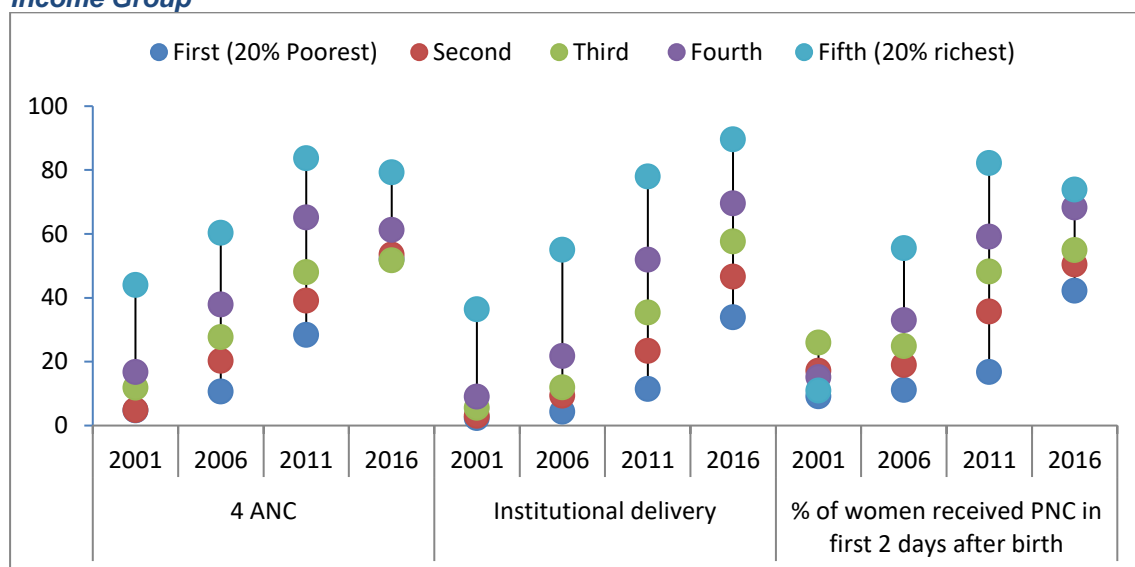
During 2016/17, Dolakha and Ramechhap Districts began strengthening BCs/BEONC sites using a variety of methods: on-site clinical mentoring; self-assessment through Quality Improvement Plans (QIPs); action planning for quality improvement in 60 BCs; and free referral support to women experiencing complications to three CEONC sites within the districts (Manthali PHCC, Charikot PHCC and Jiri Hospital). Analysis of six months' service utilisation data shows that 11 percent of women who went to BCs/BEONC sites for delivery care were referred to CEONC sites. Of these referred women, 11 percent delivered with a Caesarean Section (CS) and nine percent with a vacuum delivery. About 56 percent of all referred women could be considered appropriate referrals based on their referral diagnosis and mode of delivery.

Based on this evidence, most BCs with high volume of patients should be linked by a referral system to a CEONC facility. Gradually, referral services should be expanded, making sure that the recipient facility is well equipped and adequately staffed to deal with the increased caseload.

²⁵ GoN (2012) 'Nepal Living Standards Survey'

²⁶ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

Figure 9: Trends in Percentage of Women having ANC, Institutional Delivery and PNC by Income Group



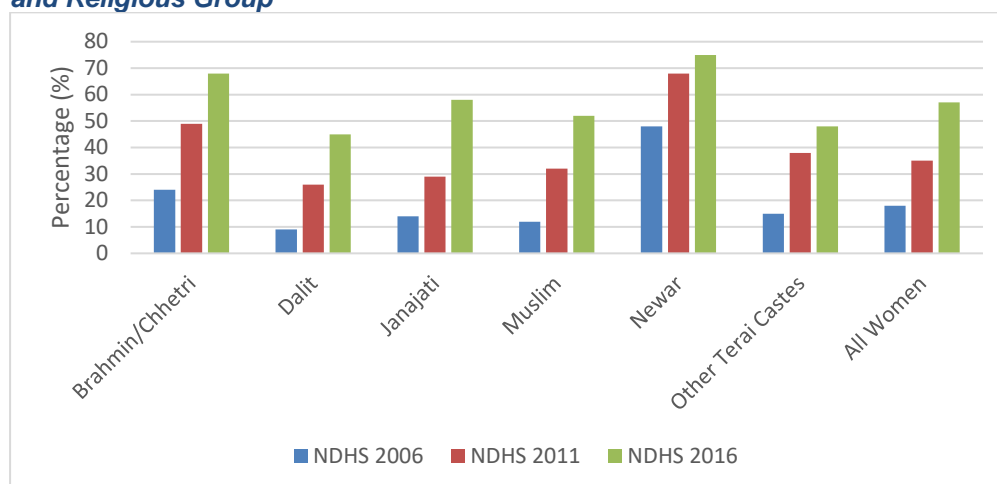
Source: Nepal Demographic and Health Surveys, 2001, 2006, 2011, 2016

Table 2: Dimensions and Barriers to Accessing High-quality Health Services

		Supply-side constraints	Demand-side constraints
Access to health services			
Geographic accessibility	Gender norms and social exclusion	<ul style="list-style-type: none"> • Service location • Facilities are not designed to be physically accessible for PLWD 	<ul style="list-style-type: none"> • Terrain • Transportation costs • Availability of transport
Availability		<ul style="list-style-type: none"> • Qualified and available HR, their postings and retention • Opening hours • Waiting time • Drugs and supplies • Poor referral system 	<ul style="list-style-type: none"> • Information on health care services and lack of availability of information • Behaviour change communication is the focus of national programmes • Communication constraints
Affordability		<ul style="list-style-type: none"> • Cost of services and products • Financing of the public health system • High OOP expenditure 	<ul style="list-style-type: none"> • Household resources and willingness to pay • Opportunity costs of seeking care (e.g. transport, loss of earnings) • Control over family resources (e.g. women's lack of control in decision making) • Lack of cash in hand
Acceptability		<ul style="list-style-type: none"> • Staff interpersonal communication skills, including trust • Staff attitudes (e.g. non-acceptance of sex outside of marriage; stigma towards LGBTI) • Lack of transparency of prices and pricing of services • Gendered practices (e.g. male permission for women to have a surgical procedure) 	<ul style="list-style-type: none"> • Family approval (e.g. women needing permission to seek health care) • Preference for certain cultural practices • Language • Low self-esteem and lack of assertiveness • Stigma (e.g. family members with disability kept at home)

Notes: PWD = People Living With Disability; LGBTI = Lesbian, Gay, Bisexual, Transgender and Intersex

Source: Ministry of Health, Gender Equality and Social Inclusion Strategy of the Health Sector, 2018

Figure 10: Trends in Percentage of Women Giving Birth in a Health Facility by Caste, Ethnic and Religious Group

Source: Nepal Demographic and Health Surveys, 2006, 2011, and 2016

The cost of treatment, whether actual or perceived, is still a critical barrier to seeking care: from 2006 to 2011 to 2016, those who reported 'getting money for treatment' as a barrier to accessing care increased from 39 percent to 47 percent to 55 percent²⁷. Satisfaction with maternity services and the experience of friends and relatives who had had a hospital birth may play a role in seeking services. Studies indicate that long waiting times, problems discussing concerns/problems about the pregnancy with the provider, and inadequate explanations given by the service provider on the problems or concerns they had in pregnancy²⁸ are major barriers to accessing care. It has been noted that client satisfaction could be improved by reducing waiting times and overcrowding and giving mothers adequate time to ask questions²⁹.

Mothers with a disability have additional challenges in accessing health facilities, including self-imposed barriers due to fear or legitimate past poor experiences in accessing and receiving care³⁰; a health worker's attitude towards disability that does not encourage women to access services³¹; and societal and family attitudes that do not prioritise access for disabled women³².

²⁷ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

²⁸ Nepal Health Facility Survey 2015 Further Analysis: FA112_Maternal Health_final

²⁹ Ministry of Health, NHSSP, HERD (2012) 'Nepal Household Survey'

³⁰ Morrison J. et al, (2014) 'Disabled women's maternal and newborn health care in rural Nepal: A qualitative study' Midwifery vol 30(11)

³¹ Devkota HR et al (2017) 'Healthcare providers' attitude toward disability and experience of women with disabilities in the use of maternal healthcare services in rural Nepal' Reproductive Health vol 14(1)

³² Devkota HR et al (2019) 'Societal attitude and behaviours towards women with disabilities in rural Nepal: pregnancy, childbirth and motherhood' BMC Pregnancy and Childbirth

3.9 STAGES OF THE OBSTETRIC TRANSITION³³

In reproductive health, obstetric transition is used to describe how countries move from a pattern of high maternal mortality and direct obstetric causes of maternal death to a pattern

Text Box 1: Stages of the Obstetric Transition

Stage I (MMR >1,000 maternal deaths/100,000 live births): A very high maternal mortality ratio, with elevated fertility and the predominance of direct causes of maternal mortality, along with a large proportion of deaths attributable to communicable diseases. The majority of women do not receive professional obstetric care or do not have access to health facilities.

Stage II (MMR 999–300 maternal deaths/100,000 live births): Mortality and fertility remain very high, with a pattern of causes similar to Stage I. However, a greater proportion of women start to seek and receive care in health units.

Stage III (MMR 299–50 maternal deaths/100,000 live births): Fertility is variable and direct causes of mortality still predominate. Access continues to be an issue for a large part of the population. Since a high proportion of pregnant women access health services, quality of care is one of the main determinants of health outcomes, particularly those related to overburdened health services. Quality of care, skilled childbirth care and adequate management of complications are essential for the reduction in maternal mortality.

Stage IV (MMR <50 maternal deaths/100,000 live births): Low fertility rate and indirect causes of maternal mortality, in particular chronic-degenerative diseases, gain increasing importance. The increasing role of medicalisation is a threat to quality and improvement of health outcomes.

of low maternal mortality with indirect causes of maternal death dominating. Each stage is delineated by MMR (See Text Box 1), and Nepal is at Stage III of the obstetric transition, which is characterised by better availability of care, but still with high maternal mortality due to direct causes. Over the next 10-year period of the Road Map, a pathway will be laid from Stage III of the obstetric transition towards Stage IV, which is characterised by lower mortality and increased importance of indirect causes of maternal mortality.

To enable this critical transition to happen, it will be important for Nepal to ensure that the elements that allowed it to move up from Stage I and Stage II of the obstetric transition are still in place, which include ensuring that skilled HR and basic infrastructure for maternity services are available, and prevention measures such as FP, safe abortion and iron supplementation are implemented. At present, these 'basic' determinants are not always available, working optimally or at scale. This will need to be addressed to ensure that all women

have access to high-quality MNH services and that no one is left behind. In addition, Nepal needs to start preparing to address the burden of diseases that will contribute to maternal deaths in Stage IV of the obstetric transition, such as NCDs, nutritional problems and environmental challenges. Community-based family health approaches, with prioritisation of home-based care, preventive services and behaviour change communication are promoted in the Road Map period so that the burden of diseases decreases, as Nepal moves to Stage IV of the obstetric transition.

³³ Souza J P et al (2014) Obstetric transition: the pathway towards ending preventable maternal deaths. BJOG. 2014 Mar;121 Suppl 1:1-4.

At the current Stage III of the obstetric transition, equitable access to MNH services remains an issue in Nepal for several population groups, while at the same time, more pregnant women are using facilities to give birth. At this point, overcrowding of health facilities and a corresponding reduction in the quality of care have become critical, and urgent attention is needed to address these challenges

It is likely that the pace of transition will vary across Nepal, with some areas still in Stage III while others move towards Stage IV, and it will be important to have context-specific responses to this situation. Even as areas of Nepal move towards Stage IV, there will still be a need to focus on the management of MNH services and monitor the quality of care, including over-medicalisation of services, in particular the risk of increasing rates of CS³⁴.

³⁴ Souza JP. et al. (2014) 'Obstetric transition: the pathway towards ending preventable maternal deaths' BJOG 121 (Suppl. 1): 1–4.

4 VISION, MISSION AND GOAL

4.1 VISION, MISSION AND GOAL

The Road Map will ultimately contribute to delivering the National Planning Commission's 2030 vision of: '*Nepal as an enterprise-friendly middle-income country, peopled by a vibrant and youthful middle-class living in a healthy environment, with absolute poverty in the low single digits and decreasing*'³⁵. But more directly, the Road Map will help deliver the vision and mission of the 2014 Health Policy:

Vision: All Nepali citizens have the physical, mental, social and spiritual health to lead productive and high-quality lives.

Mission: Ensure citizen's fundamental rights to stay healthy by optimally utilising the available resources and fostering strategic cooperation between health service providers, service users and other stakeholders.

Goal: Ensuring healthy lives and promoting well-being for all mothers and newborns.

The Road Map adopts the SDG 3 2030 goal of 'Ensuring healthy lives and promoting well-being for all at all ages' with a focus on mothers and newborns.

The Road Map also adopts the same targets at goal level as the SDG 3 targets, which include 'reducing, by 2030, the global maternal mortality ratio to less than 70 per 100,000 live births' and 'reducing, by 2030, the neonatal mortality to less than 12 per 1,000 live births', and will adopt a target from NeNAP of 'reducing by 2030, the stillbirth rate to 14 per 1,000 live births'.

The goal will be delivered through a series of five interconnected outcomes as illustrated below.

Outcome 1: The availability of high-quality MNH services increased, leaving no one behind. Ensure the number and distribution of facilities and referral services are appropriate (public, private, health facility or outreach) and health workers have appropriate skills and provide people-centred ethical care, with the focus on equity.

Outcome 2: The demand for and utilisation of equitable MNH services increased. Provide for the role and organisation of community care, how community engages with its own health and as users of services, understand their health needs, and improve knowledge to increase utilisation, including building capacity for peoples' representatives to demand greater investment in MNH.

³⁵ National Planning Commission (2016) 'Envisioning Nepal 2030'

Outcome 3: The governance of MNH services improved, and accountability ensured. Promote ownership and leadership of maternal health, ensure affordability, standards and appropriate financing for services are in place for public and private sectors; promote formal institutions and mechanism of accountability.

Outcome 4: M&E of MNH improved. Ensure the tools are in place for systematic assessment across many dimensions, including monitoring inputs, utilisation, readiness to periodically assess adherence to minimum standards and clinical protocols, and capture client voices and preferences.

Outcome 5: Emergency-preparedness and response for MNH strengthened. Ensure timely action, continuity of services and user safety and protection.

4.2 STRATEGIC APPROACHES

The strategic approaches build on NHSS 2015–2020, and include the following:

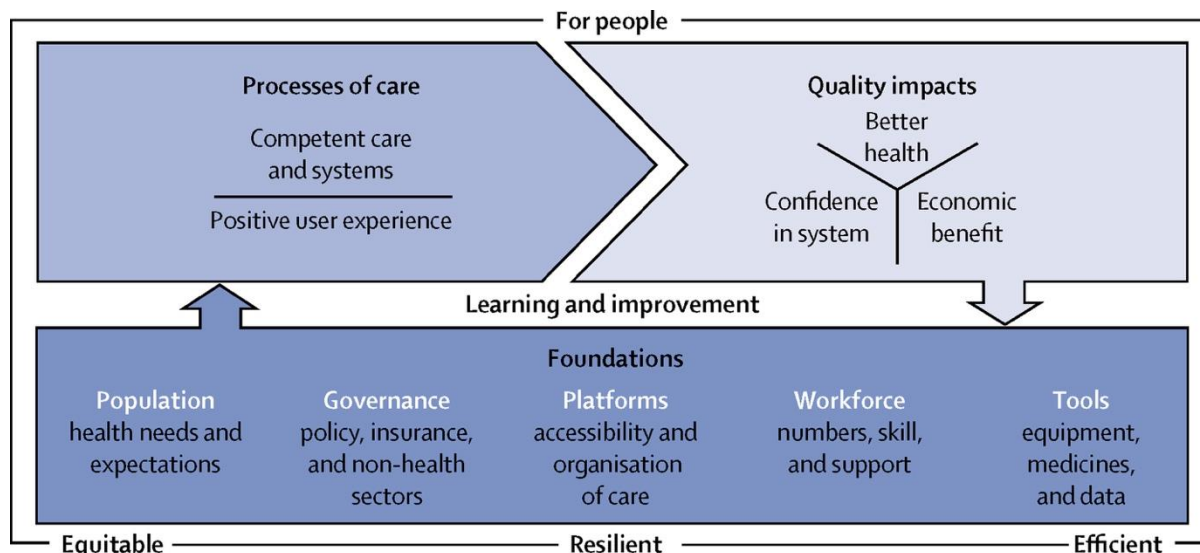
- Health systems reform: high priority will be given to strengthening current programmes and introducing new elements where necessary, keeping in view the structural reforms due to federalisation.
- Multisectoral approach: this approach recognises the importance of social determinants and other sectors that will contribute to the reduction of maternal and newborn deaths, such as education, economic and social upliftment, including for gender, agriculture and nutrition, roads and transport, water, sanitation and hygiene, legal and administrative etc. will continue to receive priority engagement and support.
- Partnerships: private sector, non-governmental organisation, academic and research institutions, professional bodies and civil society will continue to have important roles for MNH in the Road Map
- Innovations: innovative technology, such as distance learning, electronic and mobile phone applications for patient follow-up and education, and data generation, management and utilisation will be increasingly strengthened and used.
- Capacity building: while the technical capacity of health staff will continue to be enhanced, an additional focus will be held on the planning, implementation and monitoring of programmes in the federal context, where roles and responsibilities are being defined for all levels of the government. In addition, the Road Map will also engage with and build the capacity of peoples' representatives and civil society to demand greater investment in MNH.

4.3 QUALITY AS A KEY PRINCIPLE

The NHSS 2015–2020 has an overall focus on UHC, with four strategic areas of direction: equitable access, high-quality health services, health systems reform and a multisectoral

approach. While much progress has been made on equitable access and health system reforms, the focus on quality of care needs to be further emphasised to improve patient safety and experience of care. Globally, the burden of mortality attributable to poor care is now larger than the burden due to lack of access to care³⁶, making quality paramount. Quality of care is a central principle of the Road Map and will be integrated across the five outcomes.

Figure 11: High-quality Health System Framework



The Road Map adapts the conceptual framework proposed by the 2018 Lancet Commission on Quality of Care (Figure 11) that looks at how the foundations of care interact with the process of care to achieve higher-quality impact. The Road Map also adopts the four values that underpin the conceptual framework, as without these values the impact on quality will not be achieved. The four values include: for people, equitable, resilient and efficient.

Health facilities staffed by the right number health workers, with the right mix of skills, and with running water, electricity, essential equipment and medicines are essential for good-quality care, but the presence of these inputs does not mean that an impact on quality can be achieved or that high-quality care will be delivered. The Road Map integrates the 'foundations' and 'processes' of the conceptual framework across the outcomes, as illustrated in Figure 11.

³⁶ Kruk ME. et al (2018) 'High quality health systems in the Sustainable Development Goals Era: time for a revolution' Lancet Global Health Commission

5 DELIVERING THE ROAD MAP - OUTCOMES AND OUTPUTS

5.1 OUTCOME ONE: THE AVAILABILITY OF HIGH-QUALITY MATERNAL AND NEWBORN HEALTH SERVICES INCREASED, LEAVING NO ONE BEHIND

This outcome will ensure the optimal distribution of facilities, that both public and private sector health facilities have the appropriate equipment, commodities and medicines in place ready to provide services, and that the right staff with the right skills are in place.

5.1.1 Output 1.1 Reproductive, maternal and newborn health services are available, and health facilities that comply with the standards are located in strategically accessible areas, with functional referral linkages

5.1.1.1 Family Planning

In order to increase reproductive choice and avert unintended pregnancies, emergency contraception should be considered for inclusion in the GoN's national FP programme and in the BHS Package. All health care providers could dispense emergency contraception and provide information and counselling on the standard days methods.

Another aspect is promotion of postpartum FP to prevent short birth intervals. NDHS 2016 data indicate that only 13.3 percent of women said that they were given information on FP in the post-partum period.

It is recommended that local governments provide:

- three short-term methods of FP services (condom, pills and Depo Provera injection) in all health facilities, Primary Health Care Outreach (PHC/ORC) and Expanded Programme on Immunization (EPI) clinics, integrating FP in EPI clinics
- two long-acting methods at all health facilities
- information and services for postpartum FP.

'Task-sharing' for FP is already widespread in Nepal, with Staff Nurses (SNs), ANMs, Auxiliary Health Workers (AHWs) and Health Assistants (HAs) providing implants after eight days of competency-based training. SNs and ANMs provide Intrauterine Contraceptive Devices (IUCDs) after eight days of competency-based training. SNs and ANMs trained as SBAs can provide Postpartum IUCD (PPIUCD) services (see Annex 2 for the full range of FP services by provider). In the longer term, the pre-service training of midwives should aim to give them the skills to insert IUCDs and implants during a structured internship.

