NATIONAL STRATEGY FOR NEWBORN AND CHILD HEALTH AND DEVELOPMENT IN ETHIOPIA

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Contents

Acronyms/Abbreviations

ANC - Antenatal Care
ART - Antiretroviral therapy
ARI - Acute Respiratory Infection
CBHI - Community Based Health Insurance
CBNC - Community Based Newborn Care
CH-Child Health
CPAP - Continuous Positive Airway Pressure
CPR - Cardiopulmonary Resuscitation
CRC - Compassionate, Respectful and Caring
DHIS-District Health Information System
EDHS – Ethiopia Demographic Health Survey
EHIA-Ethiopian Health Insurance agency
EHSTG - Ethiopian Hospital Services transformation guideline
EMDHS – Ethiopia Mini Demographic Health Survey
EMIS – Ethiopia Malaria Indicator Survey
EmONC – Emergency Obstetric and Neonatal Care
EPHI – Ethiopian Public Health Institute
EPI-Expanded Program For Immunization
EPSA-Ethiopia Pharmaceutical and Supply Agency
ETAT-Emergency Triage Assessment and Treatment
F/MOH-Federal Ministry of Health
FMOH APR – FMOH Annual Performance Report
EPHCCG-Ethiopia Primary Health Clinical Care Guideline
GoF-Government of Ethiopia
GP-General Practitioner
GYN/OBY-Gynecology and Obstetrics
HBB-Helping Baby Breath
HDA-Health Development Army
HEP-Health Extension Program
HEW-Health Extension Worker
HGL-Health Governance and Leadership
HMIS-Health Management Information System
HP-Health post
HSTP-Health Sector Transformation Plan
ICCM-Integrated Community Case Management
IEC – Information, Education and Communication
IM-Intramuscular
IV-Intravenous
IMNCI-Integrated Management of Newborn and Childhood Illnesses
IMR-Infant mortality rate
ITN-Insecticidal Treated Net
IYCF-Infant and Young Child Feeding
KMC-Kangaroo Mother Care
KII-Key Informant Interview
LBW-Low Birth Weight
LLIN – Long Lasting Insecticide Treated Nets
MNH-Maternal and Newborn Health
MCV-Measles Containing Vaccine
MDG-Millennium Development Goal
MDG-Male development Group
M&E-Monitoring and Evaluation
MNCH-Maternal, Newborn and Child Health
MoSHE-Minister of Science and Higher Education
MTCT-Mother to Child Transmission
NCH-Newborn and Child Health
NC-Nurturing care
NHA-National Health Account
NICU-Neonatal Intensive Care Unit
NMR-Neonatal Mortality Rate
NGO-Non-Government Organization
NNCSS – National Neonatal and Child Survival Strategy
NNP-National Nutritional Program
NQSS-National Quality Service Standard
NR- Neonatal Resuscitation
ORS-Oral Rehydration Salt
P&D-Pneumonia and Diarrhea
PCV-Pneumococcal Conjugated Vaccine
PDSR-Perinatal Death Surveillance and Reports
PHCU-Primary Health Care Unit
PICU- Pediatric Intensive Care Unit
PMA – Performance Monitoring for Action

PMT-Performance Monitoring Team
PMTCT-Prevention of Mother to Child Transmission
PNC-Post Natal Care
PROM-Premature Rupture of Membrane
RMNCAH-N- Reproductive, Maternal, Newborn Child Health and Nutrition
RHB-Regional Health Bureau
SAM-Severe Acute Malnutrition
SARA – Service Availability and Readiness Assessment
SBA-Skill Birth Attendant
SBCC – Social and Behavioral Change Communication
SDG-Sustainable Development Goal
SOWC – State of World Children Report
SWOT-Strength, Weakness, Opportunity and Threat
SNNPR - Southern Nations Nationalities and People Region
TWG-Technical Working Group
UHC-Universal Health Coverage
U5MR-Under Five Mortality Rate
UNICEF - United Nations Children's Fund
VSD-Very Severe Disease
VHL-Village Health Leader
WASH - Water Sanitation and Hygiene
WorHO-Wereda Health Officer
WDG-Women Development Group
ZHB-Zonal Health Bureau
WHO-World Health Organization
WU-JMP – WHO-UNICEF Joint Monitoring Program

ACKNOWLEDGEMENT

The development of this strategy involved a multi-stakeholder process of consultations in building consensus on the rationale, areas of focus, and cost assumptions. Stakeholders built on the previous strategy of 2015-2020 and supported the drafting of the 2021/22 - 24/25 strategy. I particularly wish to pass special tribute to the national newborn and child survival technical working group for providing the necessary oversight and strategic guidance to the drafting team.

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Foreword

Since the turn of the century, Ethiopia has made continuous effort to improve the health of its children and mothers. The marked reduction of childhood mortality in the last two decades was an encouraging result of this effort. Ethiopia achieved MDG 4 by reducing its under five children mortality rate by two third before 2015. MoH has a strong commitment and ambition to continue the momentum and to achieve the SDG targets in the same way.

MoH, as the leader of the health sector, prepares health sector's strategic plan every five years. In addition to the health sector strategic plans, it also elaborates sector's major activities with specific strategic documents. Both the overall and specific strategic documents are aligned to relevant global health targets, like the SDGs. This newborn and child health and development strategy is one of such important specific strategic guiding documents.

The current newborn and child health and development strategy is the third national strategic document on child health. It will be one of the main documents for guiding MoH's and its partners activities in the area of newborn and child health and development. This strategy is aligned with HSTP-II and SDG3.

Like the previous two strategies, this newborn and child health and development strategy has the goal of reducing under five children mortality, and specifically it aims to reduce neonatal mortality significantly. In addition to the mortality reduction, the strategy aims to bring nurturing care for childhood development and health care of older children to the attention of the health sector. The objective of the strategy can be realized by increasing universal coverage of high impact and quality health and development interventions. Equally, the strategy also gives due attention to improving quality of service, improving resiliency of the health system and reducing inequality in the area of neonatal and child health status and service.

The implementation of the strategy requires strong coordination and collaboration of all stakeholders of neonatal and child health. The full implementation of the strategy is estimated to cost 1.6 Billion USD over the five years (2021 to 25).

I call upon MoH, RHBs and our partners to unify their efforts, to mobilize all necessary resources and finally to realize the objectives of the strategy, so that every child in Ethiopia enjoys the highest attainable standard of health and development, and have a better tomorrow.

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State Minister, Ministry of Health

EXECUTIVE SUMMARY

For the last two decades, newborn and child health agenda have been a top priority for the Government of Ethiopia (GoE). The country has successfully implemented two successive newborn and child survival strategies (from 2005-2015 and 2015-2020). The successes registered during the implementation of the first strategic plan were notable by achieving MDG4 targets in 2012 three years ahead of timeline.

The second national newborn and child survival strategic plan, which covered the period from 2015-2020, targeted reduction of under-five mortality rate (U5MR), infant mortality rate (IMR) and neonatal mortality rate (NMR) from 64 to 29/1,000, 44 to 20/1000, 28 to 11/1,000 live births respectively. During the implementation of the second strategy, a number of successes and gains have been recorded in newborn and child health program. However, achievements in comparison to the established goals and targets remained inadequate, and a significant number of newborns and children continue to die from preventable causes. National childhood mortality rates showed that the planned reduction of mortality rates were not achieved, and the overall performance or coverage of high impact interventions were far below the targets set in the strategy.

Challenges identified from the situational analysis of the last five years include inadequate service quality and low coverage of key interventions, inadequate coordination and integration of MNCH interventions under the continuum of care, and weak referral linkage between community-facility service delivery interfaces. The development of this third national newborn and child health and development strategy is based on the situational analysis findings of the national and international NCH context, and is conceptualized to capitalize on gains over the preceding years and mitigate barriers and challenges encountered during the same period.

The implementation framework of this strategic plan is mainly aligned with HSTP-II, and other relevant national strategies. This strategy is part of a package of strategies and policy guidelines under MCH/MoH to address maternal, neonatal and child health.

The goal of this strategic plan is to reduce national U5MR from 59 (2019 level) to 43/1,000, IMR from 47 to 35/1000, and NMR from 33 to 21/1,000 by 2025. To achieve these goals, the strategy identified five strategic objectives on neonatal and child health areas: accelerating universal coverage of interventions, reducing inequity, improving quality and resiliency of services, initiating and scaling up child development interventions and enhancing community engagement and ownership.

The focus in the next five years will be to accelerate the access and coverage of high-impact and quality NCH interventions across the continuum of care. In addition to the health intervention, nurturing care for childhood development will also be the focus of attention. Increasing coverage should go hand in hand with efforts of improving quality of services, addressing inequity in the country, and also building sustainability of the service through community engagement and ownership. From the experiences of COVID-19 pandemic and other humanitarian crises which occurred in the country, the strategy also highlights on resiliency, i.e. how to sustain NCH service during times of public health emergency and humanitarian crisis. To realize these objectives, strategic recommendations, major and detailed activities are listed for each strategic objective.

More than thirty key interventions are identified as high impact interventions for neonatal and child health and development. From these, 22 of them are selected and used for setting 2025 targets of the strategy. The selected interventions and their targets are aligned with the indicators of HSTP-II. The current and recent coverages of these 22 interventions are used as baseline coverage of the strategy, and using different monitoring and evaluation mechanisms the 2025 target will be assessed.

The implementation and management of the strategy is defined in the document, where MCH/MoH will play the leading role with RHBs, ZHDs, WorHOs and public health facilities. In addition, many stakeholders of the sector, including development partners, NGOs, professional societies and the private sector will have also important role.

The strategy will be monitored and evaluated using routine MoH health information reporting mechanisms and by national surveys, like DHS, and other relevant evidences.

1 INTRODUCTION

Ethiopia is the second populous country in Africa with an estimated population of 101 million (2020), of which 15% and 47% of the total population are children under the age of five and fifteen years respectively. Ethiopia has close to 3 million live births annually (1, 2).

For the last two decades, newborn and under-five year children health issues have been a top priority for the Government of Ethiopia (GoE). In line with this, the country has adopted global and regional initiatives, and also developed a number of national policies, programs and strategies by which the newborn and child health program has been directed. Hence, substantial progress has been registered in improving newborn and child survival (3).

In 2015 Ethiopia has endorsed SDG3(good health and wellbeing) with target 3.2 of ending all preventable newborn and child deaths by 2030 with the goal of dropping the under-five mortality rate to less than 25/1,000 live birth(9). In accordance, the second National Newborn and Child Survival Strategy (NCSS-2) (2015/16-2019/20), which was part of HSTP-I, was conceptualized to reduce under-five mortality from 64 to 29/1,000 live births, infant mortality rate from 44 to 20/1000 live births, and neonatal mortality rate from 28 to 11/1,000 live births(3). To realize these goals, a number of existing and new high-impact interventions have been identified and implemented. The strategy identified and prioritized 34 high-impact and cost-effective newborn and child health interventions, with key implementation platforms (CBNC, iCCM, IMNCI, NICU and ETAT), and also stressed the need to ensure universal coverage of these interventions along with meaningful community empowerment.

The guiding principles of the strategy were to ensure equity and accessibility, as well as community engagement, integration, partnership, efficient resource use, innovation and technology use, and evidence-based decision making (3, 10).

During the implementation of the second NCSS, a number of successes and gains have been recorded in newborn and child health program areas. These include overall improvement in health care access and coverage of essential NCH; a reduction in pneumonia, diarrhea, and malaria-related child morbidity and mortality; the expansion of NCH service delivery outlets; and steadily improvement in the number, skill mix, and capacity development of the health workforce.

However, under-5 children are still dying of preventable and treatable causes in Ethiopia, resulting in unacceptably high under-five, infant and neonatal mortality rates(11-13). National under five and neonatal mortality rates showed that the planned reduction of mortality rates during NNCSS-II were not achieved(14).

On the other hand, with an estimated stillbirth rate of 30/1000 births, Ethiopia is among the 10 top countries that contribute to 70% of stillbirths in the world (4, 5). A number of preventable and/or treatable conditions are among the causes of stillbirths: maternal hypertensive disorders and diabetes, maternal infections in pregnancy, fetal growth restriction, and congenital abnormalities. Intrapartum complications (including birth asphyxia) – both preventable and treatable – are the leading cause of intrapartum fetal loss. In general stillbirths are considered an indicator of poor access to and quality of obstetric care.

Despite great progress in child survival, gaining the full potential development of children remains a significantly lower. Considerably higher numbers of children are living under poverty and affected by malnutrition while some of them are living under extremely difficult situations. Currently, Early Childhood Development (ECD) is becoming a global agenda to ensure children grow to their full developmental potential. In response to this, the current strategy aims to improve and provide children the best start in life and opportunity to thrive. In line with the SDGs, if a country has to improve its development dramatically, then investing on ECD is ideal for the achievement. Early Childhood development intervention programs are essential to the healthy physical, emotional, social and cognitive development of young children. Ethiopia has also adopted ECD agenda as one of top priority national agenda.

Regarding the early childhood development and nurturing care data is scant, and experts agree upon that Ethiopian infant and children significant lack nurturing care. Some studies have shown that only 10-41% of parents provide cognitively stimulating materials to their child and only 11-33% of parents actively involve their children in cognitively stimulating activities(1, 6-8).