The government should continue to provide permanent methods through regular services at hospitals (including post-partum tubectomy) and through satellite camps free of cost as is currently the case.

5.1.1.2 Comprehensive Abortion Care

In Nepal, only certified providers working in certified sites can legally provide comprehensive abortion care and services (medical abortion, manual vacuum aspiration and post-abortion FP). There is a need to increase the number of certified sites and trainers so that more women have access to safe and certified abortion providers. The responsibility for certification, based on available certification standards, should be expanded to the provincial

level. The current guidelines are comprehensive and should continue to be followed in selecting service providers and trainers.

Local governments are recommended to provide:

- surgical abortion services in all primary-level hospitals and current PHCCs and BEONC/CEONC sites
- medical abortion services in health facilities providing delivery care services.

Provincial and Federal Governments should make second-trimester abortion services available through hospitals at which Obstetrician-Gynaecologists (OBGYNs) are posted.

The use of medical abortion for first-trimester abortions is expanding rapidly and the safety of the procedure needs to be assured. In Nepal, only a certified provider can legally offer abortion services at a certified site (both public and private), yet pharmacy workers illegally dispense medical abortion drugs and women seek their services. There is some evidence of pharmacy workers (ANMs, paramedics, Department-of-Drug-Administration-accredited pharmacy workers) being trained to provide medical abortion services, including the identification of gestational age, with good results^{37 38}. The Road Map recommends that the GoN **deliberate** on this evidence and consider allowing SNs, ANMs and paramedics working in pharmacies to be trained and certified to provide medical abortion services, including pregnancy testing, assessment of gestational age, provision of information and referral if needed.

5.1.1.3 Antenatal Care

Complications that arise during pregnancy and labour are not always predictable and ANC provides an opportunity for health workers to provide information, care and support to critically monitor the health of pregnant women. The GoN recommends that pregnant women have four high-quality, timely ANC visits at a health facility. The 2016 WHO ANC guidelines also recommend that pregnant women should have eight ANC contacts³⁹. The need for early detection of pregnancy is of utmost importance for successful pregnancy outcomes. Given that pre-eclampsia/eclampsia is still a leading cause of maternal death in Nepal, closer monitoring of women in the third trimester of pregnancy is needed.

However, the Road Map recognises that encouraging pregnant mothers to come for eight ANC visits and for health workers to provide each woman with more frequent ANC is ambitious in the short and medium term; the GoN should work towards these eight ANC visits over the Road Map period. In the interim, the Road Map recommends that the GoN focus on providing four high-quality ANC visits and encourage further four ANC contacts with a health worker as outlined in Table 3.

³⁷ Tamang A. et al. (2015) 'Pharmacy workers in Nepal can provide the correct information about mifepristone and misoprostal use to women seeking medications for induced abortion' *Reproductive Health Matters* vol22

³⁸ Tamang A. et al. (2018) 'Medical abortion can be provided safely and effectively by pharmacy workers trained within a harm reduction framework: Nepal' *Contraception* vol 97

³⁹ World Health Organization (2016) 'WHO Guideline on Antenatal Care'

Table 3: GoN and WHO 2016 ANC Models

Existing GoN ANC model	2016 WHO ANC model	Proposed GoN ANC model
First Trimester (up to 12 weeks)		
	Contact 1: up to 12 weeks	Encourage contact 1 : up to 12 weeks (diagnosis/counselling)
Second Trimester (13–27 weeks)		
Visit 1: up to 16 weeks		Visit 1 : up to 16 weeks (confirmation/establish baseline parameters/supplementation)
Visit 2: 24 weeks	Contact 2: 20 weeks	Visit 2 : 20–24 weeks (anomaly screening/systemic examination/ Blood Pressure (BP)/proteinuria)
	Contact 3: 26 weeks	Encourage contact 2 at 28 weeks (screening pre-eclampsia/nutrition/counselling)
Third Trimester (>28 weeks)		
Visit 3: 32 weeks	Contact 4: 30 weeks	Visit 3 : 32 weeks (preeclampsia/foetal growth/ anaemia)
	Contact 5: 34 weeks	Encourage contact 3 at 34 weeks (anaemia/symptoms)
Visit 4: 36 weeks	Contact 6: 36 weeks	Visit 4 : 36 weeks (foetal growth and presentation/ preeclampsia/anaemia)
	Contact 7: 38 weeks	Encourage contact 4 at 38–40 weeks (birth-preparedness/symptoms/foetal movement – referral if necessary)
Return for delivery at 41 weeks if not given birth		

Source: adapted from WHO Guidelines on ANC, 2016 and GoN ANC protocol

ANC should continue to be a facility-based service, at all health facilities/hospitals as a **daily** service and through PHC/ORC.

Over the medium-term, the GoN should consider whether it is possible for pregnant women to be referred to a higher-level facility at 20–24 weeks of gestation for one ultrasound scan to estimate gestational age and detect foetal anomalies and multiple pregnancies. If the <24-week ultrasound is implemented it should only be performed with strict reinforcement of the Nepal law that prohibits sex-selective abortion.

In the past, the GoN has had a mobile ultrasound programme in remote mountain areas, where pregnant women were given an ultrasound scan free-of-charge before 36 weeks to identify foetal presentation and placenta positions and refer if necessary. The Road Map recommends that the evidence for the effectiveness and the costs be evaluated for considering whether this programme should be expanded in remote and mountainous areas.

The Road Map recommends that antenatal calcium be made available for all pregnant women.

5.1.1.4 Delivery Care and Referral

The key strategy of the GoN to reduce maternal and newborn mortality and morbidity is based on the premise that any labour/delivery can develop life-threatening complications for the mother and/or the unborn baby, and that no delivery can be regarded as completely 'safe' or 'no-risk'. Since the ability of the birth attendant to identify complications is vital to saving lives, the strategy chosen by the GoN has focused on increasing facility-based care and skilled birth attendance.

Government HMIS data from 2018/19 indicate that 89 government and 100 private health facilities report that they provide CS services (Figure 12) and that there are 158 BEONC service sites and 1,862 BCs. The services they provide are as follows:

- Signal functions under BEONC include: 1) parenteral administration of antibiotics; 2) parenteral administration of oxytocin or other uterotonic; 3) parenteral administration of anticonvulsant for hypertensive disorders of pregnancy; 4) assisted vaginal delivery; 5) manual removal of retained placenta; 6) removal of retained products of conception; 7) neonatal resuscitation.
- CEONC signal functions, in addition to all seven of the above, include: 8) blood transfusion; and 9) CS.
- BCs can only perform normal deliveries and provide obstetric first aid⁴⁰, including parenteral oxytocin, antibiotics and anticonvulsants; they do not qualify as BEONC facilities.

The UN has defined process indicators for services based on population norms. The definitions and recommended levels of process indicators are given in Table 4 below:

Table 4: UN Process Indicators

UN Process Indicator	Definition	Recommended Level
1. Amount of Emergency Obstetric and Newborn Care (EONC) services	Number of facilities that provide EONC	Minimum: 1 comprehensive EONC facility per 500,000 people Minimum: 4 basic EOC facilities per 500,000 people N
2. Geographical distribution of EONC facilities	Facilities providing EONC well-distributed at sub-national level	Minimum: 100% of sub-national areas have the minimum acceptable numbers of basic and comprehensive EONC facilities

⁴⁰ Obstetric First Aid will be defined in the revised SBA strategy and training manual

3. Proportion of all births in EONC facilities	Proportion of all births in the population that take place in EONC facilities	Minimum: 15%
4. Met need for EONC services	Proportion of women with obstetric complications treated in EONC facilities	At least 100% [estimated as 15% of expected births]
5. CSs as a percentage of all births	Caesarean deliveries as a proportion of all births in the population	Minimum: 5% Maximum: 15%
6. Case fatality rate	Proportion of women with obstetric complications admitted to a facility who die	Maximum: 1%

According to UN Process indicators, Nepal needs approximately 229 BEONC sites; there are currently 158 sites. Even among the available BEONC sites, very few sites are providing all seven signal functions⁴¹. Therefore, all BEONC service sites need to be made functional, with some expansion in areas where access is poor.

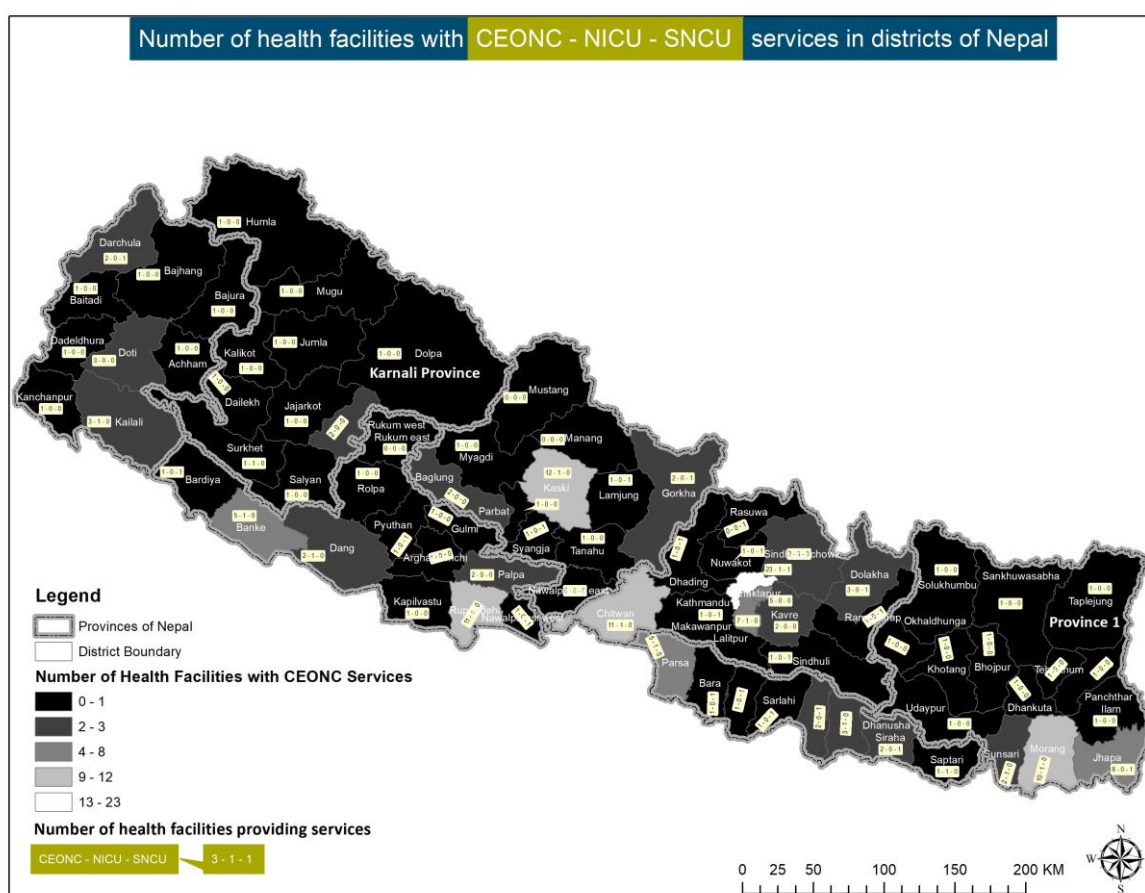
In 2015, only 67.9 percent of zonal hospitals, 18.4 percent of district hospitals and 13.3 percent of private hospitals could provide all nine CEONC signal functions⁴². Women in Nepal are by-passing lower-level facilities (BCs and BEONC sites), mostly due to irregular and poor-quality services, preferring to give birth in larger hospitals. This has led to overcrowded maternity units in CEONC sites and underutilised BCs and BEONC sites. Nearly one-third of CEONC sites also do not provide the full range of services, predominantly because they lack adequate HR.

Given the lack of readiness in providing life-saving services, and to address the issue of overcrowding, the Road Map recommends that for the next five years, the focus be on ensuring the functionality of existing CEONC service sites rather than expanding them.

⁴¹ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁴² Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

Figure 12: Map of Nepal's Health Facilities' Concentration across Districts



Because of the likelihood of challenges from unexpected complications arising in labour, inadequate preparedness and poor quality of care in peripheral facilities and isolated BCs, more recent global literature is recommending births take place in facilities that can manage complications – mostly BEONC and CEONC sites. “It is no longer acceptable to merely encourage women to give birth in health facilities, many of which continue to lack emergency obstetric care, reliable water supply, and even the most basic capability to manage uncomplicated deliveries and provide respectful evidence-based routine care”.⁴³

The Road Map specifically recommends the following:

1. In areas where CEONC/BEONC service facilities are within easy access (within two hours' distance), women are encouraged to deliver at CEONC/BEONC sites⁴⁴.
2. In areas where CEONC services are not easily accessible, Palikas are encouraged to establish one BEONC site per Palika (at upgraded primary hospitals), and if necessary, expand BCs at strategic locations within the Palika. Such BC sites should be able to manage normal labour, delivery and PNC, detect and manage some

⁴³<http://www.thelancet.com/pb/assets/raw/Lancet/stories/series/maternal-health-2016/mathealth2016-exec-sum.pdf>

⁴⁴ This recommendation is based on 2008/9 Maternal mortality and morbidity study which states that women can die of PPH if not treated within two hours.

complications (signal functions), ensure timely and safe referral to CEONC sites in case of complications that are likely to require CS or advanced care.

3. Upgrade strategic BCs and make them functional 24/7: BC/BEONC sites should be made functional 24 hours a day, with strong referral facilities including ambulances, means of communication and linkages with pre-identified fully functional CEONC sites.
4. To improve quality of care, strengthen CEONC sites with adequate infrastructure, staffing, equipment, medicines and supplies and by ensuring that all quality improvement mechanisms are in place including maternal and perinatal death audits.
5. To address overcrowding of referral hospitals with CEONC services, establish Midwife- (or SBA-) led birthing units⁴⁵ in high-volume CEONC sites:
 - CEONC service sites with more than 300 deliveries per month should be restructured to cater to the high volume of clients. On-site birthing units managed by midwives and SBA-trained SNs should be set up in such high-volume facilities.
 - In such CEONC service sites, pregnant women and those in labour intending to give birth in the SBA-led birthing unit should be screened by skilled health personnel to identify risk and manage as per protocol. The protocol should be developed by a technical team of senior midwives and obstetricians.
6. Operational research should be undertaken to establish best practice and standards (HR, equipment, infrastructure) for on-site birthing units in CEONC sites, using the two hospitals that have birthing units managed by nurses and ANMs as case studies (Paropakar Maternity and Women's Hospital and Tribhuvan University Teaching Hospital).
7. Women with medical problems or likely obstetric complications should be admitted under the supervision of a doctor while women without obstetric or medical complications should be encouraged to give birth in the on-site birthing units to provide safe, cost-effective and positive birth experiences, as well as having quick access to on-site CEONC services if needed⁴⁶.
8. The on-site SBA-trained SN-/midwife-led birthing units should provide continuum of care for low-risk women incorporating antenatal, intranatal and postnatal care.

⁴⁵ SBA-trained nurses may lead or provide services in such midwife-led birthing units until Nepal produces an adequate number of midwives

⁴⁶ Long Q, et al. (2016) 'Onsite midwife-led birth units for care around the time of childbirth: a systematic review' British Medical Journal Global Health, volume 1

9. All birthing units should be models of care that prioritise women-centred, respectful maternity and newborn care and effective communication and allow companionship during labour and birth⁴⁷.

10. On-site midwife-led birthing units will be developed as training sites for midwives.

11. Provide support to local and provincial governments for planning and monitoring:

- All health facilities in Nepal have already been mapped by a Geographic Information System (GIS). The Road Map recommends that Provincial and Local Governments: complete a profile of their population, health HR, infrastructure and caseload against the existing health facilities; develop a joint five-year plan that outlines which HPs or health facilities will become strategically located BCs or BEONC sites; and formalise clear referral pathways from these strategically located BCs to CEONC sites.
- Guidance should be provided to Provincial and Local Governments on: the optimal infrastructure, staffing, equipment, catchment population referral communications and means, and costs for strategically located BCs, BEONC and CEONC sites; on referral between sites in both remote and accessible areas; and on referral guidelines. This guidance will enable Provincial and Local Governments to make informed choices about the cost of providing different levels of services, as part of the organisational arrangement of delivery services in the proposed five-year plan.
- There are indications, especially in private hospitals, that birth is becoming increasingly medicalised, with providers preferring medical intervention in delivery care and encouraging pregnant women, in particular those from urban and wealthy households, to opt for a CS. In 2018, the WHO published guidelines on non-clinical interventions designed to reduce unnecessary CSs (Figure 13) some of which is integrated in this Road Map; CS rates will be periodically monitored by introducing the Robson classification⁴⁸.

Text Box 2 WHO Guidelines (2018) Non-clinical interventions to reduce unnecessary CSs

- Health education as part of ANC
- Implementation of evidence-based clinical practice guidelines combined with a mandatory second opinion as to whether a CS is needed
- Implementing a model of staffing where care is primarily provided by midwives, with 24 hour back-up from an in-house obstetrician
- Financial strategies such as equalising physicians' fees for vaginal births and CSs

⁴⁷ WHO (2018) 'WHO Recommendations on Intra-partum care for a Positive Child birth experience.'

5.1.1.5 Care of Newborns:

Care of newborns has improved significantly through both health-facility-based and community-based programmes. There are Special/Sick Newborn Care Units (SNCUs) in 21 district hospitals and NICUs in 11 referral hospitals. Preterm birth complications contribute to 31 percent of neonatal deaths, followed by intrapartum events (asphyxia and birth trauma, 23%) and infections (19%). The greatest reductions in mortality between 2000 and 2013 have been in intrapartum events (by 66%), sepsis (66%), and preterm complications (43%). These reductions have primarily been because of improvements in labour conditions and clean birth practices. To sustain and enhance the gains, Nepal will have to consistently focus on the determinants of child and newborn mortality, and their links with maternal mortality, since 52 percent of under-five death is in the neonatal period. Further, wide gaps in the rates of mortality between different socioeconomic groups, such as ethnicity, wealth, education, and geography, adversely affect the mortality rates.

Recommendations specific to newborn health are listed below:

1. All strategic BCs should have a newborn baby corner, and staff should have skills in essential newborn care and neonatal resuscitation, especially resuscitation within the Golden Minute.
2. Ensure feeding of colostrum and immediate breastfeeding to all babies born at a health facility and encourage mothers who opt for home deliveries to do the same.
3. All BEONC/CEONC sites should have as a minimum a SNCU with trained staff.
4. NICUs should be expanded to CEONC sites as far as possible, with assessment of feasibility for expansion.
5. In-utero transfer of at-risk babies to service sites with NICUs should be included in the service delivery guidelines.
6. Corticosteroids for preterm labour should be made available in CEONC sites and in selected BEONC sites.
7. Induction of labour and augmentation of labour should not be performed in service sites where CS services are not available.
8. Kangaroo Mother Care (KMC) should be promoted in all BEONC/CEONC sites, where KMC corners/units should be established, and the principle of KMC should be adopted in all health facilities where premature birth takes place.

5.1.1.6 Postnatal Care

Nearly four in 10 women in Nepal are still giving birth at home, and the majority of women who give birth in health facilities are discharged early. The postnatal period is important for the initial bonding of the mother and newborn, for early initiation of breastfeeding and for promoting good nutrition and hygienic practices. But unfortunately it is also the most critical

⁴⁸ 'The Robson classification is a system that classifies women into 10 groups based on their obstetric characteristics (parity, previous CS, gestational age, onset of labour, foetal presentation and the number of foetuses).'
https://www.who.int/reproductivehealth/topics/maternal_perinatal/robson-classification/en/

time for maternal mortality, when the majority of deaths occur, primarily due to preventable causes. Many of the complications, such as PPH, postpartum eclampsia and sepsis, go undetected, in both the mother and newborn, because family members or FCHVs lack the capacity to detect these complications in a timely manner and to offer timely treatment. This challenge is further compounded by cultural practices, where postnatal women are not touched, except by health care providers, until ritual purification on the eleventh postnatal day.

The WHO issued a joint statement recommending home visits for care of the newborn infant in the first week of life as a complementary strategy to facility-based PNC in order to improve newborn survival⁴⁹. However, a study from Bangladesh has shown that volunteer-dependent community-based limited PNC intervention might not be effective in improving utilisation of skilled PNC services in rural Bangladesh⁵⁰.

Currently, the GoN follows the protocol of three PNC checks: at 24 hours after birth, three days and then at seven days. But currently, there is no system for postnatal follow-up of mothers at home, both for home births and institutional births. Most mothers are discharged early from health facilities and have not been able to receive care as per the protocol.