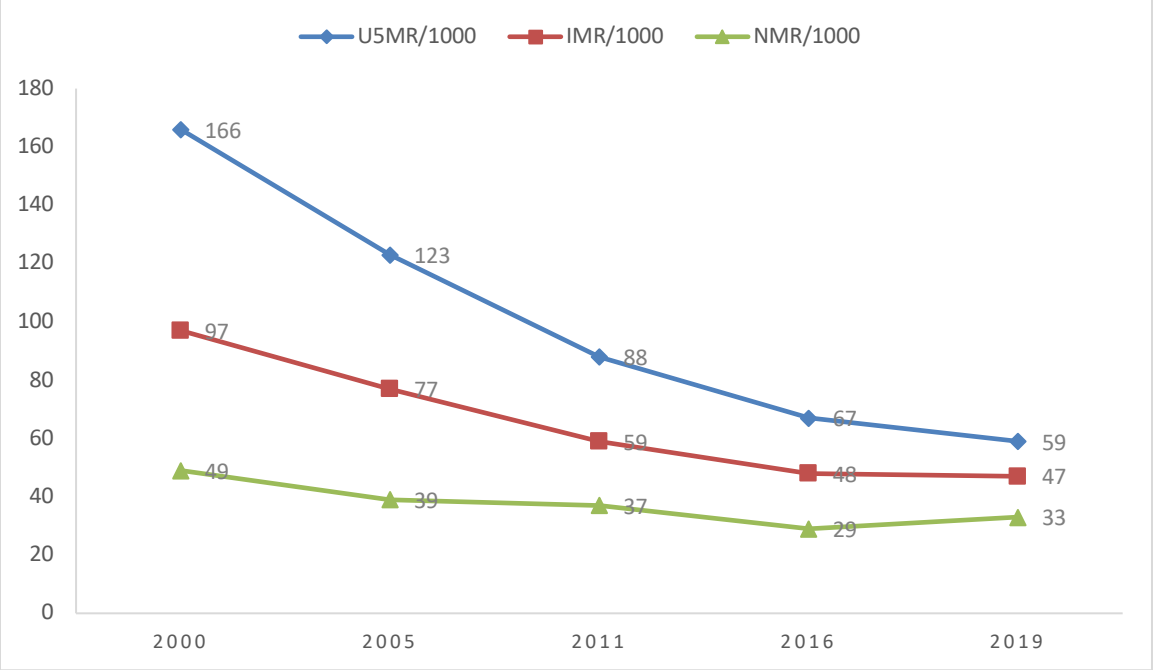
This national neonatal and child health and development strategy document is a continuation of the previous two national strategies, and will be implemented under HSTP-II. The strategy assesses the past performance and sets the goal, targets and activities of child health and development program of the country for the next four years.

2 BACKGROUND

2.1 Current newborn and child mortality status in Ethiopia

During post MDG period, the under-five mortality rate reduction couldn't continue as seen earlier or as planned. NNCSS-II planned to reduce U5MR from 64 to 29 deaths per 1000 live births between 2013 and 2020, which is a 55% reduction in 7 years. According to Mini EDHS 2019, what is achieved is far below than targeted – i.e. U5MR of 59 deaths per 1000 Live birth in 2019, which is <10% reduction from 2013 U5MR. But neonatal deaths remained persistently high, and even showed some degree of increment, and contributing for 56% of under-5 mortality(1, 10, 14) (Fig 1).

Figure 1: Trends of Ethiopian NMR, IMR and U5MR over the last two decades (2000-19)



Where do children die?

Generally, the total number of newborn and child deaths remained persistently high in Ethiopia (1, 12, 15) with significant variation among regions, geographic locations, residential areas.

Though over the last couples of years developing and predominantly pastoralist regions registered progressive improvement in reducing under-five mortality (Afar from 125/1,000 LB in 2016 to

less than 60/1,000 LB in 2019 and Benishangul Gumuz from 98/1,000 LB in 2016 to around 90/1,000 LBs in 2019), still the highest neonatal and child mortalities rate have been reported from these regions.

However, the Somali region has a slight increment from 94/1,000 LB in 2016 to 105/1,000 LBs and (16-18). (Fig 2)

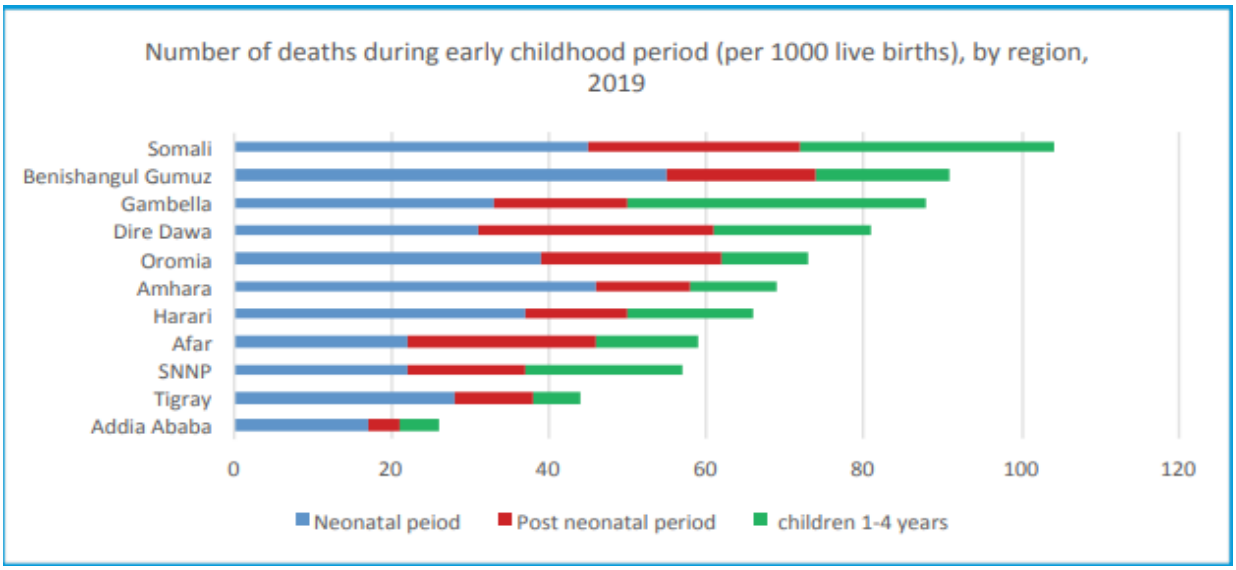
On the other hand, because of high home delivery rate, early postnatal discharge, low PNC coverage and poor care-seeking behavior of the family, most newborn deaths are expected to occur at home, and may not even be reported (19, 20).

Institutional Neonatal Mortality

NICU mortality rate is as high as 20% (19, 21), and mortality rate for premature newborns is even higher. A number of research evidences revealed that poor quality of care as a major contributing factor for the high neonatal mortality rate at NICU.

Human resource challenges (shortage of skilled staff, motivation and willingness, lack of supervision, and poor leadership) adversely impacted quality of care. Widespread shortages and/or nonfunctional device and supplies, medication, physical space, water, electricity, and infrastructure are the other bottlenecks affecting the quality of services at NICU. Economic insecurity was a critical factor affecting the acceptance of services and interventions by families (18, 19, 22-27). The other gaps and barriers are related to newborn referral system which include weak and inadequate transport and referral communication; availability of, and adherence to newborn referral protocols; and family reluctance or refusal of newborn referral.

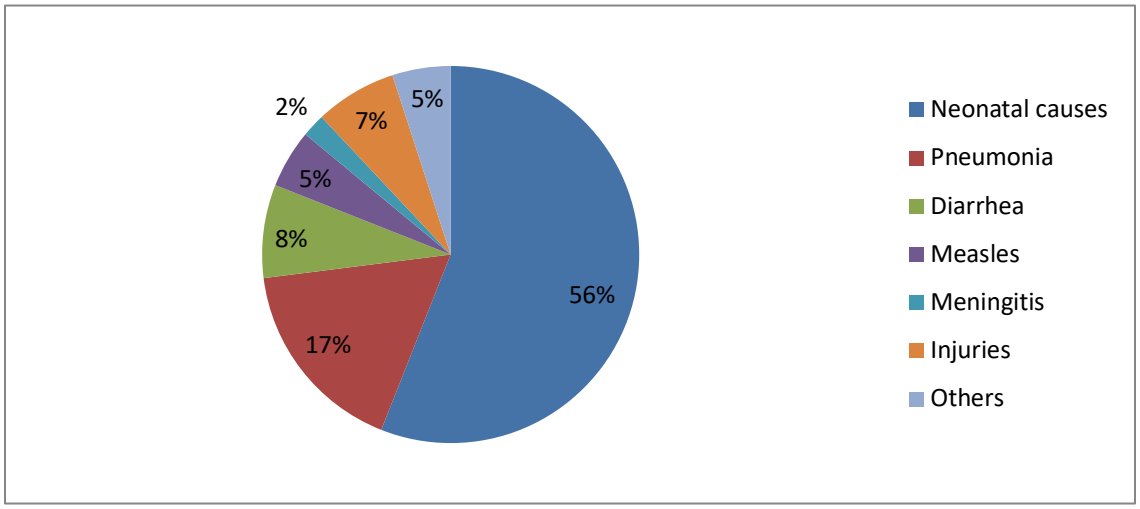
Figure 2: The probability of early childhood deaths by age of death and regions, 2019



What children die of?

Close to four-fifth of under-five mortalities are attributed to neonatal causes, pneumonia and diarrhea diseases. Nutrition-related factors have been identified as underlying causes in about a third of under-five mortality (1, 10, 16). Other causes include measles, meningitis, malaria, TB, HIV and trauma.

Figure:3 Causes of under -five mortality, Ethiopia, 2019(10, 13, 14, 16)

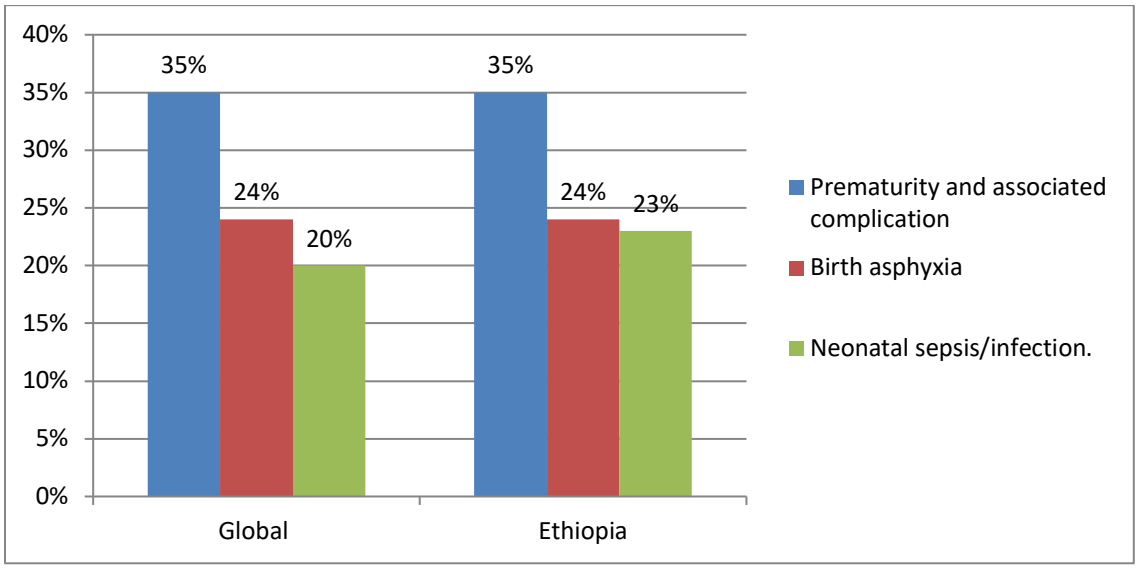


Complications from preterm births, birth asphyxia and neonatal sepsis/pneumonia are the three leading causes of neonatal deaths constituting for about 80% neonatal deaths (10, 16, 28), (Fig 4.).

Interestingly, congenital malformations are also emerging as common neonatal problems; and contributing to significant number of neonatal morbidity and mortality.

Common causes of newborn deaths at NICU include respiratory distress syndrome, infection, asphyxia, hypothermia, longer hospital stay, late initiation of breast feeding and lack of adequate ANC visits (18, 19, 22-24, 29, 30).

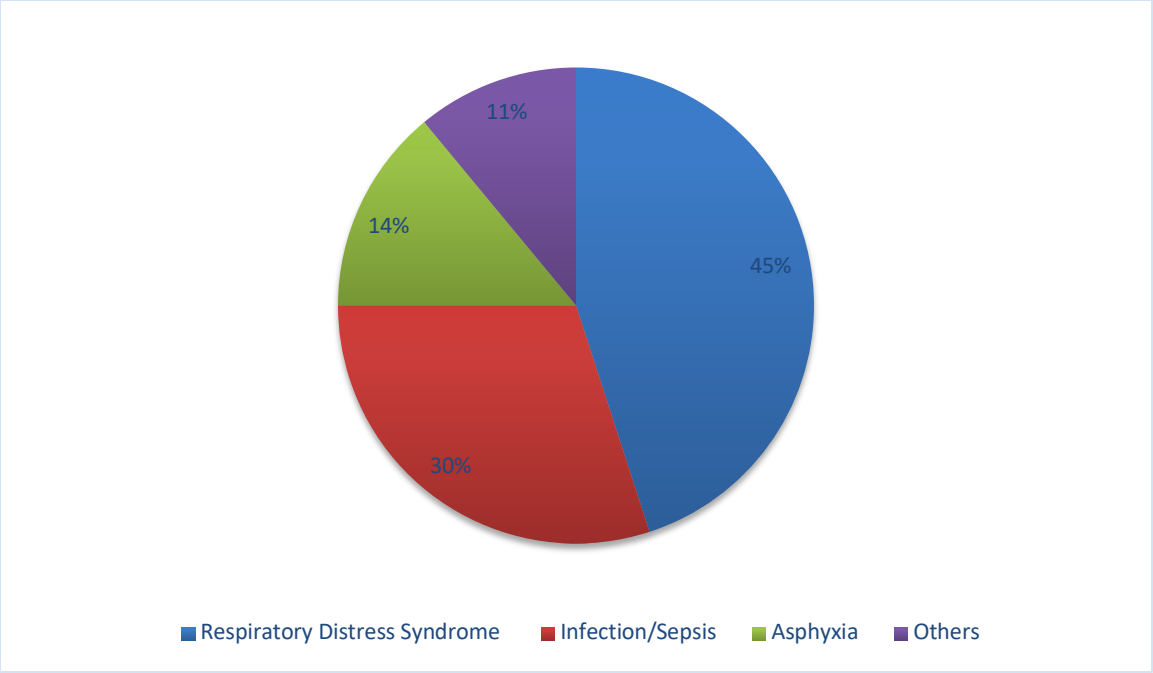
Figure 4: Three major leading causes of neonatal deaths globally and in Ethiopia(10, 12)



Major Causes of Death in Preterm Newborn

Prematurity and related complications are the top leading causes of neonatal mortality in Ethiopia accounting for about 35% of all newborn deaths. Respiratory distress syndrome, Infection/Sepsis and asphyxia are the leading causes of preterm deaths accounting for 89%, and hypothermia is the most common contributory cause of preterm mortality (23).