Further, the WHO provided guidance in 2015 recommending four PNC visits: at 24 hours, three days, between 7–14 days and at six weeks after birth⁵¹. Nepal's PNC protocol needs to be updated as per this guidance and measures should be taken to ensure that the guidance is followed. In order to ensure compliance with the guidelines it is important that a health worker visits mothers and newborns in their homes to provide PNC.

The Road Map recommends the schedule of PNC checks as shown in Table 5.

Table 5: Recommended PNC Visit Schedule

PNC check (for mother and newborn)	Facility Delivery	Home Birth
24 hours	At facility and integrated into discharge protocol	Home visit by ANM or SN as soon as possible but within 48 hours of birth
3 days	Home visit by ANM/ Community Nurse	Home visit by ANM/Community Nurse
7–14 days	Home visit by ANM/ Community Nurse	Home visit by ANM/Community Nurse
6 weeks	Health facility visit, EPI clinics	Health facility visit, EPI clinics

⁴⁹ http://www.who.int/pmnch/media/publications/aonsectionIII_4.pdf?ua=1

⁵⁰ Mohammad Tajul Islam, Nazrul Islam, Costas Christophi, Yukie Yoshimura Effects of a community-based intervention package on postnatal care seeking behavior in rural Bangladesh: a cluster-randomized controlled trial, *Proceedings in Obstetrics and Gynecology*, 2015;5(3):1

⁵¹ WHO (2013) 'Postnatal Care for Mothers and Newborns'

PNC of newborns, maternal nutrition and early and exclusive breastfeeding are some of the areas that need further strengthening⁵². Assessment of mothers and newborns for complications, such as PPH, sepsis, injuries and postpartum eclampsia/hypertension, by trained health workers will help offer timely treatment for many life-threatening conditions.

PPH continues to be the leading cause of maternal deaths. The national protocol recommends oxytocin injection for prevention of PPH in institutional births, but widely variable temperatures in different parts of the country may affect its quality.

The Road Map recommends the following for prevention and management of key postnatal complications:

1. Make provisions in health facilities to keep postnatal mothers and newborns under close observation for at least 24 hours following delivery: Mothers and newborn babies should not be discharged from health facilities before 24 hours after an institutional childbirth and should be monitored closely for complications. This will mean that health facilities where deliveries are conducted are further strengthened to accommodate the needs of postnatal mothers, newborns and their families.
2. Improve the capacity for prevention and management of PPH:
 - Ensure temperature regulation of oxytocin storage (provision of refrigerator with electric/solar power back-up) at all storage facilities and in each health facility where delivery takes place.
 - Ergometrine should be made available to manage PPH in cases where oxytocin alone is not sufficient to ensure uterine contraction.
 - Site-specific and applicable PPH Bundle should be provided and staff should be trained (includes uterotonic, uterine massage, balloon tamponade, pneumatic stockings, and tranexaminic acid, surgical procedures).
 - The oral misoprostol programme must be scaled up and made available where SBAs are unlikely to be available at home births.
3. Introduce and strengthen home visits for PNC by a cadre of Community Nurses:
 - Since most maternal and newborn deaths occur in the postnatal period, and NCDs are on the rise, the Road Map strongly recommends creating a sanctioned post for "Community Nurses" to address this issue. Starting immediately, they can provide postnatal home visits, but in the longer term will be able to provide many of the preventive, promotive and diagnostic services for NCDs in the community, including nutrition, hygiene promotion, and support to early child development programmes.
 - To start with, the HR necessary for PNC could be made available by relocating existing ANMs after analysing their workload, providing resources to facility-based ANMs to also cover postnatal home visits if feasible, or by hiring extra ANMs/SNs on contract.

⁵² Infant and Young Child Feeding Guideline (MoHP 2016)

- There are a large number of qualified ANMS/SNs available in the market for immediate hire, and they will be able to roll out the services after a short orientation on their role in the community.
- An orientation package should be developed that includes orientation on community structures and approaches, identification, management and referral for critical postnatal conditions, newborn care, nutrition education and breastfeeding, and hygiene promotion.

5.1.1.7 Referral services:

Referral services should be strengthened and all local governments should ensure the availability of a transport system/ambulances (either their own or coordinated with other government/non-government agencies) for taking care of women with obstetric complications and newborns that need special care. Ideally, this service should also be made available to transport women for institutional delivery.

A Basic Emergency kit should be defined and made available in every ambulance; staff capable of resuscitation should be provided when referring complications.

The availability of airlifting, ideally with the provision of emergency services, should be expanded specially for mountainous regions.

Table 6: Strategic Interventions for the Next Five Years to Achieve Output 4.1.1.

Output 1.1 Reproductive, maternal and newborn health services are available and health facilities that comply with standards are located in strategically accessible areas and have good referral linkages	
Family Planning	
1	Emergency contraception should be considered in the GoN's national FP programme and in the BHS Package
2	Postpartum FP (IUCD/implant for temporary method or Minilap for permanent sterilisation) should be promoted and services strengthened
3	All health care providers should provide information and counselling on the standard days method and all EPI clinics (static and outreach) should provide FP (three short-term methods and information/counselling) services as well
4	Consider the best delivery mechanism for health workers to provide IUCDs and implants; training a few dedicated providers in high-volume facilities to provide services and mobilising them to visit other facilities on designated days may be more cost-effective
4	In the longer term, the pre-service training of midwives should aim to impart skills regarding IUCD/PPIUCD and insertion of implants during a structured internship, including for postpartum FP
Comprehensive Abortion Services	
1	In order to increase the number of certified sites and trainers, the responsibility for certification should be at both the Federal and Provincial Government levels as per the guidelines
2	Comprehensive Abortion Care (CAC) up to eight weeks should be available at all health facilities that provide BEONC services
3	The GoN should deliberate on emerging evidence and consider allowing ANMs and SNs working in pharmacies to be trained and certified to provide medical abortion services, including pregnancy testing, assessment of gestational age, provision of information and referral if needed
4	Pre-service training on CAC for doctors, SNs and midwives according to the national guideline

	should be provided as part of a structured internship
Antenatal Care	
1	The GoN's ANC protocol should be changed to encourage an earlier first ANC contact, ensure that pregnant mothers have four high-quality ANC visits and a further four ANC contacts
2	ANC should continue to be a facility-based service and made available every day. It should also continue to be provided through PHC/ORC services for hard-to-reach populations but made more frequent, regular and comprehensive
3	It is recognised that it is important for pregnant women to have one ultrasound before 24 weeks' gestation in order to better calculate the gestational age and detect foetal malformation; the feasibility of this intervention will be considered over the Road Map period
4	Information on the effectiveness and cost of the GoN's previous mobile ultrasound programme in rural mountainous areas should be evaluated and presented to Local Governments to consider whether its expansion should be supported
Delivery Care and Referral	
CEONC	
1	Focus on ensuring the functionality and quality of existing CEONC sites in public and private sectors across Nepal but primarily in the Terai, where BCs are commonly bypassed by women
2	Expand CEONC sites in the public or private sector in remote areas of the hills and mountains as a priority
3	Provincial-level Academic Institutes should be contracted to manage CEONC service sites where feasible to improve service delivery and quality
4	High-caseload CEONC service sites with more than 300 deliveries per month should have on-site birthing units led by SBA-trained SNs. In the immediate term, before such facilities can be developed, explore the possibility of a nearby health facility with adequate infrastructure to be developed as a birthing unit attached to the CEONC site
5	Operational research should be conducted in the two existing on-site birthing units to establish best practice and standards before expanding
BEONC	
1	If Local Governments already have a public or a private CEONC service site in the vicinity or in a neighbouring municipality, which can be accessed easily within approximately two hours, all women are encouraged to deliver at the existing CEONC service site
2	If Local Governments <u>do not have</u> a public or a private CEONC service site in the vicinity or in a neighbouring municipality, which can be accessed easily within approximately two hours, a BEONC site should be established at a strategic location that is accessible to most women
Strategically Located BCs	
1	Select a few strategically located BCs from existing BCs to be further strengthened and made functional 24/7, especially in the remote hills and mountains. Ideally all BCs should be upgraded/built as BEONC sites
2	All other HPs in the Local Government area should continue to provide the current level of services (FP, medical abortion, ANC, and PNC and immunisation services) on an outpatient basis, and have readiness for obstetric emergency, but not be labelled as BCs
3	In remote and mountainous areas, high-risk pregnant women should be encouraged to come to CEONC sites to await delivery. Local Government should ensure that facilities are available for this, including by developing maternity waiting homes in CEONC sites that cater to the mountains, and that the costs are covered
Guidance and Referral	
1	Provincial and Local Governments should develop a joint five-year plan that outlines which HPs or health facilities will become strategically located BCs; clear referral pathways and the means to provide for referral between strategically located BCs and CEONC sites should be identified and made functional

2	Guidance should be provided to Provincial and Local Governments on the optimal infrastructure, staffing, equipment, catchment and costs for BCs, BEONC and CEONC sites and referral in both remote and accessible areas
3	Ensure that the FWD referral guidelines are up to date and consistent with the emergency referral guidelines of the BHS Package and then approved and distributed
4	Referral services should be strengthened and all local governments should ensure the availability of a transport system/ambulances (either their own or coordinated with other government/non-government agencies) for taking care of women with obstetric complications and newborns that need special care. Ideally this service should also be made available to transport women for institutional delivery. A Basic Emergency kit should be defined and made available in every ambulance, and staff capable of resuscitation should be provided when referring complications
5	The availability of airlifting, ideally with the provision of emergency services, should be expanded, especially for the mountainous regions
Newborn Care	
1	All strategic BCs and midwife-/SBA nurse-led birthing units should have a newborn baby corner, and staff should have skills in essential newborn care and neonatal resuscitation
2	All BEONC/CEONC sites should have as a minimum a SNCU with trained staff
3	NICUs should be expanded to CEONC sites as far as possible, with assessment of feasibility for expansion
4	In-utero transfer of at-risk babies to service sites with NICUs should be included in the service delivery guidelines
5	Corticosteroids for preterm labour should be made available in CEONC sites and in selected BEONC sites
6	KMC should be promoted in all BEONC/CEONC sites and the principle of KMC should be adopted in all health facilities where premature birth takes place
Postnatal Care	
1	The PNC protocol should be revised from three visits to four and ensure that mothers and newborns stay at the health facility for at least 24 hours after delivery. Provisions must be made in health facilities to keep postnatal women and newborns for observation
2	A cadre of staff called Community Nurses should be developed, who can perform a wide range of preventive and promotive services at the community level. As part of the revised PNC protocol, Community Nurses should provide a home visit to <u>mothers who have given birth at home</u> , as soon as possible after birth and within 72 hours. In the immediate term the job description of ANMs at the local level should be revised to assign the Community Nurse function to this cadre. ANMs can be hired on contract by the Local Government to perform this function. The revised SBA Strategy should include a component of training on “facilitating Community-Provider interaction”
3	As part of the revised PNC protocol, an ANM (Community Nurse when available) should provide a home visit to a mother and newborn at three days after birth and another home visit at 7–14 days after birth, for both home delivery and institutional delivery

5.1.2 Output 1.2 Readiness of health facilities (public and private) to provide services is ensured

5.1.2.1 Infrastructure, equipment, commodities, medicines and laboratory services

The availability of MNH services is fundamentally dependent upon whether health services have appropriate infrastructure, essential equipment and medicine available and whether a full complement of staff is in place. Existing infrastructure should be adapted, according to

infrastructure standards, to ensure that all women, including those with disabilities, are able to access facilities and that facilities have the appropriate infrastructure and equipment to be able to provide confidential and respectful care for all women.

Local Governments should make use of locally generated resources to ensure that health facilities with birthing services have appropriate equipment to keep mothers and newborns warm and to encourage them to stay at the health facility for at least 24 hours after birth, as recommended by the WHO⁵³. The SHI Scheme should ensure that health facilities in the private sector have appropriate infrastructure before considering their participation in the scheme.

Most essential commodities and medicines that are needed for FP, abortion, ANC, delivery and PNC are part of the essential drugs list that will be provided as part of the BHS Package. These should be procured according to nationally defined standards, stored and distributed to every health facility in all Local Governments across the country. Calcium supplements and medicines to prevent and manage PPH that are not in the essential drug list should be made available. Emergency contraception should be added to the essential drugs list.

Laboratory tests for urine albumin, haemoglobin and blood sugar are critical to be able to identify any complications of pregnancy during ANC. These tests are part of the BHS Package in Nepal and should be available in at least one health facility in every Local Government. Urine dipsticks for testing proteinuria and glycosuria should be available at all HPs.

5.1.2.2 Minimum Service Standards

The Federal Government has developed Minimum Service Standards (MSS) for all levels of health facilities and hospitals (MoHP 2019), which outline the minimum standards in terms of governance, management for HR, finances, information and quality, clinical management and the management of support services that are expected at different levels of health facilities. Federal, Provincial and Local Governments should ensure MSS in all health facilities and hospitals. Federal and Provincial Governments should monitor compliance against the MSS on a periodic basis in both public and private facilities. The SHI Scheme and the Aama Programme should ensure that health facilities in the private sector are monitoring compliance with MSS before empanelling providers in the scheme and/or reimbursing providers for services.

Table 7: Strategic Interventions for the Next Five Years to Achieve Output 4.1.2

Output 1.2 Readiness of health facilities (public and private) to provide services is ensured	
Infrastructure, equipment, commodities and medicines	
1	Existing infrastructure is adapted, according to infrastructure standards, to ensure that women with disabilities are able to access facilities and that facilities have the appropriate infrastructure and equipment to be able to provide confidential and respectful care
2	Ensure that strategically located BCs and BEONC and CEONC sites have appropriate infrastructure, according to infrastructure standards, including appropriate facilities to keep

⁵³ WHO (2013) 'Postnatal Care for Mothers and Newborns'

	mothers and newborns warm and encourage them to stay for at least 24 hours after delivery
3	Federal and Provincial Governments to build/establish a birthing unit in hospitals with more than 300 deliveries per month and make them functional 24/7 with provision of adequate HR and logistics
4	The SHI Scheme should ensure that health facilities in the private sector have appropriate infrastructure before considering their participation in the scheme
5	Federal, Provincial and Local Governments must ensure that all health facilities have adequate stocks of quality-assured medicines in the essentials drugs list, including life-saving medication, and that they are procured according to nationally defined standards and stored appropriately, including those in the PPH Bundle, calcium for ANC, vitamin K injections for newborns, and emergency contraceptives
6	Ensure that tests for urine routine and microscopy, urine albumin, haemoglobin and blood sugar are available at least at one health facility in every Local Government area
7	Ensure that urine dipsticks for testing proteinuria and glycosuria are available at all HPs
Minimum Service Standards	
1	At all levels (Federal, Provincial and Local Government) ensure MSS in all health facilities and hospitals
2	The SHI Scheme and the Aama Programme should ensure that health facilities in the private sector are monitoring compliance with the MSS before empanelling and/or renewing providers in the scheme and/or reimbursing providers for services

5.1.2.1 Clarifying Roles and Responsibilities of Different Cadres

MNH workers should work together to deliver a full complement of services across the continuum of care. The 2006–2017 National Safe Motherhood and Newborn Long-term Plan recognised the need to develop a professional cadre of midwives. The SBA Policy 2006 had three strategies: 1) as a short-term measure, train SBAs through in-service training, 2) as a medium-term measure, revise the pre-service curriculum and include SBA core skills in courses for ANMs, SNs and doctors, and 3) in the long term, develop professional midwives.

Accordingly, SBA training provides in-service theory and skills-based training to ANMs, nurses and doctors. SBAs' core skills have been incorporated in the curriculum of courses for ANMs, Proficiency Certificate Level (PCL) in Nursing, Bachelor of Science (BSc) in Nursing and Bachelor of Medicine, Bachelor of Surgery (MBBS) degrees at all academic institutions in Nepal. However, this has not been evaluated for the core competency of SBAs, including effectiveness. Bachelor in Midwifery education programmes have also been established at Kathmandu University, the National Academy of Medical Sciences and Karnali Academy of Health Sciences.

Given the diversity in the training and availability of skilled health personnel at different levels, the Federal Government should set up a Technical Advisory Group (TAG) to strengthen collaboration among skilled health personnel to ensure consistency and clear roles and responsibilities between different cadres of skilled health personnel as defined by their respective professional councils.

Offering bridge courses to upgrade nurses providing maternity services to become registered midwives is a way forward in the transition plan. In addition, to bridge the gap between production and deployment of midwives and the current need for skilled services,

the SBA strategy should be revised as an interim measure to produce competent skilled health personnel.

5.1.2.2 Deployment, Transfer, Retention and Transition Plans

Health facilities cannot operate if the full complement of staff is not available. The current organograms do not yet have positions for registered midwives. The TAG should also review and revise the production and deployment plan for all skilled health personnel. In addition, deployment plans for registered midwives have to be developed.

The transition plans are particularly important given that the first batch of students from the Bachelor of Midwifery courses will graduate in early 2020. Certificate-level midwives from 18 educational institutions are expected to graduate in 2023. Given the rate at which Bachelor-level and Certificate-level midwives are expected to be produced, the Road Map assumes that for the first five years of its implementation, the SBA in-service training programme will need to be continued, to ensure that nurses and ANMs who are working in the government health system have the relevant skills.

The deployment and transition plans also need to provide guidance for staff retention, including relevant incentives and how transfers will be managed. The GoN's commitment must be ensured to transfer trained staff only to facilities that have relevant services, and to follow a predictable rotation system for transfers.

In order to address shortages of staff in key posts, the Federal Government has provided additional funds directly to hospitals so that they can hire temporary staff to provide CEONC services. Hospitals can directly contract Medical Doctor General Practitioners (MDGPs), Obstetricians, Anaesthetists, Operating Theatre Nurses, Laboratory Technicians and Operating Theatre Assistants.

The CEONC fund, however, is only a temporary solution, which should be continued for the short-term, but the following options could be implemented in the short and medium term:

- Approximately 120 postgraduate doctors of relevant specialities are likely to be produced within the next three years. They should be posted in remote-area CEONC service sites to ensure continuity of services.
- In partnership with medical colleges and the medical council, a mechanism should be established whereby postgraduate medical doctors (OBGYNs, MDGPs and

Text Box 3: 2018 Definition of Skilled Health Personnel providing care during childbirth: by WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA

Competent MNH professionals, who are educated, trained and regulated to national and international standards. They are competent to:

- (i) provide and promote evidence-based, human-rights-based, high-quality, socioculturally sensitive and dignified care to women and newborns;
- (ii) facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience; and
- (iii) identify and manage or refer women and/or newborns with complications.

As part of an integrated team of maternal and newborn professionals (including midwives, nurses, obstetricians, paediatricians and anaesthetists), they perform all signal functions of emergency maternal and newborn care.

UNFPA = United Nations Population Fund; UNICEF = United Nations Children's Fund; ICM = International Confederation of Midwives; ICN = International Council of Nurses; FIGO = International Federation of Gynaecology & Obstetrics; IPA = International Paediatric Association

paediatricians) receive a temporary specialist registration after training and are mandated to work in a CEONC service site for one year before they are given permanent registration as specialists.

- Academic institutions should be contracted to manage some CEONC service sites at lower levels to improve service delivery and quality.

5.1.2.3 Skill Acquisition

In-service training:

Skilled health personnel who provide care during childbirth should be able to provide evidence-based high-quality care, have the appropriate clinical skills, comply with service standards and protocols, and engage with women in a respectful manner to provide a positive childbirth experience (see Text Box 3).

The GoN has a range of in-service training packages for different skills, mostly focussing on safe delivery and emergency obstetric and newborn care. The Road Map recommends that the standard in-service training module for SBAs be revised to ensure that it covers all relevant elements of other in-service training modules, such as infection prevention, FP, safe abortion, ANC, delivery and PNC, including newborn care, newborn complications and the identification of birth defects.

The Road Map recommends that the federal and provincial government continue to provide in-service training for Advanced SBAs and Anaesthetic Assistants until an adequate number of MDGPs/OBGYNs and anaesthetists are produced in Nepal, including in remote areas.

A key priority for in-service training is counselling. Counselling needs to become a core skill across all cadres and needs to cover all aspects of the continuum of care: FP, ANC, PNC and newborn care, including maternal nutrition and breastfeeding. It is important that all service providers are aware about and provide “respectful maternity care” to all mothers.

Training sites: in addition to in-service training in government institutions, private Medical and Nursing Colleges that satisfy training site eligibility criteria should be developed as in-service training sites. Additionally, the capacity of existing government training sites should be expanded so that they are able to offer a range of comprehensive adolescent, reproductive, maternal, newborn health and nutrition training. It should be ensured that services at training sites are of standard quality, and trainers’ capacity is continuously updated and upgraded. The National Health Training Centre (NHTC) and FWD should work together to provide refresher training and technical updates to trainers, and federal and provincial government should ensure quality improvement of training sites. Furthermore, different approaches to delivering in-service competency-based training should be considered, such as distance learning and modular courses.

Pre-service education programme:

In order to reduce the need for in-service training, the curriculum for the pre-service education of health workers who provide maternal and newborn services should be revised to ensure that it includes core competencies that are comprehensive. This could include, for example, integrating contraceptive implant training in the mid-level practicum curriculum or having a theoretical SBA module in the MBBS and a practical clinical training module after

which MBBS students would already be 'certified' as SBAs, thereby reducing the need for in-service training.

Federal government and provincial government should ensure the production and deployment of an adequate number of MDGPs, OBGYNs, Anaesthetists and Anaesthetic Assistants to make functional existing CEONC services.

Federal government needs to finalise the draft National Nursing and Midwifery Strategy and Action Plan (2019–25) and both Federal and Provincial governments need to ensure the production of midwives (PCL and Bachelor-level) as projected by the Nursing and Midwifery Strategic Plan (2019–25). Current estimates are that 480 SNs will be upgraded to registered midwives by 2023 through bridging courses and another approximately 315 Certificate- and Bachelor-level midwives will graduate by 2023.

Training management information system:

It is important for the GoN to have a training management information system that can facilitate planning and deployment of staff to ensure that trained staff are correctly deployed to health facilities where they can use their training. The existing training management information system at the federal level should be strengthened and rolled out to provincial levels. The system should also be able to monitor the certification (and re-certification) of training providers and training sites at both federal and provincial levels to ensure relevant and high-quality training.

5.1.2.4 Clinical skill retention and use

To ensure that health workers, once trained, remain skilled and competent, the GoN has been assigning staff from higher-level facilities to work as clinical mentors for SBA-trained ANMs and nurses working in lower-level facilities. Until now, clinical mentors⁵⁴ have been mainly used to support intrapartum care but mentoring and coaching is needed across the continuum of care, including FP, safe abortion services, CEONC, newborn care and PNC.

The government needs to ensure that mentors and coaches have sufficient experience and training on coaching and mentoring methods and build their capacity accordingly. In addition to receiving support from a clinical mentor or coach, staff working in remote health facilities and those with low case volume should be rotated for short periods to high-caseload hospitals in order to retain their knowledge and skills.

5.1.2.5 Compliance with service delivery protocols

Compliance with FP and ANC service delivery protocols has been measured across health facilities and is weak, in particular in the areas of providing information and counselling. Private hospitals and HPs were particularly poor in complying with all areas of the service delivery protocols. Clinical mentors should encourage health workers to follow protocols and to use them continually to improve practice.

⁵⁴ The term clinical mentor has been used as a general term based on current practices. While a mentor aims to build capacity of the mentee, the coach focuses on improving a specific **task** through observation and feedback. Coaching usually happens at the workplace, but mentoring can be from a distance.

The Federal Government needs to ensure that service delivery protocols are evidence-based and kept up to date. The national training manuals also need to be aligned with the service delivery protocols. Staff who are in charge of health facilities need to ensure that service delivery protocols are in place and that staff are using the protocols to guide the provision of services. Compliance with service delivery protocols in the public and private sector will be measured every five years as part of the National Health Facility Survey.

Table 8: Strategic Interventions for the Next Five Years to Achieve Output 4.1.3

Output 1.3 Enabling environment is ensured for health staff to provide high-quality services	
Roles and Responsibilities of Different Cadres	
1	The Federal Government should set up a TAG to strengthen collaboration among skilled health personnel, ensuring consistency and clear roles and responsibilities between different cadres of skilled health personnel as defined by their respective professional councils. The Road Map recommends that the deployment of Bachelor- and Certificate-level midwives starts at on-site midwife-led BCs and progresses to BEONC service sites and up to strategic BCs as their numbers increase
2	The TAG should develop a transition plan to introduce Bachelor-level midwives and coordinate the roles and responsibilities of Bachelor-level midwives and Bachelor-level nurses trained as SBAs, and also introduce Certificate-level midwives and coordinate the roles and responsibilities of Certificate-level midwives, SNs with SBA training and ANMs
3	The SBA strategy and training plan should be revised and aligned with the transition plan for the production and deployment of midwives (Bachelor- and Certificate-level)
4	The Federal Government should continue to allocate CEONC funds to public hospitals to retain MNH staff on contract basis
5	Ensure that all CEONC sites (in both the public and private sector) have as a minimum a SNCU with staff trained to provide newborn care
6	In the medium term, a partnership with medical colleges, and the medical council, should be explored, where after qualifying, postgraduate medical doctors (OBGYNs, MDGPs and paediatricians) are given temporary specialist registration to work in a CEONC service site for one year; after the year has been successfully completed, full registration will be given
Skill acquisition	
1	Scale up the production of Bachelor-level midwives and prepare for their deployment; start production of PCL in Midwifery while developing their deployment plan
2	Introduce a bridge course for SNs to become registered midwives (equivalent to PCL in Midwifery)
3	Revise pre-service curriculum of MNH to ensure that adequate skills are imparted, including through structured internships
4	In-service training for SBAs is revised to ensure that it covers not just safe delivery but all relevant elements of other in-service training modules on infection prevention, nutrition, PPIUCD, safe abortion, ANC, delivery and PNC, including newborn care and the identification of birth defects and newborn complications
5	When in-service training modules are revised, the GoN should consider different innovative ways of delivering competency-based training, including distance learning and modular courses
6	Health workers working in the ANC and maternity wards of high-caseload hospitals should as a priority, have in-service training on counselling and communication approaches in critical areas
7	Government to continue in-service training for Advanced SBAs and Anaesthetic Assistants until an adequate number of MDGPs/OBGYNs and anaesthetists are produced in Nepal
8	Expand the capacity of existing government in-service training sites to be able to offer a range of comprehensive adolescent, reproductive, maternal and newborn, nutrition and infection prevention trainings, and also continue to offer training to the private sector with appropriate fees
9	Private Medical and Nursing Colleges that satisfy training site eligibility criteria should be developed as in-service training sites
10	Set up a system at federal and provincial levels for monitoring the certification (re-certification) of training providers and training sites
11	Update and strengthen the existing training management information system at the federal level

	and roll out to provincial levels
Skill retention and use	
1	Expand the remit of clinical mentors so that they are able to cover more than just intrapartum care. Develop and implement clinical mentors for FP, newborn care, safe abortion services and CEONC providers
2	Staff working in remote health care facilities should be rotated for short-periods to high-caseload hospitals in order to retain knowledge and skills.
Compliance with service delivery protocols	
1	In selected areas public and private health facilities will be measured every five years as part of the National Health Facility Survey
2	The Federal Government needs to ensure that service delivery protocols are evidence-based and up to date
3	Federal and Provincial Governments need to ensure that national training manuals are aligned with the service delivery protocols
4	The staff in charge of health facilities need to ensure that service delivery protocols are in place and that staff are following the protocols
5	Clinical mentors should encourage health workers to follow protocols and to continually improve practice

5.2 OUTCOME TWO: THE DEMAND FOR AND UTILISATION OF EQUITABLE MATERNAL AND NEWBORN HEALTH SERVICES INCREASED

This outcome will ensure that mothers and community members have better information and knowledge so that they are able to become owners of their own health. The needs and preferences of mothers and communities will be better understood by planners and managers and services adapted so that more women are able to use services.

5.2.1 Output 2.1 Mothers and families have appropriate and accurate information and knowledge to seek care in a timely manner

5.2.1.1 Providing information within health services

The key opportunity that the health system has for providing accurate information is the contact that a health worker has with a woman. A woman's experience of this contact will often determine whether she will come back for care and whether she will encourage her peers to use the service. Currently the quality of interaction between health workers and women and the information received is poor across the continuum of care and is reflected, for example, in women's poor knowledge of emergency contraception, the legalisation of abortion and of danger signs in pregnancy and birth. The Road Map recommends that the National Health Education, Information and Communication Centre (NHEICC) and FWD work together to review and revise the current Behaviour Change Communication (BCC) materials. Health facilities should consider developing audiovisual materials, if necessary in local languages, on FP, ANC, delivery care and PNC to display while women are waiting to see a service provider. To support mothers and staff working in postnatal areas, flex charts should be developed with information relevant to the postnatal period, including care of mother and newborn, maternal nutrition, breastfeeding, immunisation and birth registration.

The first contact that a pregnant mother tends to have with the health system is during ANC. The Road Map recommends that the current Antenatal Card design should be updated to a

Maternal, Newborn and Child Health (MNCH) card and should also include information on a healthy pregnancy, nutrition in pregnancy and the postnatal period, birth preparedness, common complications and where to seek care. It should provide information on essential care of the postpartum mother and newborn, immunisation and FP. Health service providers need to take time during the first ANC visit to introduce the pregnant mother to the information in the card, and use the card to counsel and listen to women at each contact with the health service provider.

ANC providers working in health facilities, and when providing outreach services, should be encouraged to also provide ANC counselling for a group of pregnant mothers. Group counselling sessions provide educational activities, facilitated discussions and peer support and have been shown to improve health literacy, women's pregnancy experience and ensure better engagement of pregnant women with ANC⁵⁵.

5.2.1.2 Providing information outside health services

Teenage pregnancy has remained constant over the past five years and contraceptive use among married teenagers has remained low. A key priority therefore is to provide accurate and appropriate information to young women and men. Given the high enrolment rates in primary schools in Nepal and gender parity in enrolment, another key opportunity to provide accurate and relevant information is Sexual and Reproductive Health (SRH) education at schools. SRH education and life skills education should be comprehensive, including covering risks of adolescent pregnancy, and MoHP should continue to advocate that it is made compulsory for both boys and girls.

There are social norms and cultural barriers that contribute to delays in decision making for seeking care that cannot be addressed by providing information alone, especially just to women. Including family members, key care providers, husbands, mothers and fathers-in-law in behaviour change is critical. Community mobilisation approaches and facilitated women's groups have been shown to be effective in empowering disadvantaged groups and in improving MNH, particularly in rural areas^{56,57}. Civil society and the non-government sector in Nepal have good experience in community mobilisation and partnerships would need to be fostered between government and these partners to implement this approach. There are a few areas of MNH, such as ANC, nutrition, PNC and essential newborn care, where a national-level multimedia campaign might be the most appropriate way to provide information on a large scale.

Using innovative technology such as mobile phones, Internet and social media could also be very useful, especially to reach young people in urban communities. There are materials developed by partners such as UNICEF and UNFPA that may be adapted to suit the needs of Nepalese young people.

⁵⁵ Catling CJ, et al. (2015) 'Group versus conventional antenatal care for women' Cochrane Database Systematic Reviews.

⁵⁶ WHO (2015) 'WHO recommendation on community mobilization through facilitated participatory learning and action cycles with women's groups'

⁵⁷ Ministry of Health and Population (2018) 'Gender Equality and Social Inclusion Strategy of the Health Sector.'

Table 9: Strategic Interventions for the Next Five Years to Achieve Output 2.1

Output 2.1 Mothers and families have appropriate and accurate information and knowledge to seek care in a timely manner	
Providing information within health services	
1	Develop a MNCH card that is provided to a pregnant woman during the first ANC visit, and is used for counselling and providing information on a range of RMNCAH, FP and nutrition issues
2	ANC providers working in health facilities and providing outreach services should be encouraged to conduct group ANC counselling sessions for pregnant mothers
3	Audiovisual materials should be developed to disseminate appropriate information during ANC and PNC visits to health facilities
Providing information outside health services	
1	Advocacy with key national and sub-national stakeholders to ensure that comprehensive SRH and life-skills education is promoted in schools
2	Government at all levels should work in partnership with civil society, the non-government sector and communities to mobilise socially excluded and vulnerable groups to improve health-seeking behaviour
3	Federal/Provincial Government to promote media campaigns on MNH issues such as ANC, nutrition, PNC and essential newborn care, where a national-/provincial-level multimedia campaign might be the most appropriate way to provide information on a large scale

5.2.2 Output 2.2 Health managers have adequate capacity and address users' needs

4.2.2.1 Data management and planning

Despite the overall improvements in maternal and newborn care and the increase in the use of services, the utilisation pattern, in particular for institutional delivery, has not been equitable and the gap in utilisation between rich and poor women has persisted. Where a mother lives, how wealthy she is, her caste and ethnicity, whether she is disabled and how much education she has received all influence whether she will use a service or not⁵⁸.

This means that all activities to improve service utilisation need to identify and target neglected population groups and geographical areas. Enhancing capacity to collect and use data to identify patterns of need among neglected groups should be a central part of the local planning and budgeting process. The planning process should also take account of those groups for which there is little information on service use, such as married and unmarried adolescents and women with disabilities. The needs of disabled women should be considered, including physical access and communication devices for mothers with hearing or vision impairments.

The Road Map recommends that in the short-term (next two to three years), the Public Health Nurse stationed in the Provincial Health Office and/or a locally contracted Public Health Nurse are trained to support Health Coordinators in Local Government areas to ensure evidence-based planning, budgeting and implementation, and that adequate and strategic resources are allocated for MNH.

⁵⁸ Malqvist M et al (2017) 'Persistent Inequity in maternal health care utilisation despite impressive overall gains' Global Health Action vol 10(1)

4.2.2.2 Financial incentives

Financial incentives are provided to women to offset the transport costs of reaching facilities for delivery services and to complete four ANC visits – which are all provided free at the facilities. Although 4ANC attendance has increased, the quality of care has not improved in a significant manner.

The Road Map recommends that a transition plan be developed where changes in the financial incentives for delivery care and 4ANC visits are considered. Its objective would be to move from the existing situation, where all women have access to financial incentives, to targeting the financial incentives to women who are not currently using services, such as the poorest or those living in remote areas. Financial incentives could be given to all women who live in areas that have low rates of ANC use and health facility-based delivery.

When changes in financial incentives are made, Local Governments should work with health facilities and Health Facility Management Committees (HFMCs) to ensure that all community members are informed of what incentives are available.

Table 10: Strategic Interventions for the Next Five Years to Achieve Output 2.2

Output 2.2 Health managers have adequate capacity and address users' needs	
Data and Planning	
1	Build capacity to use data to identify priorities and patterns of need of marginalised and socially excluded groups, as part of the local planning and budgeting process
2	In the short-term (next two to three years), the Public Health Nurse (PHN) in the Provincial Health Office and/or a locally contracted nurse should support Health Coordinators in Local Government areas to review their data, ensure evidence-based planning, budgeting and delivery and that adequate and strategic resources are allocated for MNH
Financial Incentives	
1	The Federal Level should develop a transition plan where changes in financial incentives, such as those for the Aama Programme, are re-considered, with the objective of moving from providing incentives to all women to targeting the poorest or those living in remote areas
2	Any changes in the financial incentive should be closely monitored, with rapid periodic assessments to ensure that the money is going to those women to whom it is intended and to measure effectiveness
3	Local Government, health facilities and HFMCs should clearly communicate any changes in financial incentives to the local population

5.2.3 Output 2.3 More effective and equitable outreach services are ensured

5.2.3.1 Community level

The FCHV plays a key role in providing information to pregnant women and mothers in her community. FCHVs also distribute oral contraceptive pills, condoms and iron and folate tablets and identification and referral of sick newborns and children. The Road Map recommends that FCHVs continue these functions and provide iron and folate supplements for three months after delivery and give support on KMC for mothers with preterm or low-birth-weight babies.

The FCHV Programme should be further strengthened, especially in areas with low care-seeking behaviour and poor knowledge of complications, ensuring that FCHVs have

accurate knowledge and can communicate this information effectively in a context-specific manner. FCHVs need to emphasise to pregnant women and their families the importance of attending the local health facility/outreach clinic for the first ANC contact by 12 weeks of gestation and other relevant information as per the guidelines. Further, FCHVs should be supported to educate communities about the risks of child marriage. “Ending child marriage” should be taken as a campaign and communities can be encouraged by incentives such as “no-child-marriage community” certificates as has been done for “open-defecation-free” communities.

The Road Map recommends that during pregnancy, FCHVs also distribute calcium supplements to prevent pre-eclampsia, misoprostol to prevent PPH and chlorhexidine to apply on the newborn’s umbilical cord stump to prevent infection.

The Road Map recommends that FCHVs be encouraged to work as a team with the Community Nurse. FCHVs actively identify women who gave birth at home and provide this information to the local health facility/Community Nurse. During PNC, as part of their existing responsibilities, FCHVs’ role is primarily to counsel the postpartum mother and caregiver on essential care for the mother and newborn and on symptoms of postnatal complications.

FCHVs should be facilitated to keep a list of pregnant women and their phone numbers, better record personnel information in the registers and use mobile phone systems to send reminders to mothers for appointments.

The Community Nurse’s role will be of a technical nature: she will examine the mother for haemorrhage, signs of infection, anaemia and birth injury and the newborn for sepsis, congenital anomalies and feeding and respiratory problems. Treatment and/or referral for identified complication management will be performed by the Community Nurse while the FCHV provides counselling and support. These community nurses/ANMs can also provide preventive and promotive health services, including screening for NCDs, hygiene promotion and nutrition education.

Household visits should be prioritised for disabled women who cannot easily access health facilities.

Encouraging community participation: The existing structures at community level, including HFMC members, community-based organisations, teachers and local leaders, should be actively involved in improving the health situation of mothers and their newborns. Mobilising the local community against child marriage could go a long way towards improving education for girls, preventing maternal and newborn mortality and ensuring healthier communities. Innovative technology, such as mobile phones and social media, could be used to share ideas and disseminate information so that community members take ownership of the activities implemented by the local government.

5.2.3.2 Outreach services

All communities should have access to PHC/ORC services within one hour’s walking distance from their home. In Local Government areas where geographical access to health facilities is an issue, PHC/ORC services should be strengthened to provide a wider range of maternal and newborn services, integrated with immunisation and FP services.

The Road Map recommends that group counselling on key MNH issues be provided during outreach clinics and that outreach services include services for monitoring BP, foetal growth and foetal heart rate, referrals for laboratory tests and ultrasound scans, where possible, before 24 weeks of gestation. PHC/ORC services will need to be located at a fixed service site in a building with at least one room to ensure privacy and confidentiality.

Section 4.1.1.5 on PNC recommends that some PNC checks be provided at the mother's home by an ANM/Community Nurse.

Table 11: Strategic Interventions for the Next Five Years to Achieve Output 2.3

Output 2.3 More effective and equitable outreach services are ensured	
Community	
1	The FCHV programme should be strengthened, in appropriate areas, by ensuring that FCHVs have accurate knowledge and can communicate this information effectively
2	During pregnancy, in addition to iron and folate supplements, the FCHV should distribute calcium supplements, misoprostol and chlorhexidine and provide information about them
3	FCHVs should actively identify those women who have given birth at home and provide information to the local health facility to enable timely PNC visits at home
4	During PNC, the FCHV should provide: iron and folate supplements for three months after delivery; support on KMC for preterm or low-birth-weight babies and information on postpartum FP, and support the Community Nurse for postnatal home visits, complication identification, treatment and referrals
5	Promote community participation for MNH issues and for changing harmful behaviours, including child marriage, through various activities, including mobile phone messages, advocacy events and mass campaigns
Outreach	
1	All communities should have access to PHC/ORC services within one hour of their homes
2	PHC/ORC services should be strengthened to provide a wider range of MNH services, and group counselling on key MNH issues
3	PHC/ORC services will need to be located at a fixed service site in a building with at least one room to ensure privacy and confidentiality
4	ANMs/Community Nurses should carry out postnatal home visits for the mother and the newborn in collaboration with FCHVs, who provide information and support to the family while the nurse does the technical work of assessment, treatment and referral for mothers and newborns

5.2.4 Output 2.4 Parliamentarians and locally elected leaders are empowered to demand adequate investment in maternal and newborn health

5.2.1.1 Peoples' representatives are encouraged to understand the value of strategic planning for effective coverage of services and value for money

Most political parties have outlined health as a priority in their election manifestos. However, the importance of strategic planning, value for money, health system challenges, peoples' needs and the national/international commitments made by Nepal, is not always clear to many of them. Since the Federal system is newly being practised in Nepal and local leaders have a great deal of opportunity and resources, strategic investments can be a game changer for MNH, which can also be an entry point to strengthen health systems overall.

They need to be provided with information and capacity building to provide support to and demand effective planning from local governments.

5.2.1.2 Peoples' representatives have the tools and use them to advocate to the government for greater investment in maternal and newborn health

Orientation packages must be developed to support local, provincial and federal leaders highlight the indicators to which Nepal has committed and the existing disparities and inequities in access to services and maternal/newborn health outcomes. Leaders should be fully oriented and their capacity should be built so that they can, in turn, demand greater investment and accountability for MNH from the government at all levels, including for social determinants of health, gender issues and issues affecting adolescents.