Figure 5: Major causes of preterm newborn deaths

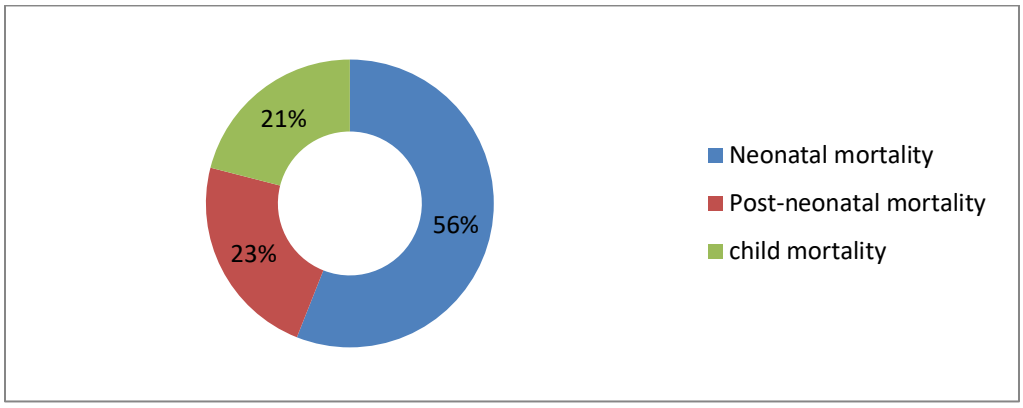


When do children die?

More than half of under-five deaths are occurring during the first 28 days of life, and close to 80% of under-five mortality is occurring before the first birthday (10, 12, 14)(Figure 5).

According to global figures, close to 50% of neonatal deaths occur during the first 24-48 hours, and about three-fourth during the first seven days of life (28).

Figure: 6. Distribution of under 5 mortalities by age, Ethiopia, 2019



Key facts about U5M:

Based on available recent data [1, 3, 5, 18, 20], in summary

- ✓ 80% of under-five mortality occur during first year of life
- ✓ 80% of under-five mortality is caused by neonatal causes, pneumonia and diarrhea
- ✓ 80% of neonatal mortality occur during first week of life
- ✓ 80% of neonatal mortality is caused by prematurity, asphyxia and infection/sepsis

2.2 Current Coverage and implementation status of high impact interventions

The conceptual framework of NNCSS 2015-2020 can be summarized as: increase the coverage of the high impact interventions to the level of set targets to reduce the mortality of neonates and under five-year children. The strategy identified 34 interventions and also set the targets to be reached by 2020(9, 31). Quality care at birth, essential newborn care (ENC), newborn resuscitation, care of small and sick newborns, kangaroo mother care (KMC), antenatal steroids to improve survival of preterm babies, and prevention and timely management of sepsis, pneumonia and diarrhea management, vaccination and nutrition related interventions were key interventions that targeted the leading causes of newborn and child deaths.

In general, the overall performance or coverage of these interventions is far below the target set in the strategy. After reviewing currently available literature sources, only the coverage of two planned interventions (ART for HIV + pregnant and Tetanus toxoid immunization -PAB) have met the level of set target. See Table 1.

Antenatal care (ANC)

A systematic review on the impact of antenatal care on neonatal mortality showed that neonates born to women with ANC follow-up had about two-third (65%) lower probability of death compared to those babies born to women who had no ANC follow-up(10, 22, 29). However, only four in ten (43%) Ethiopian women had four or more ANC visits during their last pregnancy period.

Challenges include late initiation of ANC, drop out of ANC follow up, poor quality of service and socioeconomic and sociodemographic related factors

Antibiotic use for premature rupture of membrane (PROM)

This intervention has been identified and listed as one of the key interventions since 2015 though the coverage to be 40%.

Challenges include stock out of drugs, and missed indicator from existing HMIS to capture and track the progress regarding the coverage.

Antenatal corticosteroid:

Improving preterm babies' survival by use of antenatal corticosteroids has been in clinical use for years, and listed as one of the high impact newborn survival interventions since 2015. Antenatal corticosteroid administration for inevitable premature delivery reduces neonatal deaths by 31% (10, 32).

The prevalence of steroid utilization for inevitable preterm delivery ranges from 14-37% which is far below the target for 2020(32, 33). Challenges include stock out of drugs, and missed indicator to track the coverage.

Skilled attendance at birth

Improving institutional delivery has been one of the key interventions to reduce neonatal mortality(34). However, still only half of the deliveries are being attended by skill birth attendant and 48% of the deliveries are occurring at health facility (14, 35).

Barriers include low ANC coverage, socioeconomic and socio demographic factors, poor access and quality of health care services.

Essential newborn care (ENC)

Essential newborn care is a care given to all newborns at birth, and it includes helping baby breath, thermal care, early initiation of breast feeding, routine prophylactic medication (Vit-K and TTC) and cord care. ENC is said to be cost effective lifesaving intervention in many aspects. For instance, cleansing a newborn's umbilical cord with chlorhexidane can reduce an infant's risk of cord infection by 68% and neonatal death during the first weeks of life by 23%(10).

The uptake and coverage of ENC remained low, majorly related to low institutional delivery, socioeconomic and sociocultural barriers, shortage of supplies(chlorhexidine), and poor knowledge, skill and motivation of health care professionals.

Postnatal care visit

Nearly 50% of newborn complications and deaths occur within the first 24-48 hours after birth; hence if routine postnatal care (PNC) coverage reach up to 90% o, an estimated 10% to 27% of newborn deaths could be averted(10, 36). However, the proportions of newborns which were seen within 48 hours after delivery were 34% in 2019 (14, 36, 37).

Challenges for the low coverage of PNC include high home delivery rate, early discharge from facility, and socioeconomic and socio-cultural related factors.

Kangaroo Mother Care (KMC):

Promptly and appropriately practiced KMC would avert 51% of deaths related to prematurity or low birth weight (LBW)(10, 31) though the coverage of KMC coverage is only 47% (31). KMC service was reported to be available in 85% of the NICUs even though only 40% of the sites fulfill the minimum national standard for KMC service(25).

Challenges related to KMC include poor maternal awareness and uptake, lack of adequate premises within the facility to render KMC services; gaps in supportive supervision and mentoring, lack of adequate funding due to the belief that there are no direct costs involved to run KMC services (38).

Community based newborn care (CBNC)

Since 2013, management of neonatal sepsis and very severe disease was proposed to be initiated at the community level through CBNC package, and was conceptualized to promptly identify neonatal infection cases, prompt initiation of treatment with strong referral linkage between community and facility, and completion of the treatment (34, 39-41).

A survey conducted in 2015/2016 highlighted that there were trained service providers to manage neonatal infection at almost all health posts (HPs), and 91% of health posts had the essential drugs on the day of visit (34, 36).

Identified challenges related to implementation of CBNC were poor knowledge and skill gaps of HEWs in classifying VSD in which a third of HEWs were able to correctly classify VSD, poor and delayed health seeking behavior of the family, poor referral system and inadequate mentorship and supportive supervision (36).

Child vaccination

With the vaccines currently recommended by the WHO- Expanded Program on Immunization (EPI), significant mortality and morbidity from several infectious origins have been averted.

As per EDHS 2019 mini-report, 43% of children age 12-23 months have received all basic vaccinations, and close to 2 in 10 children (19%) in this age group have not received any vaccinations at all(14, 42). Fifty-nine percent of children received a measles vaccination (MCV1). Coverage rates decline for subsequent doses of these vaccines, and there is also a marked difference in vaccination coverage rate among urban and rural areas (57% versus 37%), regions to regions, highest in Addis Ababa (83%) and lowest in Afar (20%) (11, 42).

Challenges include low health literacy and negative sociocultural perception about vaccine among families, gaps in knowledge, attitude and practice of vaccination among health workers, logistic and supply related problems.