Table 12: Strategic Interventions for the Next Five Years to Achieve Output 2.4

Output 2.4 Parliamentarians and locally elected leaders are empowered to demand adequate investment in maternal and newborn health	
2.4.1 Peoples' representatives are encouraged to understand the value of strategic planning for effective coverage of services and value for money	
1	Using the findings from the Review and the Road Map, orientation packages should be developed to encourage leaders to support the government for strategic planning, especially around relocation of BCs, creation of the position of Community Nurse/ANM and for using innovative technology
2	The leaders, using their institutional mechanisms, such as parliamentary committees, advocate effectively to all stakeholders for well strengthened health systems and cost-effective high-quality services
2.4.2 Peoples' representatives have the tools and use them to advocate to the government for greater investment in maternal and newborn health	
1	Using tools such as the National Health Accounts, costing of the Road Map and the NHSS and fiscal space analysis reports, the leaders should be oriented about financing gaps and the need for greater investment in MNH
2	Leaders should be encouraged to use tools to develop sound plans for their constituencies as well as to advocate to stakeholders about the economic benefits of investing in the health system, especially for MNH and other social and environmental determinants of health

5.3 OUTCOME THREE: THE GOVERNANCE OF MATERNAL AND NEWBORN HEALTH SERVICES IS IMPROVED, AND ACCOUNTABILITY IS ENSURED

Governance is essentially the framework of decisions and accountability that encourages desirable behaviour and the most effective use of resources. This outcome will ensure that three key elements of governance – financing, partnerships and accountability – are in place.

5.3.1 Output 3.1 Adequate financing is ensured for maternal and newborn health services

5.3.1.1 Free Care

There are three sources of government funding for maternal and newborn care, which include:

- (i) the BHS Package, provided by all government health facilities free of cost, including comprehensive FP services, safe abortion care, ANC, care for normal delivery, management of obstetric complications, referral costs and PNC;
- (ii) the Aama Programme, which reimburses public- and private-sector health care providers enrolled in the scheme for all the costs of delivery care, for all women (normal vaginal delivery, management and treatment of complications and CS);
- (iii) the SHI Scheme, which reimburses private health care providers enrolled in the scheme for the costs of delivery and newborn care, for insured women only. Public health facilities can be empanelled in the SHI Scheme but they are reimbursed for delivery services by the Aama Programme. The reimbursement rates to providers for SHI are higher than the reimbursement rates for the Aama Programme.

The Road Map recommends that maternal and newborn services, including the management and treatment of complications including transport for referral, continue to be provided free of cost. The source of funding for these services will change over a period and the Road Map recommends that a transition plan be developed (Table 13) that outlines the key steps to protect free care for all women and newborns.

Table 13: Proposed Transition Plan

Phase 1	The BHS Package is defined, costed and implemented
Phase 2	A Social Health Protection Package is developed, in which all health services, including components of the Aama Programme that the GoN wants to continue to provide free of cost but are not covered by the BHS Package, are reviewed, defined and costed
Phase 3	All public facilities are enrolled in the SHI Scheme and the Social Health Protection Package is integrated into the SHI Scheme. Both non-insured and insured women and newborns will obtain free services

Private health care providers working under the SHI Scheme get higher rates of reimbursement for services provided, in particular for CS. There may be some unintended consequences of this practice, as private providers perform more CSs than necessary.

The transition plan outlined above should consider the potential negative impact of financing mechanisms on quality of care and other payment mechanisms should be tested for a defined period of time with rigorous M&E. Other mechanisms for paying health facilities for services could include: equalising fees for vaginal births and CSs or paying by output, based on an expected ratio between vaginal births and CSs.

5.3.1.2 Additional financing

The Road Map will be costed and the costing information should be used to advocate for secure, long-term funding for maternal health at the federal level. At the provincial and local levels, the 'costed packages of care' for maternal and newborn services can be used to inform the annual planning and budgeting process. The provincial and local levels receive a conditional federal grant that is earmarked for health but also have access to other sources of finance, including the federal revenue transfer, the federal equalisation grant and locally generated resources. These other sources of finance could be used to leverage more funds to finance MNH. In addition, periodic fiscal space analysis, National Health Accounts and public expenditure reviews for MNH services should be prepared and utilised as tools to

advocate for additional resources. National and provincial health financing strategies should continue to explore and expand fiscal space for MNH.

Table 14: Strategic Interventions for the Next Five Years to Achieve Output 3.1

Output 3.1 Adequate financing is ensured for maternal and newborn health services	
Free Care	
1	Maternal and newborn services, including the management and treatment of complications and transport for referral, should be provided free of cost
2	The source of funding for maternal and newborn services will change over the Road Map period and the Road Map recommends that a transition plan be developed that outlines the key steps to protect free care for all women and newborns
3	The transition plan should also consider other mechanisms for paying health facilities for maternal and newborn services and these mechanisms should be rigorously monitored and evaluated for a defined period of time
Additional Financing	
1	The federal level should advocate for secure, long-term and additional funding for MNH
2	Provincial and local governments to use the 'costed packages of care' to inform the annual planning and budgeting processes

5.3.2 Output 3.2 Effective and sustainable partnerships are ensured for maternal and newborn health services

There are three areas of partnership that are important for the Road Map. Firstly, collaboration and coalition-building across sectors and with EDPs will be critical in continuing to emphasise the 'unfinished business' of delivering on MNH. The data in this Road Map can be used by Provincial and Local Governments to advocate with other Ministries and key stakeholders for the need to continue to invest in MNH.

Secondly, key partnerships in delivering MNH services need to be identified and these relationships professionalised. Partnership with the Private Sector, academic institutions or Non-governmental Organisations (NGOs) should set clear terms and conditions, including financing commitments, clear partner obligations, clear performance indicators and a stipulated time period. Capacity will need to be built in contract identification and management so that more successful partnerships can be achieved. Contracts with FP providers to deliver outreach services and with provincial-level Academic Institutes to manage CEONC service sites need to be considered.

Thirdly, within the health sector, internal partnerships need to be developed between programme managers to ensure that different parts of the health system work together to provide comprehensive and coordinated services to the user in an efficient way. The BHS Package should encourage health care facilities to provide services for maternal health, NCDs and malnutrition in a more integrated way and will need support and planning in the initial stages. Similarly, the organisation of emergency services, including the referral of maternal and newborn complications, which are now provided free under the BHS Package, will need health facilities to plan together and develop partnerships, in terms of who is responsible for transporting and caring for women and newborns during referral, the vehicles available and needed, how communications will be made and so on.

A coordination mechanism such as the previous Reproductive Health Coordination Committee should be set up at federal, provincial and local levels to periodically review and address challenges in ensuring smooth functionality of the partnership mechanisms. The members of these committees, depending upon the level at which they are established, should be key stakeholders present and working in MNH and relevant sectors. They should meet at least quarterly and review the status of MNH and related issues. At the federal level, the FWD will lead the committee; at provincial level, the Provincial Health Coordinator or Health in-charge of the Social Development Ministry will lead; and at the local level, the Deputy Mayor will lead such committees. Terms of reference should be developed for the committees, with provision of funds for meetings and programme reviews.

Table 15: Strategic Interventions for the Next Five Years to Achieve Output 3.2

Output 3.2 Effective and sustainable partnerships are ensured for maternal and newborn health services	
1	Federal, Provincial and Local Governments to advocate with key stakeholders for the need to continue to invest in MNH
2	In order to develop successful partnerships, capacity will need to be developed at all levels of government in partner identification and contract management.
3	Integration plan for 'shared' services at primary health care level
4	Reproductive Health Coordination Committee should be set up at federal, provincial and local levels, their membership and terms of reference defined and provisions made to support their functions

5.3.3 Output 3.3 Accountability for maternal and newborn health services is enhanced at all levels

Accountability systems can be understood as both internal (within the government) and external (between government and citizens)⁵⁹. Internal accountability systems are mechanisms through which the government collects financial, service use and performance data and provides this information to internal managers and other parts of the government. External accountability is the mechanism by which the government translates the information that it collects so that people can understand. Social accountability is the way in which citizens engage with this information or collect their own information and engage with the government. Presenting information on services is important as it is at the service delivery level that failures in provision are most acutely felt. The government has a number of activities in place to improve the accountability of health services, including Citizen's Charters, public hearings, social audits and HFMCs. In addition, the government should also establish Provincial and Local Government Health Coordination Committees, which should include stakeholders from MNH and key supporting partners.

The 2008 Nepal Government Good Governance Act stipulates that every government office responsible for delivering a public service should maintain a Citizen's Charter, which should be visibly displayed. The charter should contain details of services, opening times, persons responsible for delivering services, which services are free and any service charges. The Act

⁵⁹ McGee R et al (2010) 'Review of the impact and effectiveness of transparency and accountability initiatives' Institute of Development Studies, University of Sussex

also outlines any action that should be taken, including compensation if the service user does not receive the required service because the office fails to perform its role.

Most HFMCs and service providers are aware of the charter but awareness among service users and its perceived impact is low⁶⁰. Local Governments should ensure that all health facilities display Citizen’s Charters and that HFMCs take forward a process of informing the local community of the charter, which could include displaying the charter in other public places and managing and reporting any complaints.

Social audits and public hearings should continue and periodically cover maternal and newborn-related issues. A key service delivery issue that would benefit from regular public or social audits is emergency referral mechanisms. Federal and Provincial Governments are responsible for emergency referral mechanisms, including for maternal and newborn complications. Annual social audits conducted by external partners on emergency referrals would be very useful.

Health workers’ absenteeism and the ratio of sanctioned to filled posts is another key concern for many citizens; Local Government should explore ways in which this information can be provided to citizens. HFMCs should continue to be inclusive and adequately represented by women and users of services.

Provincial and Local Government Health Coordination Committees should include discussions on MNH services and invite key external partners. The GoN should also explore more structured ways of hearing citizens’ voices on MNH at local, provincial and federal levels. This could start with presentations of the outcomes of social audits or similar community-tracking mechanisms at annual performance review meetings.

One of the accountability mechanisms will be for the HFMC to follow up if, how and what preventive actions have been taken after Maternal and Perinatal Death Surveillance and Response (MPDSR), and make necessary provisions to support the recommendations.

Table 16: Strategic Interventions for the Next Five Years to Achieve Output 3.3

Output 3.3 Accountability for maternal and newborn health services is enhanced at all levels	
1	Local Government to ensure that all health facilities display Citizen’s Charters and charters are displayed in other public places
2	Any accountability mechanism that provides information to the public should ensure confidentiality and privacy
3	Local Government to ensure that HFMCs provide information on the charter to local communities
4	Governments at all levels to ensure that social audits are conducted, and periodically cover MNH, including the provision of free care
5	Annual public or social audits on the way in which Federal and Provincial Governments have managed emergency referral mechanisms, including for maternal and newborn complications
6	Governments at all levels to explore ways in which to present and/or display information on the number of sanctioned posts that are filled
7	HFMCs should be inclusive, be adequately represented by women and have citizen

⁶⁰ Gagan G. et al (2018) ‘Citizen’s Charters in a Primary Health Care Setting of Nepal: an accountability tool or ‘mere wall poster’? Health Expectations vol 21(1)

	representation
8	Provincial and Local Government Health Coordination Committees to include MNH representatives and key external partners
9	All levels of government to explore ways in which citizens' voices could be more systematically incorporated into formal planning and review processes and in ensuring understanding of quality of care

5.4 OUTCOME FOUR: MONITORING AND EVALUATION OF MATERNAL AND NEWBORN HEALTH IMPROVED

Monitoring is an ongoing process that generates information that is useful to decision makers, managers and implementers of programmes. It involves routine collection of information and the periodic analysis of this information in order to track progress. Evaluation is an assessment of an activity to determine its effectiveness and is usually time-bound.

5.4.1 Output 4.1 Monitoring of maternal and newborn health is improved

The Road Map aims to improve the monitoring of utilisation of MNH care services, crucially including those that are not using services, and of the quality of services delivered.

At the individual level the key tool to monitor mothers and newborns is the Maternal and Newborn Register that is present in every government health facility. Programme-level information is collated in the National HMIS. The recording of information in the register needs to improve, particularly the client-level information. The information that will be recorded in the new MNCH Card and in the Maternal and Newborn Register needs to be clear. Health facilities need to find better ways of following up data on women shared by FCHVs and the Community Nurse.

The utilisation of services is captured in the National HMIS and is entered into the District Health Information Systems 2 software (DHIS-2). However, HMIS is not complete as women who do not use services at all or women who use the private sector are not captured. HMIS is, however, a key tool for monitoring MNH programmes and is essential for government planning and budgeting purposes. The GoN and donor partners will continue to support the five-year NDHS, which provides information on health care practices and utilisation both in the public and private sector.

Monitoring quality is a key challenge. All systems that are there to monitor quality need continuous strengthening. At the health facility level, clinical mentors use quality improvement tools essentially to improve clinical practice, while MSS are available to monitor whether the health facility has the infrastructure, equipment and staff in place and is 'ready' to provide a service. HMIS collects data on emergency obstetric care from hospitals but it is not clear how complete these data are. The Logistics Management Information System (LMIS) records stocks of essential drugs. The five-year National Health Facility Survey (NHFS) measures: compliance with service delivery protocols (FP, ANC, delivery and PNC); compliance with MSS; BEONC and CEONC signal functions in the public and private sectors; and exit interviews to capture client satisfaction with services. Free maternal and newborn services are monitored using the five-year NDHS and by government's periodic rapid audits of free care. MPDSR collects information on maternal and newborn

deaths. However, follow-up on implementation of the recommendations made during the review process is weak.

The Road Map recommends that a simple framework for monitoring the quality of care at health facility, local, provincial and federal level be developed. The information that is needed at the health facility level will be different from the information that is needed at the federal level. The framework should outline what indicators should be monitored at the different levels and the data source for the indicators.

MPDSR should be scaled up across the country and used to monitor the conditions that contributed to deaths and whether improvements have been made in health system response to critical cases. An indicator measuring the proportion of MPDSR recommendations that have been implemented by the health facility and stakeholders could be a valuable measure of quality improvement. Capturing deaths at the community level is a challenge and linking with vital registration is essential. Periodic studies of maternal near-miss should also be undertaken to better evaluate the quality of obstetric care and understand any patterns in morbidity. Newborn impairments should also be monitored, reported and analysed.

Hospitals with CEONC services should monitor CS rates using the WHO's Robson classification criteria. This information could be used by Federal and Provincial Governments to monitor whether government and private hospitals should continue to be eligible for providing delivery care under the Aama Programme and/or the SHI Scheme. In order to ensure a certain amount of independence from hospital-measured rates, the Federal Government should conduct periodic studies using WHO's C-Model both in public and private health care facilities.

Data on MNH should be analysed and reviewed monthly at each facility level under the leadership of Health Facility In-charges, and quarterly at the Palika level for all the facilities under its jurisdiction. The Public Health Nurse and Health Facility In-charge at the Palika should co-ordinate and lead the review.

Every health facility should continue to monitor programme activities and expenditures based on the annual work plan and budget and remedial actions taken for delayed implementation. This should also be linked with regular technical monitoring of programmes by provincial- and federal-level programme managers, including for quality of care and compliance with protocols.

There should be a six-monthly review of data at the provincial level for all Palikas under the leadership of the Regional Health Coordinator and Head of Health Department of the Ministry of Social Development. Annual review at the federal level should continue, including the JAR with partners.

Table 17: Strategic Interventions for the Next Five Years to Achieve Output 4.1

Output 4.1 Monitoring of maternal and newborn health is improved

- | | |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Health facilities to improve the monitoring of mothers and newborns through better recording in the Maternal and Newborn Register and consider using mobile phone technology |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

2	Health facilities should continue to monitor programme activities and expenditures based on the annual work plan. This should also be linked with regular technical monitoring of programmes by provincial- and federal-level programme managers, including for quality of care and compliance with protocols
3	Continue to improve the reporting, recording and use of HMIS and LMIS
4	Develop a framework for monitoring quality of care at health facility, local, provincial and federal levels with indicators and data sources for the indicators
5	Build capacity to be able to scale up MPDSR and link with vital registration and HMIS
6	Ensure annual reviews of MPDSR data by Federal and Provincial Health Directorates.
7	Federal and Provincial CEONC service sites should undertake studies of maternal near-miss and newborn impairments every quarter
8	Hospitals with CEONC services should monitor CS rates using the WHO Robson classification criteria
9	Federal and Provincial Governments to conduct periodic studies using WHO's C-Model in public and private health care facilities
10	Monthly data quality assessments, compilation and reviews should be performed at the health facility, quarterly at the Palika level and six-monthly at the provincial level. Annual review at the federal level should continue, including the JAR with partners

5.4.2 Output 4.2 Evaluation of maternal and newborn health and health services is planned during the programme design and is effectively carried out

The Road Map will be evaluated at mid-term in 2024/5 and in 2029/30 progress against the Road Map's results framework will be assessed, including how successful the Road Map was in securing additional money for MNH. The evaluation priorities over the next five years include:

- An in-depth study of mothers' (including disabled mothers') experience of care received, in particular during health facility delivery, to understand whether care that is delivered is patient focused, dignified and respectful.
- Operational research to establish best practice and standards for birthing units in tertiary hospitals.
- Once on-site birthing units are operational, M&E of the rates of assisted vaginal delivery compared with CSs across the birthing units and the general labour wards.
- The indicators to monitor the Road Map and the SDG for Nepal to be incorporated in the upcoming NDHS and NHFS as per the monitoring framework.
- Evaluation of the proposed strategic placement of BCs and BEONC at local levels, including monitoring the management of complications and referral and the effect on access and use by different population groups.
- Evaluation of the effectiveness, in terms of identifying and referring women with complications, and cost of the mobile ultrasound programme in remote mountain areas.
- Evaluation of the effectiveness of the model of care and the cost of maternity waiting homes in Solukhumbu, Humla and Okhaldhunga.
- Pilot feasibility of including newborn death in MPDSR at community level.
- Conduction of a comparative study to test the effectiveness of having nurses work with FCHVs to provide home-based postnatal visits in reducing maternal and newborn mortality and comparison of this outcome with trained FCHVs providing PNC home visits.

- Establishment of a structured monitoring system to ensure the effectiveness of the referral system with corrective measures taken as required.

Table 18: Strategic Interventions for the Next Five Years to Achieve Output 4.2

Output 4.2 Evaluation of maternal and newborn health and health services is planned during the programme design and is effectively carried out	
1	Progress against the Road Map's results framework and recommendations will be evaluated in 2024/5 and 2029/30
2	Conduct a study on mothers' experience of care
3	Operational research to establish best practice and standards for birthing units in tertiary hospitals
4	Monitor and evaluate the rates of assisted vaginal delivery compared with CS in hospitals that have general wards and on-site birthing units
5	Evaluate the proposed strategic placement of BCs and BEONC sites at local levels, including monitoring the management of complications and referral and the effect on access and use by different population groups
6	Evaluate the effectiveness, in terms of identifying and referring women with complications, and cost of the mobile ultrasound programme in remote mountain areas
7	Evaluate the effectiveness of the model of care and the cost of maternity waiting homes in Solukhumbu, Humla and Okhaldhunga
8	Review and strengthen referral systems from strategic BCs to CEONC sites/maternity waiting homes
9.	Conduct a comparative study to test the effectiveness of having nurses work with FCHVs to provide home-based postnatal visits in reducing maternal and newborn mortality and compare this outcome with trained FCHVs providing PNC home visits
10.	Review and identify gaps, if any, in the implementation of NeNAP, particularly on exclusive breastfeeding, compulsory vitamin K and KMC, and make recommendations to fill the gaps

5.5 OUTCOME FIVE: EMERGENCY PREPAREDNESS AND RESPONSE FOR MATERNAL AND NEWBORN HEALTH STRENGTHENED

Women will continue to give birth and will continue to need maternal and reproductive health services even at times of natural emergencies. This outcome aims to ensure that the managers of MNH services are prepared for disasters and emergencies and have procedures, protocols and resources in place to be able to respond. The activities here are largely drawn from those in NHSS and NeNAP.

5.5.1 Output 5.1 Preparedness of maternal and newborn health services to address emergencies is improved

MNH should be integrated into the Provincial Health Emergency Preparedness Plan and guidelines and protocols for MNH and Gender-based Violence (GBV) in emergency situations developed and/or reviewed to make sure they are up to date. The plan needs to identify the lead organisation for MNH. Each province will need to identify referral hospitals with the capability to manage trauma cases and accept maternal and newborn referrals in the public and private sector. Lower-level health facilities need to inform communities where they can access MNH care soon after a natural disaster.

Nominated health facilities need to have the space to set up maternity shelters. Buffer stocks of supplies and medicines will be pre-positioned in nominated health facilities and in

strategic locations. The buffer stocks should include rapid response kits for MNH. The Provincial HR Mobilisation Plan should have different levels of and adequate MNH staff, including staff to operate ambulances and blood banks. Practice drills should be carried out in nominated hospitals with nominated staff on a regular basis.

Table 19: Strategic Interventions for the Next Five Years to Achieve Output 5.1

Output 5.1 Preparedness of maternal and newborn health services to address emergencies is improved	
1	Integrate MNH into the National Health Emergency Preparedness Plan
2	Ensure relevant maternal and newborn and GBV guidelines and protocols are up to date
3	Ensure nominated referral hospitals and lower-level facilities have pre-positioned stocks of supplies and medicines, staff mobilisation and deployment plans and that practice drills and simulation exercises are carried out regularly

5.5.2 Output 5.2 Response to maternal and newborn health care in emergencies is strengthened

The GoN needs to be able to respond swiftly and efficiently to be able to protect mothers' and newborns' lives and continue to provide services. Teams should be mobilised immediately as instructed in the HR Mobilisation Plan. Female-friendly spaces and transition homes are needed to provide safe and temporary shelters to pregnant women before they can be referred to health facilities that can provide delivery care. These transition homes can also be used for returning mothers and their newborns after delivery.

It is essential that outreach camps be organised to provide reproductive health services to women who are in remote areas or areas that are difficult to reach. GBV prevention, screening and management, including referral should be in place and the protection of all women, but in particular adolescents, from abuse and trafficking. Attention must be paid to the psychosocial needs of the MNH care workers who survive the disaster: they are often the frontline workers during and in the immediate aftermath.

Coordination becomes critical: a coordination team, specifically for maternal and reproductive health, that actively links with the overall health coordination team should be established. Monitoring mechanisms need to be set up to ensure that coordination between different partners is achieved and also provide information for the phased re-introduction of comprehensive primary health care services and the rebuilding of health infrastructure. Initial needs can be calculated using the Inter-Agency Working Group on Reproductive Health in Crisis calculator for the minimum initial service package. If stocks are not in-country then the United Nations Population Fund (UNFPA) can order and deliver reproductive health kits for different levels of service provision and different population densities for a period of three months.

Table 20: Strategic Interventions for the Next Five Years to Achieve Output 5.2

Output 5.2 Response to maternal and newborn health care in emergencies is strengthened	
1	Calculate initial needs using Inter-Agency Working Group on Reproductive Health in Crisis calculator
2	Establish coordination and regular monitoring mechanisms
3	Establish safe and temporary shelter for pregnant and postpartum women

4	Ensure GBV screening
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5	Protect and support the psychosocial needs of MNH care workers who survive the disaster
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6 APPENDICES

6.1 ANNEX 1: PROGRESS ACROSS THE CONTINUUM OF CARE:

6.1.1 Family Planning

Box 1: Family Planning Key Messages

- The SDG 2030 target is for '80 percent of women of reproductive age (15–49 years) to have their need for FP satisfied with modern methods.' In 2016, progress against this SDG target was 56.3 percent
- Married women living together with their husbands are much more likely to use modern contraceptive methods than women whose husbands are away (54% versus 21%)
- Almost all health facilities provide three modern methods of FP (pills, condoms, injectable) but only 44 percent offer five modern methods (including IUCDs and implants). Province 4 has the lowest percentage of health facilities offering five FP methods
- Less than one percent of women used emergency contraception and knowledge of the method is poor
- Discontinuation rates are high for all contraceptives; but more IUCD and implant users discontinued the method due to fears of side effects and concerns for their health
- In 2016, among women who had a live birth, only 13.3 percent reported receiving information on FP during the postpartum period
- Province 2 has the lowest demand for FP, the second lowest contraceptive prevalence rate, the highest prevalence of female sterilisation and the highest teenage pregnancy rate
- The SDG 2030 target is 'adolescent birth rate (age 10–14 years and 15–19 years) at 30 per 1,000 women in that age group.' In Nepal, this was 88 per 1,000 women for the 15–19 years age group in 2016
- Discontinuation of FP is high, with three out of every five women discontinuing the method within 12 months of starting
- The quality of care is of concern as only three percent of health facilities provided privacy and confidentiality; 6.3 percent of women were counselled on side effects during FP service consultation, and only 13.3 percent of mothers were given information on FP in the postpartum period.

Source: Nepal Demographic and Health Survey, 2016 and Nepal Health Facility Survey 2015

Pregnancy and complications of childbirth are the leading cause of death among 15–19 year-old girls globally. Adolescent mothers face higher risks of complications than those aged 20–24 years and babies born to young mothers have a greater risk of low birth weight, with potential long-term effects. Although fertility has been falling in Nepal, the teenage (15–19 years) general fertility rate increased from 81 to 88 per 1,000 women and pregnancy rate has been constant at 17 percent over the past two NDHSs and is highest in Province 2 (27.3%). Contraceptive use among married teenagers (15–19 years) in Nepal is very low (23.1% for all methods with 14.5% for modern contraceptive methods)⁶¹.

Repeat pregnancy and short intervals between births are also of concern for young mothers and present further risks to both the mother and the child. The proportion of children born within a short interval (less than 24 months) in Nepal has remained constant at 21 percent since 2011. Birth intervals are shorter amongst certain groups of mothers, particularly those with any of the following characteristics: less than 19 years old, who live in the Terai and/or

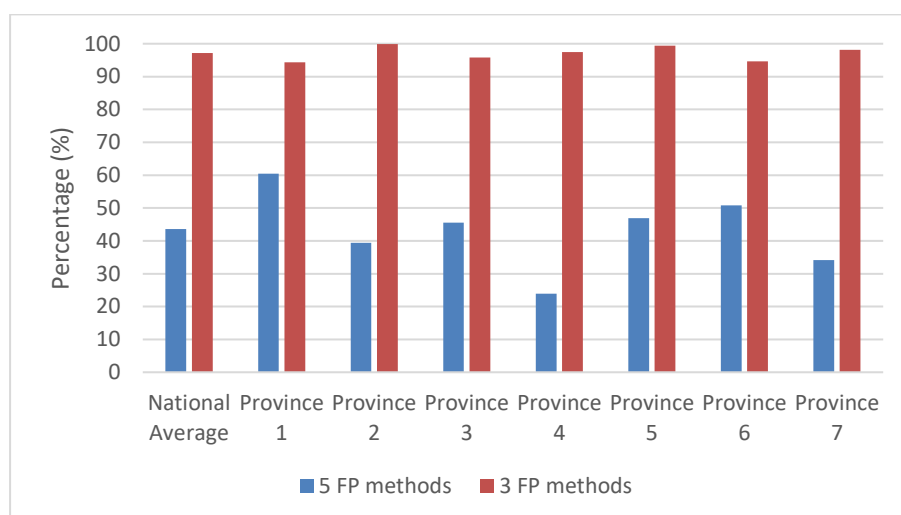
⁶¹ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

in Province 2 and in rural areas, and among those whose child from the preceding pregnancy has died⁶².

The SDG 2030 target is for 80 percent of women of reproductive age having their need for FP satisfied with modern methods. In 2016, the figure was 56.3 percent. Provinces with particularly low levels (less than the national average) were: Province 1 (50.4%), Province 4 (47.8%) and Province 5 (51.6%). Province 2 also has the second lowest contraceptive prevalence rate (42.2%), the highest prevalence of female sterilisation (32%), the highest rate of highest teenage pregnancy (27%) and low demand for FP (58%)⁶³.

Nearly all (97%) health facilities offer three temporary modern methods of FP (pills, injectable, male condoms). However, the proportion of health facilities offering all five modern methods (including IUCDs and implants) decreases to 43 percent nationwide and is very low in Province 4 (Figure 1). Only 40 percent of HPs offer five temporary modern methods of FP compared to 91 percent of district hospitals: HPs are where most poor people come for FP services.⁶⁴

Figure 1: Percentage of Health Facilities Offering Five and Three Family Planning Methods



Data source: Nepal Health Facility Survey, 2015.

The GoN is a key provider of FP services, in particular for male and female sterilisation services and Long-acting Reversible Contraceptives (LARCs). The majority of LARC users sought services from government health facilities: 70.3 percent of IUCDs, 84.1 percent of implants and 74 percent of injectables came from such sources. Women using pills sourced their contraceptives from a wider range of sites: HPs (31%), FCHVs (18%), private clinics (17%) and pharmacies (22%); male condom users overwhelmingly sourced the method from private clinics or pharmacies⁶⁵.

Knowledge and use of emergency contraception is low compared to other modern methods of FP. Knowledge is higher among married women and men who have never been

⁶² Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁶³ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁶⁴ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁶⁵ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

married⁶⁶. Results from a study of emergency contraceptive users⁶⁷ found that most users of emergency contraception, whether they are married or not, young or older, are all recurrent users, meaning they had used the method more than once. For married women, those who were not living with their spouse had higher recurrent use of emergency contraception than those who were living with their husband.

Discontinuation rates for modern contraceptive methods are high with three out of every five women discontinuing the method within 12 months of starting. The main reason for discontinuing a method was that the husband was away. But for LARCs, another important reason for discontinuing the method was women’s concerns about their health: 61.7 percent of women stopped using IUCDs and 48 percent stopped using implants due to side effects and/or health concerns. Good-quality counselling could play a role in reducing discontinuation but when health facilities were assessed against FP service delivery protocols, only three percent provided privacy and confidentiality; 6.3 percent counselled women on side effects⁶⁸; and only 13.3 percent of mothers were given information on FP in the postpartum period⁶⁹ even though FP is considered an essential part of the healthcare provided to women at this time⁷⁰.

6.1.2 Abortion

Box 2: Abortion Key Messages

- There are no SDG targets for abortion
- Abortion was legalised in 2002 yet only half of abortions are carried out in authorised sites
- 41 percent of women aged 15–49 are aware that abortion is legal
- Nine percent of all pregnancies (15–49) and 27 percent of pregnancies to women aged 35–49 end in abortion
- Fourteen percent of health facilities that offer normal vaginal delivery services also offer comprehensive abortion care; twenty-six percent offer vaginal delivery services and medical abortion services, with government hospitals more likely to offer these services than private hospitals
- Medical abortion is the most popular method of abortion
- Of women who had an abortion, 51.9 percent were provided with information on FP and 25.2 percent used a FP method within two weeks of having the abortion
- The law prohibits sex-selective abortion yet there is evidence that sex ratios at sub-national levels are becoming skewed

Source: Nepal Demographic and Health Survey, 2016, Nepal Health Facility Survey 2015, 2011 Nepal Census

Abortion was legalised in 2002, yet in 2016 only 41 percent of women knew that abortion was legal and only half (51%) of abortions were carried at authorised sites⁷¹. An estimated 323,000 abortions were performed in Nepal in 2014, a rate of 42 abortions per 1,000 women aged 15–49 years, compared to 37 per 1,000 in Bangladesh where abortion is legal and 50 per 1,000 in Pakistan where abortion is only available in limited circumstances⁷². There is some evidence that sex-selective abortion may be becoming more common. The expected

⁶⁶ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁶⁷ Ministry of Health, CAMRIS International (2018) 'An assessment on emergency contraceptive pills in Nepal'

⁶⁸ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁶⁹ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁷⁰ World Health Organization (2009) 'Medical Eligibility Criteria for Contraceptive Use: 4th edition'

⁷¹ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁷² Puri, M., Singh, S. et al (2016) 'Abortion Incidence and Unintended Pregnancy in Nepal' Guttmacher Institute

sex ratios at birth are 105 males per 100 female births, yet data from surveys and the census indicate that Province 1, Province 7 and Province 5 all have sex ratios at birth of over 120 males per 100 females^{73,74}. Comparison between the 2016 and 2011 NDHSs indicates that the skewedness of the sex ratio has been consistently high for males in Province 5.

Only 13.6 percent of health facilities offer normal vaginal delivery services and comprehensive abortion care, whereas more facilities (25.9%) offer vaginal delivery services and medical abortion services. Government hospitals are more likely to offer comprehensive abortion care services than private hospitals. Yet women do use the private sector: of those women who had an abortion in 2016, for example, 31 percent used a government facility, 27 percent used a private facility, 13 percent a NGO facility and 27 percent of women bought abortion medicine and took the medicine at home. Seventy-two percent of women who have had an abortion used medical (non-surgical) abortion.

The 2014 study referenced above estimates that 323,000 abortions were performed in Nepal. A 2016 survey reported that nine percent of women said their pregnancies ended in induced abortion, which implies that there could be significant underreporting of abortion. Province 1 (7%) and Province 2 (5%) have the lowest rates of pregnancies ending in abortion. For women aged 35–49 years, 27 percent of pregnancies ended in induced abortion. Half of these women (50.3%) who had an abortion did not want more children⁷⁵ but of these women, only 51.9 percent were provided with information on FP and 25.2 percent used a FP method within two weeks of having the abortion⁷⁶. Repeat abortion may be becoming more common. A nationally representative survey indicates that in 2016⁷⁷ only 0.4 percent of women of reproductive age had an abortion at least twice, whereas a study of two clinics in Kathmandu covering over 1,000 women, indicated that 32 percent of women had repeat abortions with the incidence rising with age and parity⁷⁸.

6.1.3 High-quality Antenatal Care

Box 3: ANC Key Messages

- The SDG 2030 target is for 90 percent of pregnant women to attend 4ANC, in 2016, 59 percent pregnant women attended 4ANC
- ANC attendance has increased, in particular in rural areas and in mountain areas; yet 15 percent of women in Province 6 had no ANC
- Eighty-four percent of women had at least one ANC appointment with a trained provider; 76 percent had their first ANC visit on time; 59 percent completed 4ANC
- Almost all health facilities provide ANC and have all essential ANC medicines; urine-/blood-testing facilities are available at hospitals but there is less availability at lower-level facilities. Fifteen percent of health facilities do not provide ANC on a daily basis
- Preventive ANC measures for haemorrhage and pre/eclampsia are not at scale. Less than half of pregnant women took iron and folate for the recommended 180 days. Only 14 percent of women that were not assisted by a health professional received misoprostol, and calcium supplementation is not a national programme

⁷³ UNFPA (2017) 'Population Situation Analysis of Nepal'

⁷⁴ Frost MD et al., (2013) 'Falling Sex Ratios and Emerging Evidence of Sex-Selective Abortion in Nepal: Evidence from Nationally Representative Survey Data' *British Medical Journal Open* 3, no. 5

⁷⁵ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁷⁶ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

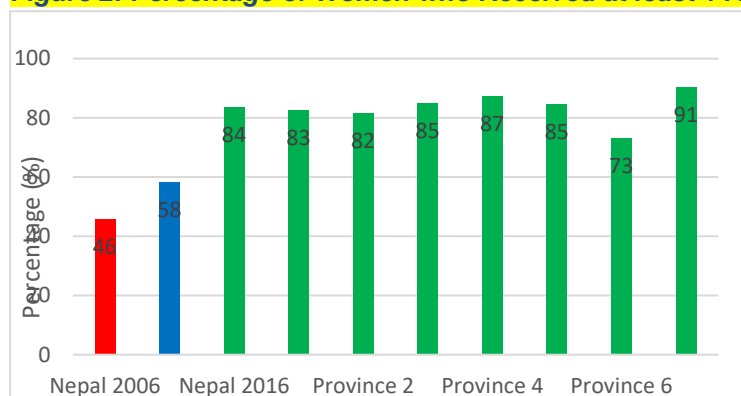
⁷⁷ Ministry of Health, IPAS et al (forthcoming) 'Further Analysis of the Nepal Demographic and Health Survey: abortion'

⁷⁸ Thapa S. et al (2012) 'Risk Factors for Repeat Abortion in Nepal' *International Journal of Gynaecology and Obstetrics* vol 120 issue 1

Source: Nepal Demographic and Health Survey, 2016 and Nepal Health Facility Survey 2015

There has been a remarkable increase in pregnant women coming to health facilities for ANC and receiving ANC from a trained provider, rising from 46 percent in 2006 to 84 percent in 2016 (Figure 2). There have been large increases in particular for pregnant women living in rural and mountain areas⁷⁹.

Figure 2: Percentage of Women who Received at least 1 ANC from a Trained Provider

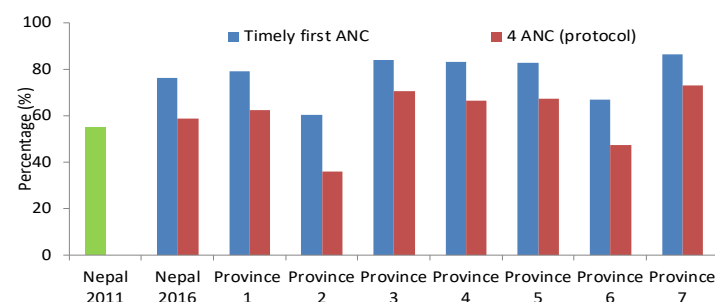


Data source: Nepal Demographic and Health Surveys 2006, 2011, 2016.

Although Nepal has demonstrated good progress in at least completing one ANC visit, one ANC visit is not enough to detect complications and to save lives. The WHO recommends that every pregnant woman should have eight ANC contacts and that ‘contact’ can be adapted to include contacts with a health workers in community outreach programmes and can involve contacts with lay health workers⁸⁰. The GoN’s protocol is for women to have four ANC visits by a trained provider at four, six, eight and nine months of pregnancy. Women are encouraged to come to the health facility for these visits but ANC-related services such as iron and folate supplementation and tetanus toxoid immunisation are available at primary health care facilities and outreach sites.

In 2016, three-quarters (76%) of women had their first ANC visit on time and 59 percent of women who had any ANC, attended 4ANC according to protocol (Figure 3). Provinces 2 and 6 have less than the national average proportion of women completing 4ANC according to protocol.

Figure 3: Percentage of Women Who Had Any ANC, Received ANC1 on Time and ANC4 According to Protocol by Provinces



⁷⁹ Ministry of Health, New ERA and ICF (2017) ‘Nepal Demographic and Health Survey, 2016’

⁸⁰ WHO (2016) ‘WHO Guideline on Antenatal Care’

Data source: Nepal Demographic and Health Surveys, 2011, 2016.

Almost all health facilities across the country provide some ANC services, although the proportion falls to 94 percent of health facilities in Province 2. However, only 85 percent of health facilities provide ANC five or more days a week⁸¹. The availability of all essential ANC medicines (iron and folic acid combined tablets and albendazole tablets) is good, nationally at 90 percent and ranging from 69 percent in Province 2 to 99 percent in Provinces 4 and 5. Most hospitals are able to conduct haemoglobin tests (>94%), urine protein tests (>92%) and urine sugar tests (93%). At PHCCs, the availability of these tests' ranges from 52 percent to 74 percent and only four percent of HPs are able to conduct haemoglobin tests, five percent urine protein tests and three percent urine sugar tests⁸².

The major causes of maternal death in Nepal are still haemorrhage and eclampsia and yet the coverage and compliance of preventive ANC measures are not as high as they should be. In 2016, 91 percent of pregnant women took any iron tablets; approximately 70 percent of women took iron for 90 days and 42 percent for the recommended 180 days. Ninety days' compliance is lowest in women who have no education, women living in Province 2 and women living in the Terai. Sixty-nine percent of women took de-worming tablets, with the lowest levels in Province 3 (54%) and Province 2 (61%)⁸³. Province 2 has the highest proportions of women with moderate/severe levels of anaemia and yet has low levels of 90-day iron tablet compliance and de-worming compliance.

Where SBAs are not present and oxytocin is not available, the WHO recommends that misoprostol be administered for the prevention of PPH⁸⁴. If women are given misoprostol, compliance is high; in 2016, 14 percent of women that were not assisted by a health professional during birth received misoprostol tablets and 13 percent of these women took the misoprostol tablets⁸⁵.

In order to prevent pre-eclampsia, screening and early detection through BP measurement and simple urine protein detection and referral to higher levels of health care is essential. For managing cases of eclampsia and severe pre-eclampsia, health facilities need to stock magnesium sulphate⁸⁶. In addition, in populations with low dietary calcium intake, calcium supplementation is recommended for pregnant women. Distributing calcium supplements to pregnant women in their first ANC visit has achieved good coverage and compliance in Nepal⁸⁷.

In terms of screening and early detection, in 2016, 91 percent of women reported having their BP taken during ANC, with the lowest proportions in Province 6 (82%), Province 7 (84%) and Province 2 (88%). Urine samples were taken in 76 percent of women who had ANC, lowest in Province 6 (65%), Province 7 (68%) Province 2 (72%) and Province 5

⁸¹ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁸² Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁸³ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁸⁴ WHO (2012) 'WHO Recommendations for the Prevention and Treatment of Postpartum Haemorrhage'

⁸⁵ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁸⁶ WHO (2011) 'WHO Recommendations for the Prevention and Treatment of Pre-Eclampsia and Eclampsia'

⁸⁷ Thapa K. et al (2016) 'Coverage, compliance, acceptability and feasibility of a program to prevent pre-eclampsia and eclampsia through calcium supplementation for pregnant women: an operations research study in one district of Nepal' BMC Pregnancy and Childbirth

(77%)⁸⁸. More than 70 percent of health facilities that offer normal delivery services had injectable magnesium sulphate⁸⁹ but calcium supplementation levels are low as this is not a national programme in Nepal.