Integrated community case management (iCCM)

Pneumonia and diarrhea remain major killers of young children. Despite the massive toll of pneumonia, it has been called the forgotten epidemic(11, 16, 43). Children are dying of these preventable medical conditions because services are provided piecemeal as a result of poor continuum of care across level of service delivery, and those most at risk are not being reached(44). Integrated Community- case management (iCCM) has been one of the programmatic platforms to avert pneumonia and diarrhea related mortality. Implementation of iCCM was expected to reduce all causes of under-one mortality by 20% and all causes of under-five mortality by 24% (31, 43). However, only 61% children received full vaccination, and 60% of children with suspected pneumonia access appropriate care. On the other hand, air pollution is the leading risk factor for death from pneumonia across all age groups and almost a third (30%) of these deaths were attributable to polluted air. Children are more susceptible to household air pollution in homes that

regularly use polluting fuels, and technologies for cooking, heating and lighting(45). Moreover, only 48 % and 35% of children with suspected pneumonia and diarrhea receive antibiotics and oral rehydration therapy respectively(44), and only one in three children with diarrhea received zinc supplements, and 17% received both zinc supplements and ORS.

Factors contributing for low uptake, utilization and coverage iCCM include poor care-seeking behavior of the family at health posts, low community awareness on availability of the services at health posts, weakening of ICCM program and poor referral system(36). A study on quality of ICCM program revealed that just only third of children with severe illness were correctly managed and only about one-half of children needing referral to a health center were referred(46-48).

Pulse Oximetry and Oxygen for Pneumonia Management

Every year, 4.2 million children suffering from severe pneumonia with hypoxemia/low levels of oxygen urgently need medical oxygen to survive but are left fighting for breath. In a recent systematic review of more than 16,000 children with pneumonia or other lower respiratory tract infections, the median hypoxemia prevalence of children with severe pneumonia requiring hospitalization was 13.3%(49). Improving access to oxygen and pulse oximetry has demonstrated a reduction in mortality from childhood pneumonia by up to 35% in high-burden child pneumonia settings(45). In Malawi, introduction of oxygen concentrators in all district hospitals saw a fall in pneumonia case fatality rates from 18.6% to 8.4% of total admitted pneumonia patients.

As per SARA report of 2018, only 2% of health centers and 47% of hospitals had functional oxygen source (cylinder or concentrator).

Nutrition programmatic intervention

Ethiopia is prone to recurrent droughts that impact food security resulting in recurrent high rates of malnutrition in the country targeting particularly vulnerable age groups of under-five children. It has been clearly demonstrated that malnutrition is incriminated as an underlying cause in third of under-five mortality. The EDHS 2019 mini-report showed that 37% of children under 5 were considered stunted and 12% are severely stunted(50). Stunting is higher among children in rural areas, and there is also a regional variation with the highest percentage in the Tigray region and the lowest in Addis Ababa. On the other hand, 7% of children in Ethiopia are wasted, and 1% is severely wasted. Regional variations exist, with Somali and Afar having the highest percentages

of children who are wasted, 23% and 18%, respectively. With regards to underweight, 21% of all children are underweight, and 6% are severely underweight. Children in rural areas are more likely than those in urban areas to be underweight (23% versus 14%)(14).

Infant and young child feeding (IYCF)

Breastfeeding is sufficient and beneficial for infant nutrition in the first 6 months of life. Early initiation of Breastfeeding is a cheap and cost-effective intervention in preventing infant deaths and is associated with a 38–44% decreased risk of all cause-infant mortality. IYCF is an initiative to address child nutrition during 1000 days of life starting from conception to a child's second year of life when good nutrition paves strong, healthy, productive future. WHO recommends that all infants under the age of 6 months should be on exclusive breastfeeding and at the age of 6-8 months should start on complementary feeding. However, only 59% of infants under the age of 6 months were exclusively breastfed, and 60% of children 6-8 months started with solid and semi-solid foods.

The percentage of exclusively breastfed decreases sharply with age from 73% of infants at age of 0-1 months to 68% of those age 2-3 months and further, to 40% of infants-age 4-5 months(14).

Water/sanitation and hygiene (WASH):

Consequences of unsafe WASH on children can be deadly, and over 700 children under age 5 die every day of diarrheal diseases due to lack of appropriate WASH services. Unsafe WASH is also significantly associated with stunting(51). Infections such as sepsis and diarrhea account for a substantial proportion of neonatal and child deaths. These are directly related to Water, Sanitation, and Hygiene (WASH), circumstances during birth, and the immediate postpartum period through practices such as birth attendant hand washing, cleanliness of the perineum and delivery surface, and feeding practices(51). Ethiopian DHS has indicated that latrine facility and protected water sources were not available for significant proportion of communities. Similarly, almost two-third of health facilities do not have an improved water source which could directly affect the quality of care and impair the practice of infection prevention and control (11).

Table 1: Current status of NNCSS-2 high impact interventions(11, 14, 33, 52-55),

S.N.	Key intervention	NNCSS-2 2020Target	Current Coverage Status	Current Coverage Status Source/ Reference
1	Family Planning (CPR – currently married women)	55%	a. 41% in 2019 b. 38% in 2020	a. EMDHS 2019 b. PMA Ethiopia CS Survey Result, 2020
2.	Focused ANC (4 or more visits)	95%	a. 43% in 2019 b. 43% in 2020	a. EMDHS 2019 b. PMA Ethiopia CS Survey Result
3.	Iron Folate Supplementation in pregnancy	95%	60% in 2019	EMDHS 2019
4.	ART for HIV+ pregnant women	95%	91% in 2020	MOH APR 2012 EFY (19/20),
5.	Tetanus Toxoid immunization (PAB)	90%	93% in 2019	UNICEF, SOWC 2019
6.	ITNs for pregnant women (malarious areas)	80%	a. 44% in 2015 b. 59% in 2017 c. 68% estimate for 2020	a EPHI, EMIS 2015 b EPHI, National LLIN survey, 2017. c. Estimate
7.	Antenatal Corticosteroids for preterm labor	90%	a. 86% in Hospitals in 2018 b. 14% in HFs 2018	EPHI SARA 2018
8.	Mg So4 during pregnancy & at Birth	90%	36% in 2018	EPHI SARA 2018
9.	Skilled attendance at birth	95%	50% in 2019 (a) 55% in 2020 (b)	a. EMDHS 2019 b. PMA Ethiopia Panel 6wk Survey result,
10.	Neonatal resuscitation	90%	52% in 2018	EPHI SARA 2018
11.	Chlorhexidine for cord care	90%	6% in 2020	PMA Ethiopia Panel 6wk Survey result
12.	Thermal regulation	95%	57% in 2020 (a) 54% in 2020 (b)	PMA Ethiopia Panel 6wk Survey result
13.	KMC	90%	49% in 2016 (a) 47% in 2018 (b)	a. EPHI, EmONC Assessment 2016, b. EPHI SARA 2018
14.	Antibiotics for PROM	90%	40% in 2018	EPHI SARA 2018
15.	Postnatal visit for mothers and newborns within 48 hrs	50%	34% in 2019 (a) 31% in 2020 (b)	a. EMDHS 2019 b. PMA Ethiopia Panel 6wk Survey result
16.	Antibiotics for neonatal sepsis	80%	35% in 2018 (a) 94% in 2020 (b)	a. EPHI SARA 2018 b. MOH APR EFY 2012 (19/20)
17.	Early initiation of breastfeeding (within 1 hr of birth)	90%	72% in 2019 (a) 79% in 2020 (b)	a. EMDHS 2019 b. PMA Ethiopia Panel 6wk Survey result