6.1.4 Delivery and Postnatal Care

Box 4: Delivery and PNC Key Messages

- The SDG 2030 target is 90 percent of births attended by skilled health personnel; in 2016, 58 percent of births in Nepal were attended by skilled health personnel
- Institutional delivery has increased in Nepal but Province 6 and Province 2 still have significant proportions of mothers who give birth at home (63% and 55% respectively)
- The differences between poor/wealthy, non-educated/educated and rural/urban women delivering in a health facility have declined but still 34 percent of poor women compared to 90 percent of wealthy women deliver in a health facility, 36 percent of non-educated versus 85 percent of educated and 44 percent of rural versus 69 percent of urban
- Provision of all signal functions of CEONC services at tertiary-level hospitals is reasonable (68%) but is poor at lower levels with 22 percent of district hospitals providing CEONC and three percent of PHCCs providing all signal functions of BEONC
- Forty-five percent of HPs offer normal delivery but they are underutilised in all areas; only five percent comply with Safe Motherhood Programme Guidelines
- Where geography allows, women tend to bypass lower levels of facilities, preferring to give birth in hospitals; as a result, maternity units in referral hospitals are overcrowded with bed occupancy rates of 80–145 percent
- The main causes of maternal death are haemorrhage and pre/eclampsia: nine in ten health facilities had injectable uterotonic (oxytocin) and 70 percent of health facilities had magnesium sulphate in stock
- The 2016 CS rate was nine percent: 2.4 percent among women in the poorest quintile versus 28 percent in the highest quintile, and 35 percent of women who delivered in a private hospital
- The SDG 2030 target is for 90 percent of women to attend three postnatal visits. In 2016, 57 percent of mothers and newborns had a PNC check within two days of delivery, falling to 14 percent for women who gave birth at home
- Most newborns die within 24 hours of birth yet only 54 percent had a postnatal check within 24 hours of delivery
- Forty-five percent of mothers had a postnatal check within four hours of birth

Source: Nepal Demographic and Health Survey, 2016 and Nepal Health Facility Survey 2015

Delivery Care

Deliveries conducted by a skilled provider have increased from 36 percent in 2011 to 58 percent in 2016. Who conducts these deliveries has changed, with nurses and ANMs assisting most births in 2011 and more doctors providing care in 2016. Still, in Nepal in 2016, 41 percent of women gave birth at home, with the highest proportions of home births occurring in Province 6 (63%) and in Province 2 (55%).

⁸⁸ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁸⁹ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

While the differences in institutional delivery by wealth and maternal education have declined, 34 percent of women in the poorest wealth quintile had an institutional delivery compared to 90 percent in the highest wealth quintile. Women with no education are less likely to deliver in a health facility than women with secondary or higher education (36% and 85% respectively).

Differences between different castes and ethnic groups giving birth in a health facility have also reduced, although only 40 percent of Dalit women and 48 percent of other Terai castes had an institutional delivery. Poverty and geographical exclusion combine with poor women having to travel further to the place of delivery than wealthier women⁹⁰. The majority (80%) of mothers in Province 2 stated that it was not necessary to go to a health facility to give birth⁹¹ and 40 percent of mothers in Province 4 reported that the health facility was too far or that transport was not available, implying that there are still significant barriers to access, especially for poor, remote and disadvantaged women, that need to be addressed.

With the recommendations of the Safe Motherhood Policy (1998) and SMNH Long-term Plan (2006–17), Nepal focused on expansion and availability of delivery care services (normal and complicated) from HP to hospital levels. Table 1 shows the rapid expansion of BC/BEONC services over the last decades.

Figure 4: Institutional Delivery Rate by Province

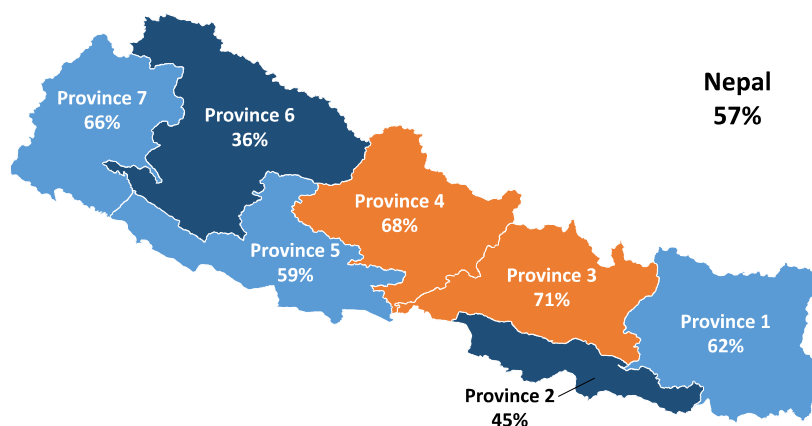


Table 1: Status of BC/BEONC Services Expansion

Year	Number of BCs/BEONC sites at HPs/PHCCs/hospitals
2007/08	291
2008/09	410
2009/10	601

⁹⁰ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

⁹¹ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

2010/11	971
2011/12	1,199
2012/13	1,718
2013/14	1,654
2014/15	1,787
2015/16	1,914
2016/17	2,039
2017/18	2,296

Table 2: Proportions of Institutional Deliveries at Different Types of Health Institution

	HPs and PHCCs (%)	District and General Hospitals (%)	Referral or Specialised Hospitals ⁹² (%)	Non-public facilities ⁹³ (%)
2072/73	35.7	12.8	31.8	19.7
2073/74	35.3	14.0	28.7	22.0
2074/75	34.5	14.8	27.6	23.1

Table 3: Grouping of BCs/BEONC Service Sites with Total Deliveries per Year (2075/76 HMIS data)

		>60 del/year	30–59 del/year	20–29 del/year	10–19 del/year	1–9 del/year	Total
Mountain	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	79	115	66	70	101	431
	# of deliveries in these BCs/BEONC sites	8,664	4,856	1,630	1,050	494	16,694
	Per health facility delivery per year in Mountain area	110	42	25	15	5	39
Hill	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	251	391	222	274	298	1,436
	# of deliveries in these BCs/BEONC sites	26,139	16,469	5,414	3,872	1,428	53,322
	Per health facility delivery per year in Hill area	104	42	24	14	5	37

⁹² All public Zonal, Sub-regional, regional, central, specialized and teaching hospitals. Irregular reporting from Sagarmatha zonal hospital, Janakpur zonal hospital, Bharatpur hospital, TUTH, and BPKIHS hospital.

⁹³ Majority of these hospitals are hospitals with specialisation

Terai	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	308	97	39	49	67	560
	# of deliveries in these BCs/BEONC sites	61,765	4226	968	709	293	67,961
	Per health facility delivery per year in Terai area	201	44	25	14	4	121
Nepal	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	638	603	327	393	466	2,427
	# of deliveries in these BCs/BEONC sites	96,568	25,551	8,012	5,631	2,215	137,977
	Per health facility delivery per year in Nepal	151	42	25	14	5	57

Table 4: Grouping of BCs/BEONC Service Sites with Total Deliveries per Year (2070/71 HMIS data)

		>60 del/year	30–59 del/year	20–29 del/year	10–19 del/year	1–9 del/year	Total
Mountain	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	63	80	45	39	23	250
	# of deliveries in these BCs/BEONC sites	6,268	3,475	1,097	576	111	11,527
	Per health facility delivery per year in Mountain area	99	43	24	15	5	46
Hill	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	250	310	178	181	128	1,047
	# of deliveries in these BCs/BEONC sites	26,450	13,137	4,324	2,594	643	47,148
	Per health facility delivery per year in Hill area	106	42	24	14	5	45
Terai	# of HPs/PHCCs with delivery services	249	56	19	22	17	363

	(BCs/BEONC sites)						
	# of deliveries in these BCs/BEONC sites	50,632	2,417	458	324	85	53,916
	Per health facility delivery per year in Terai area	203	43	24	15	5	149
Nepal	# of HPs/PHCCs with delivery services (BCs/BEONC sites)	562	446	242	242	168	1,660
	# of deliveries in these BCs/BEONC sites	83,350	19,029	5,879	3,494	839	112,591
	Per health facility delivery per year in Nepal	148	43	24	14	5	68

Analysis of annual delivery in BCs/BEONC sites from HMIS 2074/75 shows that 49 percent of BCs/BEONC sites had 25 or fewer deliveries per year, 55 percent each in mountain and hilly areas and 28 percent in Terai areas. Skill retention in these BCs/BEONC sites will be difficult to ensure with such small numbers of deliveries per month by each service provider. Similar analysis of BCs/BEONC sites from HMIS 2070/71 shows 61 percent of BC/BEONC sites having 25 or fewer deliveries per year, 43 percent in mountain areas, 57 percent in hilly areas and 16 percent in Terai areas.

Health facility 'readiness' to provide CEONC is adequate, with 68 percent of referral hospitals (zonal level and above) providing all nine signal functions of CEONC services in the last three months. However, there is lower availability of CEONC services at lower levels of facilities, with 22 percent of district hospitals providing all nine signal functions of CEONC. The provision of seven signal functions of BEONC is lower, with three percent of PHCCs providing BEONC. Less than half (45%) of HPs are offering normal delivery services. Only five percent of the BCs at HPs comply with Safer Motherhood Programme Guidelines in terms of infrastructure, HR, equipment and drug availability⁹⁴.

Given that so few health facilities are 'ready' to provide BEONC and normal delivery services⁹⁵ many women are choosing to bypass lower-level facilities to give birth in hospitals. Although a rational choice, this results in underutilisation of BCs at HPs and overcrowded tertiary hospitals. A study of a sample of BCs indicated that on average one

⁹⁴ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

⁹⁵ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

ANM managed 57 deliveries per year, which is much less than the WHO recommended level of 175 deliveries per midwife per year in order to maintain skills⁹⁶. Though declining, perinatal mortality is still very high at 31 death per 1,000. Good-quality ANC could prevent macerated stillbirths, while proper monitoring and timely intervention during childbirth would reduce fresh stillbirths as well as deaths due to birth asphyxia. A study conducted by UNICEF in 2014 at 12 hospitals showed that only 23 percent of labours were monitored using partographs, and foetal heart rate monitoring every half hour during labour occurred in only 13 percent of total deliveries assessed⁹⁷.

The underutilisation of BCs means that the average cost of a normal delivery in a BC is high, approximately NPR 3,625 (US \$31) per birth⁹⁸. This pattern of utilisation, however, is not consistent across the country, with women living in mountain areas more likely to use a BC.

Higher-level hospitals are becoming increasingly crowded. The bed occupancy rates in maternity wards of selected referral hospitals rose ten times faster than the general bed occupancy rate and by 2011/12 were at 80–145 percent occupancy, which is more than the WHO recommended bed occupancy rate of 80 percent. However, the shared costs in large hospitals means that the average unit cost of a normal delivery in these facilities was much lower, at NPR 1,847 (approximately US \$16).

Not all health facilities have the basic equipment and drugs in place to provide high-quality services⁹⁹. Data from the Nepal MPDSR indicated that 27 percent of maternal deaths are caused by haemorrhage and yet the 2016 NDHS survey reported that fewer women recalled the use of oxytocin for the prevention of PPH in 2016 (51%) compared to 2011 (63%). Twenty-one percent of maternal deaths were caused by eclampsia and only 70 percent of health facilities had magnesium sulphate in stock¹⁰⁰. The skills of health workers need particular attention, with low levels of in-service training, especially for staff working at BCs. When training is provided, it is not always effective, with one study demonstrating that there is little difference in skills between ANMs who have had SBA training and those who have not, suggesting that attention needs to be paid to the quality of training provided and the acquisition and retention of skills^{101,102}.

The number of CEONC sites has increased and there has been an increase in national-level CS rate from 4.6 percent of live births in 2011 to 9.6 percent in 2016. Figure 5 indicates that rates of CS are particularly high among women who delivered at private hospitals (35%), among wealthier women, and in Provinces 1, 3 and 4, whereas the rates are still low for poor women (2%). This may indicate that many women who need a CS are not getting this

⁹⁶ WHO (2005) 'World Health Report: Making Every Mother and Child Count'

⁹⁷ UNICEF (2014) Assessment of Service Availability, Readiness and Quality of newborn care in 12 referral hospitals of Nepal (presentation)

⁹⁸ Ministry of Health, Nepal Health Sector Support Programme (2013) 'Responding to Increased Demand for Institutional Childbirths at Referral Hospitals in Nepal: Situation Analysis and Emerging Options'

⁹⁹ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

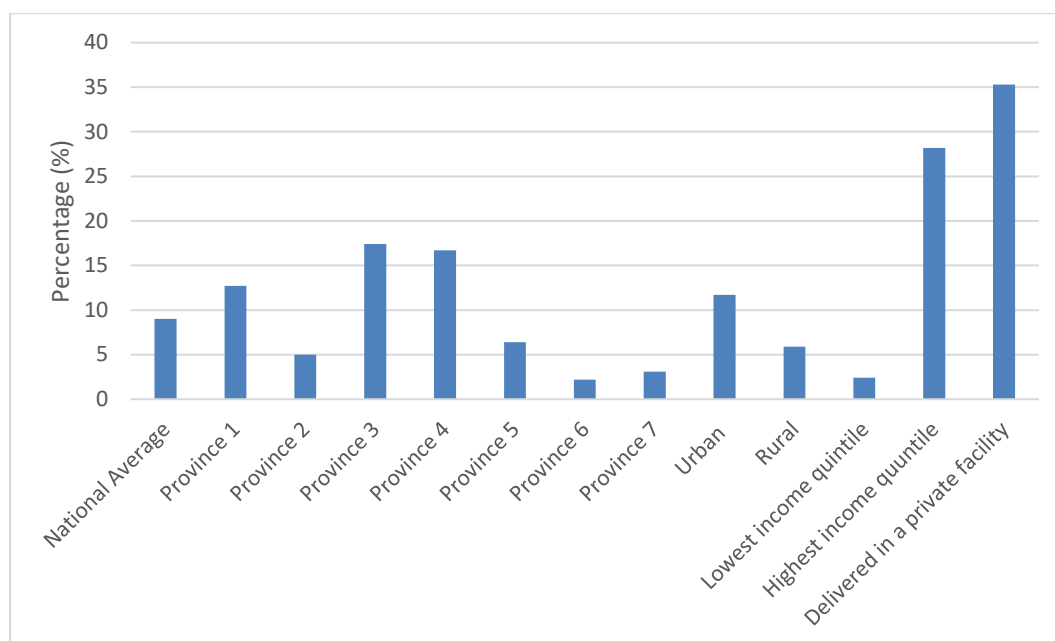
¹⁰⁰ Aryal, KK., Dangol, R. et al (2018) 'Health Services Availability and Readiness in Seven Provinces of Nepal'. DHS Further Analysis Reports No. 115. Rockville, Maryland, USA: ICF

¹⁰¹ Nick Simons Institute (2011) 'Skilled Birth Attendant Follow-Up Enhancement Program'

¹⁰² Ministry of Health (2014) 'Results from Assessing Birthing Centres in Nepal'

service, while some women prefer to have a CS and private hospitals are encouraging it as an intervention¹⁰³.

¹⁰³ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

Figure 5: Percentage of Live Births Delivered by Caesarean Section

Data source: Nepal Demographic and Health Survey 2016

PNC

The GoN protocol on PNC includes three postnatal checks: the first at 24 hours after birth, then at three and seven days after birth. The first postnatal check is particularly important given that most newborns that die do so within 24 hours of birth. In 2016, approximately half (54%) of newborns had a postnatal check within 24 hours. Severe bleeding (PPH) can kill a healthy woman within hours of birth and yet only 45 percent of mothers had a postnatal check within four hours of birth at a facility with another 10 percent having one between 4–23 hours after delivery¹⁰⁴.

The 2030 SDG target is for 90 percent of women to have three postnatal visits as per protocol. 2016 data indicate that 57 percent of both mothers and newborns had a postnatal check within two days of birth. For women who did not give birth in a health facility, the majority (86%) did not have a postnatal check within two days. Sixty-two percent of poor mothers had no postnatal check compared to 16 percent of wealthy mothers. PNC is poorest in Provinces 2 and 6, where 61 percent of women in Province 6 had no postnatal check and 53 percent had no postnatal check in Province 2¹⁰⁵.

6.1.5 Maternal malnutrition

In 2016, the proportion of women who are 'thin', with a body mass index of less than 18.5, was 17 percent; this proportion fell by only one percentage point between 2016 and 2011. In contrast, the proportion of women who are overweight has been increasing from 13 percent in 2011 to 22 percent in 2016. The proportion of thin women is higher in the Terai region (23%) and in Province 2 (29%)¹⁰⁶.

¹⁰⁴ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

¹⁰⁵ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

¹⁰⁶ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

Anaemia is a concern, especially since the major cause of maternal death is bleeding during pregnancy and childbirth, and has increased among women of reproductive age from 35 percent in 2011 to 41 percent in 2016¹⁰⁷. The 2016 National Micronutrient Status Survey indicated that anaemia prevalence is higher in pregnant women (27%) than non-pregnant women (20%) but that iron-deficiency anaemia is higher in non-pregnant women (nine percent for non-pregnant, five percent for pregnant). Non-pregnant women of reproductive age living in the mountains or hills have lower odds of anaemia relative to women residing in the Terai¹⁰⁸.

6.1.6 Reproductive Morbidity

The WHO has defined reproductive morbidity as including obstetric morbidity (which is the same as maternal morbidity), gynaecologic and contraceptive morbidities. Maternal morbidity is classified as any health condition attributed to or complicating pregnancy, childbirth or following pregnancy that has a negative impact on the woman's wellbeing. In general, for every maternal death, 20–30 more women experience acute or chronic pregnancy-related morbidities, such as obstetric fistula, uterine prolapse, stress incontinence, hypertension, haemorrhoids, perineal tears, urinary tract infections, severe anaemia or depression¹⁰⁹.

There is a limited amount of nationally representative data on maternal morbidities in Nepal, in particular on depression. A 2016 survey of more than 4,200 women who attended reproductive health camps in Nepal indicated that the prevalence of pelvic organ prolapse was 6.4 percent¹¹⁰, which corresponds with the six percent recorded in the 2011 NDHS. A 2012 survey estimated that cases of obstetric fistula were between 200 and 400 per year¹¹¹.

Gynaecologic morbidity refers to any condition of the reproductive system that is not related to pregnancy, abortion or childbirth but may be related to sexual behaviour, and includes cancers, sexually transmitted diseases, reproductive tract infection and coital injuries. Again, there is very little information on gynaecologic morbidity. Cervical cancer is estimated to be the most common cause of cancer in women aged between 15–44 years of age¹¹². In a 2016 survey, of women who were screened for cervical cancer using visual inspection with 5% acetic acid, 1.6 percent had a positive result; of those screened for the Human Papillomavirus (HPV), the prevalence was 5.4 percent¹¹³.

6.1.7 Financial resources for maternal and newborn health

In Nepal, ANC, PNC and delivery care, including the management of any complications, are free and part of the BHS Package that is provided to citizens by the Local Government. Services that are beyond the scope of the BHS Package are delivered through different health protection arrangements, including the SHI Scheme, which was introduced by the GoN in 2015, and the Aama Programme.

¹⁰⁷ Ministry of Health, New ERA and ICF (2017) 'Nepal Demographic and Health Survey, 2016'

¹⁰⁸ Ministry of Health et al (2018) 'Nepal National Micronutrient Status Survey, 2016'

¹⁰⁹ Firoz T. (2013) 'Measuring maternal health: focus on maternal morbidity' Bulletin of the World Health Organization vol 91

¹¹⁰ UNFPA Nepal (2016) 'Study on Selected Reproductive Health Morbidities among Women attending Reproductive Health Camps in Nepal'

¹¹¹ WOREC, UNFPA Nepal (2012) 'Need Assessment for Obstetric Fistula in Nepal'

¹¹² ICO/IARC (2018) 'Nepal: Human Papillomavirus and Related Cancers Fact Sheet'

¹¹³ UNFPA Nepal (2016) 'Study on Selected Reproductive Health Morbidities among Women attending Reproductive Health Camps in Nepal'

In 2005, the government introduced a maternity incentive scheme that provides money to women to subsidise transport costs to reach a health facility for birth. This has evolved into a package, called the Aama Programme, which also provides free care for normal deliveries, obstetric complications and CS and an incentive for having a facility delivery and completing 4ANC. The Aama Programme has been associated with an increase in facility delivery in all areas of the country. The benefit, however, appears to be strongest in areas and households that are geographically more accessible and wealthier. A positive effect on the poorest population was only observed in the Mountain areas, suggesting that there are other, multiple barriers to accessing care for poor people living in other areas of the country¹¹⁴.