S.N.	Key intervention	NNCSS-2 2020Target	Current Coverage Status	Current Coverage Status Source/ Reference
18.	Exclusive breastfeeding (up to 6 months)	80%	59% in 2019	EMDHS 2019
19.	Complementary feeding (6-9 months) and continued breast feeding	100%	71% in 2019	EMDHS 2019
20.	Penta_3 (DPT-HepB-Hib) vaccination	96%	61% in 2019 (a) 69% in 2019 (b)	a. EMDHS 2019 b. WU-ENIC 2019
21.	Pneumococcal vaccine	96%	60% in 2019 (a) 63% in 2019 (b)	a. EMDHS 2019 b. WU-ENIC 2019
22.	Rota Virus vaccine	96%	67% in 2019 (a) 68% in 2019 (b)	a. EMDHS 2019 b. WU-ENIC 2019
23.	Measles immunization (MCV1)	96%	59% in 2019 (a) 58% in 2019 (b)	a. EMDHS 2019 b. WU-ENIC 2019
24.	Vitamin A supplementation every 6 month	95%	79% in 2020 (a) 48% in 2018 (b)	a. MOH APR EFY 2012 (19/20) b. UNICEF global database
25.	Antibiotics for pneumonia	80%	31 % in 2016 35% in 2020 (estimation)	EDHS 2016
26.	Oral Rehydration Therapy (ORS) and Zinc	90%	38% in 2016, 48% in 2020	EDHS 2016, Estimation to 2020
27.	Malaria ACT treatment	100%	38% in 2015 44% in 2020	EMIS 2015
28.	Antibiotics for dysentery	80%	Unknown	
29.	Pediatric ART	80%	39% in 2020	MOH APR 2020
30.	Children sleeping under insecticide-treated nets (ITNs)	80%	a. 45% in 2015 b. 51% in 2017 c. 54% in 2020 estimate	a. EMIS15 b. EPHI, LLIN Survey c. Estimate based on 2011 and 15 EMISs.
31.	Management of children with SAM	90%	Unknown	
32.	Improved drinking water (household)	100%	a. 69% in 2019 b. 76% in 2020	a. EMDHS 2019 b. WU-JMP Report 2021
33.	Improved sanitation facilities (household)	100%	a. 73% in 2019 b. 26.5% in 2020	a. EMDHS 2019 b. WU-JMP Report 2021
34.	Deworming	90%	74% in 2020 (a)	a. MOH APR 2020

2.3 Health systems response for Newborn and child health (NCH):

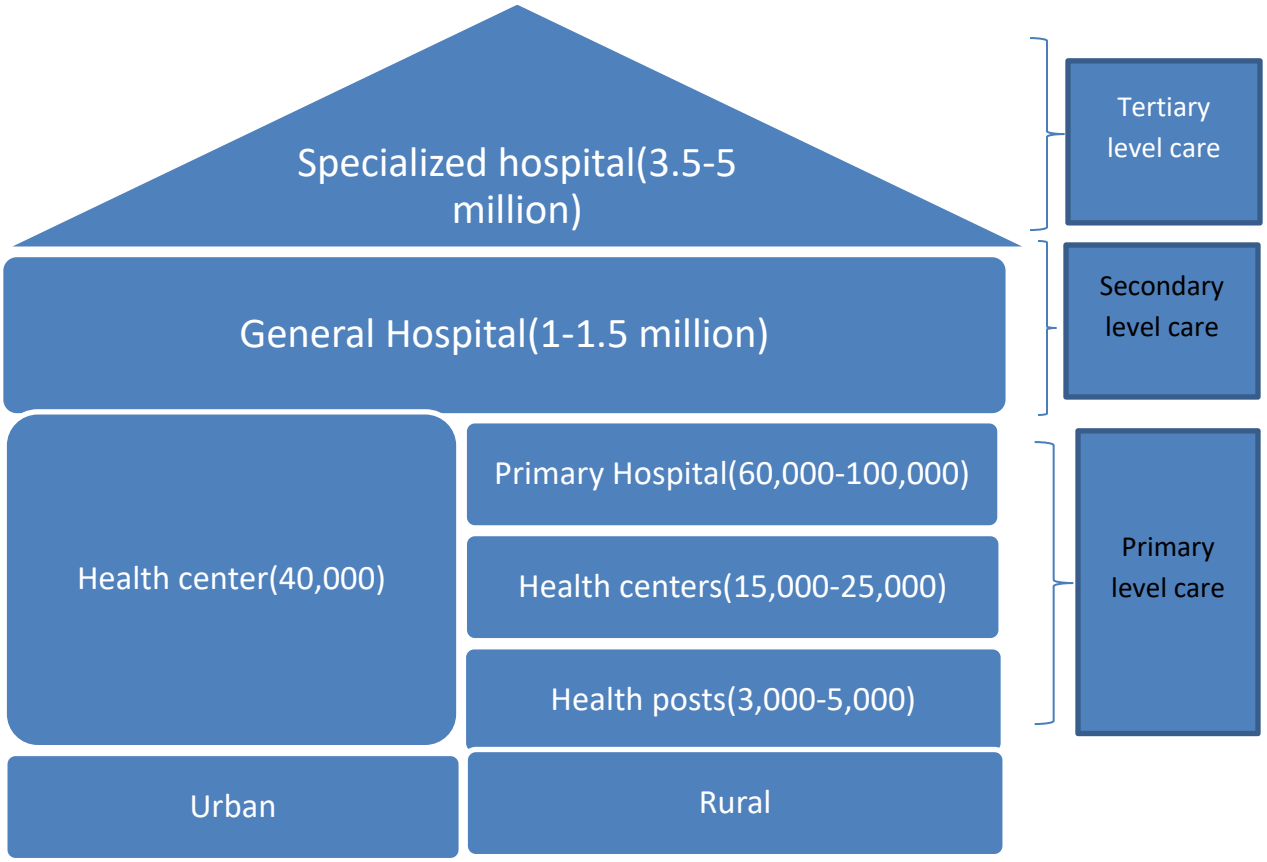
MNCH service delivery platforms

The Ethiopian health service system has been structured under three-tier health care delivery platforms (primary, secondary and tertiary level health care) in which newborn and child health services are arranged accordingly.

In general, neonatal and child health service delivery packages/platforms have improved during NNCSS-II period. Under the platform of health extension program, as of 2019/20, the percentage of health posts providing CBNC and iCCM were 94% and 99% respectively (11, 34). Likewise, 78% of health centers established newborn corners, and 95% health centers implemented IMNCI as health care service delivery platform for under five children(34). About 55% (196) public hospitals are providing different levels of NICU care, and a total of 79 NICU centers were capacitated with Level III NICU standard (11). Regarding pediatric critical care services; ETAT has been launched to be provided from primary to tertiary hospital levels, and Pediatric-ICU (PICU) have been started at some Secondary and Tertiary hospitals though the current status is not known

The challenges include inadequate quality and poor integration of services, lack of adequate premises for preterm/sick newborns, poor physical proximity of delivery room and NICU and few number of pediatric critical care outlets. On the other hand, frequent interruption of electric power and water supply at facilities, and inconsistent and poor implementation of infection prevention and control practices were the other prevailing challenges(25, 33, 53, 56) .