6.1.8 Readiness of Maternal Health Services

High-quality services cannot be provided if there are not the appropriate standards, protocols and guidelines adopted, and infrastructure, commodities, equipment and trained staff in place. In 2015, only 54.9 percent of public and private facilities had soap and running water or alcohol-based hand disinfectant¹¹⁵. Although most health facilities had all essential medicines needed to provide ANC services, only two percent of health facilities had all the equipment needed (BP apparatus, stethoscope, weighing scale, foetal stethoscope, measuring tape); twenty percent had ANC guidelines and 27 percent had trained staff¹¹⁶.

Only 12 percent of public and private health facilities had all essential medicines for normal delivery services (injectable uterotonic, injectable antibiotic, skin antiseptic, and intravenous fluids with infusion set). Delivery equipment varied in its availability (60.7% lights; 92.4% delivery pack; 62% suction apparatus; 20.7% manual vacuum extractor; 82.8% neonatal bag and mask; 80% partograph; 92.5% gloves; 96.3% delivery bed); but only 35.1 percent had trained staff, 21.8 percent guidelines and 62.3 percent had emergency transport in place¹¹⁷.

In terms of the provision of signal functions for basic and comprehensive emergency obstetric and newborn care, Table 5 indicates that in the past three months before the 2015 survey, 77 percent of zonal and higher-level hospitals had provided parenteral anticonvulsants. Half of district-level hospitals had provided a CS, blood transfusion (47%), parenteral anticonvulsants (40%) and assisted vaginal delivery (59%). At PHCC level, the provision of parenteral anticonvulsants (9%) and assisted vaginal delivery (19%) is low. At HP level, newborn resuscitation (31%), assisted vaginal delivery (10%) and use of parenteral antibiotics (33%), parenteral anticonvulsants (5%) and oxytocin (85%) are low.

Table 5: Signal Functions for BEONC and CEONC

Percentage of facilities that carried out:	Type of Health Facility				
	Zonal-level hospitals and above (%)	District-level hospitals (%)	Private hospitals (%)	PHCCs (%)	HPs (%)
Signal functions					
CS	100	50	59		
Blood transfusion	96	47	50		
Parenteral oxytocin	100	100	79	93	85

¹¹⁴ Ensor, T. et al (2017) 'Incentivising Universal Safe Delivery in Nepal: 10 years of experience' Health Policy and Planning vol1-8

¹¹⁵ Ibid

¹¹⁶ Ministry of Health, New ERA, NHSSP and ICF (2017) 'Nepal Health Facility Survey 2015'. Kathmandu, Nepal

¹¹⁷ Ibid

Parenteral antibiotics	91	88	72	51	33
Parenteral anticonvulsants	77	40	31	9	5
Assisted vaginal delivery	100	59	34	19	10
Manual removal of placenta	91	79	54	52	38
Manual Vacuum Aspiration (MVA) (retained production of conception)	95	80	44	44	27
Newborn resuscitation	100	80	48	54	31

Data source: Nepal Health Facility Survey, 2015

Not only are the availability of commodities and equipment low, compliance with service delivery protocols is weak, with only one percent of all health facilities complying with all five areas of the ANC protocol (Table 7). Compliance on maintaining a healthy pregnancy (including nutrition, 4ANC etc.) and information on danger signs was low for all levels of facilities. For FP, compliance was weak in privacy and confidentiality, counselling on side effects and providing women with a choice (Table 6). Private hospitals did not perform as well as public hospitals but in the public sector, HPs were particularly poor at complying with service delivery protocols.

Table 6: Health Facilities Complying with Service Delivery Standard Protocols/Guidelines for Family Planning Services

Facility Type	Privacy and confidentiality (%)	Provider wrote on client health card (%)	Client counseled on side-effects (%)	Client informed about choices (%)	BP measured (%)	All five items (%)	Number of facilities
Zonal hospitals and above	11.0	62.6	36.9	33.3	51.6	7.3	6
District hospitals	9.2	68.4	27.6	21.1	56.6	6.6	16
Private hospitals	0.8	7.7	2.3	1.4	5.5	0.8	70
PHCCs	5.8	57.3	21.3	18.4	38.3	2.4	42
HPs	5.5	29.7	5.1	3.0	18.1	0.5	775
UHCs	1.3	37.1	10.0	9.4	19.4	0.0	32
National	3.0	30.4	6.3	27.7	19.0	0.8	941

Data source: Nepal Health Facility Survey, 2015

UHCs = Urban Health Centres

In terms of staff skills and practices, basic guidelines are often not followed. For example, most health workers did not wash their hands before a physical examination; health workers took an obstetric history but did not ask for clients' past medical history and did not screen for existing medical conditions¹¹⁸. SNs trained as SBAs and working in hospitals had better knowledge and skills than ANMs working in HPs. An analysis of the performance of SBAs

¹¹⁸ Ministry of Health (2014) 'Results from Assessing Birthing Centres in Nepal'

following graduation showed that different skilled birth training sites were teaching concepts differently; this led to inconsistency in the acquired skills¹¹⁹.

Table 7: Health Facilities Complying with Service Delivery Standard Protocols/Guidelines for Antenatal Care Services

Facility Type	Maintain- ing a healthy pregn- ancy (%)	Provider wrote on client health card (%)	Client couns- elled on at least three danger signs (%)	BP and weight measured (%)	Iron supplem- -entation (%)	All five items (%)	Number of facilities
Zonal-level hospitals and above	22.3	73.6	11.0	62.6	73.6	7.3	6
District hospitals	18.4	86.8	7.9	76.3	80.3	3.9	16
Private hospitals	0.6	37.3	1.9	32.0	28.4	0.0	70
PHCCs	11.2	70.9	2.9	60.1	60.2	1.5	42
HPs	5.5	28.1	1.7	24.9	24.5	0.0	775
UHCs	0.6	12.6	0.6	12.6	5.4	0.6	32
National	5.5	31.5	1.9	27.7	27.0	0.2	941

Data source: Nepal Health Facility Survey, 2015

Health facilities not only need to be prepared for providing services but also need to be prepared for continuing service provision during disasters. Nepal is among the 20 most disaster-prone countries in the world and ranks eleventh in terms of its vulnerability to earthquakes. Apart from seismic vulnerability, Nepal is exposed to a variety of natural hazards such as floods, landslides, storms and fires. Given Nepal's vulnerability, the GoN has signed the 2030 Sendai Framework for Disaster Risk Reduction and in 2017 passed the Disaster Risk Reduction Act. The MoHP's five-year health sector strategy outlines a series of activities that should be in place for better health service preparedness, including maternal health services, and activities such as ensuring protocols are in place and the pre-positioning of buffer stocks of medicines.

¹¹⁹ Nick Simons Institute (2011) 'Skilled Birth Attendant Follow-Up Enhancement Program'

6.2 ANNEX 2: FAMILY PLANNING SERVICES

Table 1: Existing and Proposed Family Planning Services by Type of Provider over the Road Map Period

Family Planning methods Health Care Providers	Auxiliary Nurse Midwife				Paramedic				Nurse	Midwife (certificate-level and graduate)	Doctor	
	FCHV	Pharmacy Worker	Pharmacist	Providing outreach services (with/without SBA training)	Providing home services (SBA-trained)	Working in a facility (no SBA training)	Working in a facility (SBA-trained)	AHW – working in a health facility				HA – working in a health facility
Informed Choice Counselling	X	X	X	X	X	X	X	X	X	X	X	X
Oral contraceptive pills	X	X	X	X	X	X	X	X	X	X	X	X
Emergency contraceptive pills	Consider providing information and distributing	X	X	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing	Consider providing information and distributing
Standard Days Method		Cycle beads are available in limited outlets	Cycle beads are available in limited outlets	Consider providing information	Consider providing information	Consider providing information	Consider providing information	Consider providing information	Consider providing information	Consider providing information	Consider providing information	Consider providing information
LAM	X	X	X	X	X	X	X	X	X	X	X	X
Condoms	X	X	X	X	X	X	X	X	X	X	X	X
Injectable	Provide information and refer	X if a trained paramedic	X if a trained paramedic	X	X	X	X	X	X	X	X	X
Implant insertion and removal	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training
IUCD insertion and removal	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	X after 8 days competency based training	X after 8 days competency based training	Provide information and refer	Provide information and refer	X after 8 days competency based training	X after 8 days competency based training	X after 8 days competency based training
PPIUCD	Provide	Provide	Provide	Provide	Provide	X after 12	X after 12	Provide	Provide	X after 12	X after 12	X after 12

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insertion	information and refer	information and refer	information and refer	information and refer	information and refer	days' competency based training	days' competency based training	information and refer	information and refer	days' competency based training	days' competency based training	days' competency based training
Vasectomy	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer		Provide information and refer	Provide information and refer	X after 12 days' competency based training
Tubal ligation	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	Provide information and refer	X after 12 days' competency based training

(x = indicates the service is already provided in Nepal and those labelled '**consider**' are to be considered during the 10-year period of the Road Map)

Notes: AHW = Auxiliary Health Worker; ANM = Auxiliary Nurse Midwife; FCHV = Female Community Health Volunteer; HA = Health Assistant; IUCD = Intrauterine Contraceptive Device; LAM = Lactational Amenorrhea Method; SBA = Skilled Birth Attendant

ANM or SN Providing Outreach Services

The outreach services here are organised by the local health facility and include activities such as primary health care outreach, where ANC is also available, and immunisation days.

ANM or SN Working in the Health Facility and Providing Implants and IUCD

There are different ways of delivering this model, which include: (i) provide all ANMs or SNs with the eight days of competency-based implant and IUCD training; (ii) train a few ANMs or SNs, either locally contracted staff or existing health facility staff, and 'visit' health facilities that do not have these services to provide the service on certain days; (iii) train a dedicated ANM or SN to provide implants and IUCDs in a high-volume facility.

ANM or SN Providing Services in the Home

This could be an ANM or SN that is locally contracted or existing health facility staff.

Emergency Contraceptive Pills

The GoN should procure this contraceptive method and include it in the BHS Package and/or essential drugs list. The GoN training package and protocols on FP already include how to use comprehensive oral contraceptive pills and IUCDs as emergency contraception.

ANM or SN Trained as SBA working in a Health Facility and Providing PPIUCD

SBAs are trained to provide PPIUCD services 48 hours after delivery but when working in low-volume settings they will continue to need supervision and on-site coaching.

6.3 ANNEX 3: ABORTION SERVICES IN NEPAL

Table 1: Management of Abortion and Post-Abortion Care in the First Trimester (up to 12 weeks) by Type of Provider: Existing Services and Proposed over the Road Map Period

	Vacuum aspiration for induced abortion	Vacuum aspiration for management of uncomplicated incomplete abortion/miscarriage	Medical abortion in the first trimester (up to nine weeks' gestation)	Management of uncomplicated incomplete abortion/miscarriage with misoprostol
FCHV				
Pharmacy Worker			In Nepal, only a certified provider can legally offer abortion services in a certified site. Pharmacy workers are dispensing medical abortion drugs, which is illegal Consider after deliberation ANMs or SNs, and paramedics are trained to provide MA. Privacy and confidentiality need to be assured	
Pharmacist			As above	
Auxiliary Nurse Midwife				
Working in a health facility (no SBA training)			Consider Medical abortion (MA) for ANMs	
Working in a health facility (trained as SBA)	Consider training providers in vacuum aspiration	X * currently in practice	X currently in practice	X currently in practice
Paramedics				
AHW			Consider MA training for AHWs	
HA			Consider MA training for HAs	Consider training HAs
Nurse	Currently trained nurses are providing services up to 8 weeks' gestation. Continue with the same	X currently in practice	Currently trained nurses are providing services up to nine weeks' gestation Continue with the same	X currently in practice
Midwife (Certificate-level and graduate-level)	Competency based training in pre-service up to 8 weeks' gestation	Competency based training in pre-service up to 8 weeks' gestation	Trained midwives provide services up to nine weeks' gestation	Allowing midwives to provide services up to nine weeks' gestation
Doctor	X currently in practice	X currently in practice	Currently trained doctors are providing services up to nine weeks' gestation	X currently in practice
Specialist Doctor	X currently in practice up to 12 weeks' gestation	X currently in practice	Currently trained specialists are providing services up to nine weeks' gestation	X currently in practice

Notes

Activities labelled 'X' are already practised

Activities labelled '**consider**' are new activities, recommended by the Road Map to be implemented over a 10-year period after deliberation and based on evidence.

* Need to strengthen existing MVA training module in the SBA curriculum by expanding 'hands-on' clinical practice. Once trained, caseload can be low, so ensure regular skills updates.

Table 2: Management of Abortion and Post-Abortion Care Beyond 12 Weeks (Only Permitted in Nepal from 12 to 28 Weeks in Cases of Rape and Incest, Risk to Maternal and Foetal Health and Maternal Mental Conditions)

	Dilation and Evacuation	Cervical priming (medications)	Medical Abortion
Auxiliary Nurse Midwife Working in a health Facility (trained as SBA)			
Nurse			
Midwife			
Doctor	Consider allowing medical doctors who have advanced SBA training	Consider allowing medical doctors who have advanced SBA training	Consider allowing medical doctors who have advanced SBA training
Specialist Doctor	X currently in practice	X currently in practice	X currently in practice

6.4 ANNEX 4: OBSTETRIC AND NEWBORN CARE

Table 1: Obstetric and Newborn Care in the Community and at Facilities

Dimensions of Care	Obstetric	Immediate Newborn Care (before referral)	Sick Newborn Care (at referral site)
A. Care of Pregnant Women in the Community	<ul style="list-style-type: none"> • Providing information to the pregnant mother and care-giver on essential care for the pregnant women, healthy eating, reducing tobacco and alcohol use, increasing daily energy and protein intake, birth preparedness, advice on frequency of foetal movement, and identification of danger signs and where to seek care for the sick pregnant mother • Provision of iron and folic acid supplements tablets • Provision of misoprostol tablets and chlorhexidine for pregnant women who likely to give birth at home • Consider the provision of calcium supplements • Consider tracking of pregnant women in the community, using mobile technology if relevant 	<ul style="list-style-type: none"> • Consider emphasising the importance of foetal movements in the 3rd trimester and encouraging her to report any reduced movements 	
B. Routine ANC at primary health care outreach services (fixed service site*)	<ul style="list-style-type: none"> • As above plus active counselling • Provision of tetanus toxoid vaccination • Consider active referral of pregnant woman to health facility for laboratory tests and follow-up 	<ul style="list-style-type: none"> • As above plus active counselling, and BP measurement • Consider checking foetal growth with symphysis-fundal height measurement and abdominal palpation • Consider checking auscultation of foetal heart rate with a stethoscope • Consider expanding in rural, mountain areas, mobile ultrasound to detect foetal and placenta position before 36 weeks 	
C. General requirements for all health facilities that provide delivery services	<ul style="list-style-type: none"> • Service availability 24/7 • Skilled providers in sufficient number • Referral service to higher-level care • Reliable electricity and water supply, clean toilets and heating in cold climate • Provision to stay overnight for mothers, caregivers and health providers (MSS) • Clinical mentoring and supervision from higher-level facility • Regular and accurate recording and reporting 		

<p>D. Routine ANC in a Health Facility</p>	<ul style="list-style-type: none"> • As above plus • Laboratory tests for urine albumin, haemoglobin, blood sugar • Testing and counselling for HIV and syphilis • Consider screening for active tuberculosis in areas with high prevalence • Consider clinical enquiry about the possibility of intimate partner violence 	<ul style="list-style-type: none"> • As above plus • Consider referring pregnant mother to higher-level health facility for one ultrasound scan before 24 weeks of gestation 	
<p>E. Routine Delivery and Newborn Care in a Health Facility</p>	<ul style="list-style-type: none"> • Infection prevention measures (hand-washing, gloves) • Monitoring and management of labour • Active management of the third stage of labour 	<ul style="list-style-type: none"> • Thermal protection (drying baby immediately after birth, skin-to-skin with mother, wrapping, no bath in the first 24 hours) • Delayed cord clamping, hygienic cord care and application of chlorhexidine • Immediate breastfeeding (within one hour) • Weighing the newborn • Provision of 1mg vitamin K intramuscularly (one hour after birth) 	
<p>Obstetric First Aid (procedures that need to happen before a mother or newborn is referred to a higher level)</p>	<ul style="list-style-type: none"> • <i>Parenteral oxytocic drugs for postpartum haemorrhage</i> and immediate referral • <i>Parenteral magnesium sulphate for pre-eclampsia/eclampsia</i> and immediate referral • <i>Parenteral antibiotics for maternal infection</i> and immediate referral • Management of shock and immediate referral • Refer to BEONC or CEONC site 	<ul style="list-style-type: none"> • <i>Stimulation and resuscitation with bag and mask of non-breathing baby</i> and safe administration of oxygen if needed and immediate referral • Provision of KMC for premature and low-birth-weight babies and immediate referral • Injectable antibiotics for neonatal sepsis and immediate referral • Refer to a site with a SNCU 	
<p>F. BEONC</p>	<ul style="list-style-type: none"> • As above plus • <i>Assisted vaginal delivery (vacuum extraction)</i> • <i>Manual removal of retained placenta</i> • <i>Removal of retained products of conception (MVA)</i> • Refer to CEONC site, if required 	<ul style="list-style-type: none"> • As above plus • Alternative feeding if baby unable to breastfeed (breast milk expression and cup/spoon feeding) • Prevention of mother-to-child transmission from HIV-positive mother • Refer to SNCU, if required (should be located in the same health facility) 	<ul style="list-style-type: none"> • SNCU • Provision of feeding support • Provision of warmth • Provision of IV fluids • Provision of safe oxygen • Provision of phototherapy • Refer babies who are <1.5 kg and who require ventilation

<p>G. CEONC</p>	<ul style="list-style-type: none"> • As above plus • <i>Surgery (CS and anaesthesia)</i> • <i>Blood transfusion</i> 	<ul style="list-style-type: none"> • As above plus • Refer to NICU, if required (should be located in the same health facility) 	<ul style="list-style-type: none"> • NICU • Management of hypoxic ischemia encephalopathy • Management of hyper-bilirubinaemia, • Management of meconium aspiration syndrome • Management of newborn sepsis • Management of respiratory distress syndrome • Management of hypoglycaemia • Management of Preterm/very low-birth-weight babies with ventilation support
<p>H. Routine PNC in the Community (for all mothers and newborns)</p>	<ul style="list-style-type: none"> • Counselling the postpartum mother and care giver on essential care for the mother and newborn, breast and perineum hygiene, supplementary foods for the mother, exclusive breastfeeding, postpartum FP, postpartum depression, domestic abuse • Counselling the postpartum mother and care giver on danger signs and where to seek care for the sick mother and sick newborn • Provision of Iron and Folate supplements for three months after delivery 	<ul style="list-style-type: none"> • Consider support to continue KMC for preterm and low-birth-weight newborns • Consider, in remote areas, provision of amoxicillin for Possible Severe Bacterial Infection (PSBI) and bacterial infection (LBI) and refer • Refer newborns with severe malnutrition 	
<p>I. Routine PNC in the mother's home</p>	<ul style="list-style-type: none"> • As above plus • If the mother gave birth at home, provide a first PNC home visit within 48 hours of birth and second PNC home visit three days after delivery • If the mother gave birth in a health facility, the first PNC check will be before discharge and the second PNC as a home visit, three days after delivery • Provision of antibiotics for a vaginal delivery with a 3rd- or 4th-degree tear 	<ul style="list-style-type: none"> • Detection of birth defects, management and refer 	
<p>J. Routine PNC in the Health Facility (for all mothers and newborns)</p>	<ul style="list-style-type: none"> • As above plus • Consider the provision of prescribed calcium supplements 	<ul style="list-style-type: none"> • As above 	

Notes

Activities labelled 'consider' are new activities, recommended by the Road Map to be implemented over the 10-year period

*A fixed service site for primary health care outreach services is a building that has at least one room with a bed to ensure privacy and confidentiality

Make sure there is a fixed outreach clinic where ANC check-up can be done – at least bed, also for PNC

Existing BEONC and CEONC functions are in *italics*

6.5 GOAL, OUTCOME AND OUTPUT INDICATORS, DEFINITION AND TARGETS

The Road Map presents a framework to accelerate Nepal's progress towards meeting the SDG 3 in 2030. In principle, the Road Map will use targets and indicators that already exist in the SDGs (2015–2030) NeNAP (2016–2035) and the NHSS (2015–2020) and only have new targets if they are necessary: for example, when the current five-year health sector strategy (NHSS 2015–2020) ends in 2020. New targets for the Road Map will only be selected if data is readily available to track the progress of the indicator.

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