Figure 7: Three tiers of health service delivery arrangement



Health workforce

Though the health workforce density has been steadily improving, there is still a critical shortage, and the health workforce skill-mix is also suboptimal(2). The expansion of medical schools, health sciences colleges and specialty-training centers in pediatric and child health, and neonatal and pediatric nurse specialty trainings were some of the initiatives to improve the health workforce density and skill-mix over the last couple of years.

As an immediate solution to fill the scarce manpower and to optimize the knowledge, skill and attitude of the health workforce, a number of in-service trainings have been provided by governments, partners and NGOs. As a result, most health professionals working at NICU took some level of training though the number is below the required standard.

Identified bottle necks were uneven distribution of health workforces among regions, geographic locations and facilities; high staff turnover, frequent rotation of skilled staffs with in facilities, lack of motivation, poor incentives, and donor funded dependent in-service training(33, 57).

Community engagement

A systematic review indicated sustainable community mobilization resulted in reducing neonatal mortality by 40%(10, 58, 59). Community engagement opportunity include involving the community at planning, implementation, monitoring and evaluation(60). Community engagement platforms like small social structures and groupings have been systematically linked to HEP, and played substantial role in community mobilization and NCH service utilization. For instance, Women Development Group (WDG) has been one of the community engagement platform and played an unprecedented role in boosting NCH care seeking behavior and practices of the households and the community(59, 61-63).

However, since 2015/2016, low coverage of model family training, suboptimal functionality of WDG structures, decreased influence of WDG at the community level, and limited capacity of WDG leaders have been major challenges which adversely affected community engagement(60)

Health Leadership Management and Governance (LMG)

Ethiopia has a health system with decentralized decision-making approaches vested at regions and Woreda admirations. While leadership at MoH are responsible for developing policies, strategies, and programs; Regional and Woreda health offices are responsible for implementing the designed health policies and programs (64).

During the strategy period, initiation of ECD (Early Childhood Development) activities and policy framework was one of the major activities of the national child health program team. This activity started by revising the earlier ECCE (Early Childhood Care and Education) framework and finally culminated with development of national ECD strategy in 2020(6, 7).

Infrequent and irregular supervision and monitoring at all levels, inadequate ownership of some neonatal and child health program initiatives at lower levels and inadequate collaboration/partnership are still reported as common challenges.

Supply chain management system:

Effective and efficient supply chain management is characterized by continuous and reliable availability of sufficient quantities of quality-assured and effective products to end-users; procured at the lowest possible prices in accordance with the national standards

Shortages and maldistribution of medical supplies, device, and essential medications were widespread at health facilities, and these shortages obviously affected the neonatal and child health services.

For instance, some device was unavailable, unassembled (mechanical ventilation at NICU), broken (radiant heater, incubator and phototherapy), inappropriate or non-functional for use at the facility level (mechanical ventilation at some NICU centers) (25, 33, 57) implying problems with planning, forecasting, quantification and inventory of commodities and supplies at facilities levels(33).

Health care financing

Health care financing continues to come from multiple sources including households' out-of-pocket spending, the government treasury (federal, regional, district, and municipal levels), bilateral and multilateral donors, and nongovernmental organizations (NGOs), private enterprises, and parastatal sources(31, 65). Though steadily growing, Ethiopia's health spending is far from adequate for financing essential health care services, and most healthcare-related expenses are predominantly out-of-pocket spending. According to the NHA VII report, the total health spending in Ethiopia increased from 49.5 billion birr in 2013/14 to 72 billion birr in 2016/17, and Government's contribution to health sector has been increased from 30% to 32%. The total health spending per capita also increased from $28.6 to $33.2, and about 41% of the budget goes to primary health care unit and 29.4% to hospitals (66). On the other hand, even though out of pocket spending decreased from 33% to 31%, it is still causing significant financial burden at household level promoting non-use or delays in accessing critical services especially among the poor and marginalized groups. Social health insurance, community-based health insurance schemes, MNCH service fee exemption, retention and utilization of other user fee revenues at the health facility level were some of the measures to mitigate financial catastrophes(66). However, low and inconsistent implementation of health insurance, and significant indirect costs which include:

transport, daily expenses during the out-of-home stay, absenteeism from work and service interruption at public health facilities were some of the critical challenges.

Data and Health information system

Decisions at different levels of the health sector can only be effective if they are backed with accurate and reliable information(67). Therefore, the quality of generated data in health system are a critical input for an effective and efficient health management system and are the backbone for pragmatic planning and implementation guidance. Unfortunately, there are a number of problems with the quality of generated data (over/under reporting, inconsistent reporting system, late reporting etc), and also missing indicators to capture some key NCH interventions. To solve data quality related problems, performance monitoring team (PMT) and data quality assurance committee were proposed to be established at facility level over the last couple of years, though impact has not been demonstrated or known yet. Similarly, DHIS was undergone revision to include most intervention indicators though there are still missing ones which need further revision data capturing tools(68)

2.4 Barriers of NCH service utilization

Understanding the underlying factors at household, community and facility levels are important to improve neonatal and child health services accessibility, acceptability and utilization. In this regard, taking the high burden and unyielding (persistently high) neonatal mortality in the country as a challenge, EPHI has analyzed the barriers of neonatal care seeking in Ethiopia using adaptation of the three delays model of maternal mortality(10, 69).

First Delay

The first delay is the delay in the decision to seek both preventive and curative health services which is primarily related to socio-demographic, socio-economic, cultural beliefs and practices of the communities and families (10, 22, 28, 69). Mothers' education increases knowledge of the benefits of health care, raises awareness on the available health services, empowers women to have more access to make decision. Inadequate literacy (IEC) and information and social and behavioral change communications (SBCC) were the other contributing factors that underpin the first delay (69).

Second Delay

The second delay describes the situation when reaching healthcare services is delayed. Geographical barriers, poor and unpaved roads, unavailability of public transport, inadequate access for ambulance services, lack of appropriate communication channels in referral linkages, and distance to the health facilities are factors that limit the access to basic and emergency neonatal and child care services (10, 53, 69, 70).

Third Delay

The third delay occurs due to poor quality of care i.e., the delay in the provision of healthcare services at health facilities caused by shortages of staff, staff competency and attitude problems, availability of device & supplies, and inadequate management (53). According to the EmONC survey, inadequately trained staff, shortage of device, supplies, lack of facility readiness were mentioned gaps occurring at the health facility as causes of the Third delay (10, 25, 53, 57, 69). Similarly, status of essential newborn care readiness score and quality of NICU care at at most health facilities were low.

2.5 Health status of children 5-14 years

Globally, the risk of dying at any age between 5–14 is lower than for children under 5 years of age which is almost half of the level under five mortalities. The highest burden of death among this age group is being reported from sub-Sahara Africa, Central and Southern Asia(71). With decreasing mortality trends in children under the age of five years, more children are surviving to older children and adolescent age groups resulting in unique diseases epidemiology, health care needs and mortality profile(12).

Though there is no nationally representative data on major causes of morbidity and mortality for this age group, communicable disease and malnutrition as causes of morbidity and mortality remained a significant burden for this age group as well. Globally, the top five causes of death among 5-9 years age group were diarrheal diseases (10%), lower respiratory infections (10%), road traffic injuries (8%), malaria (7%) and meningitis (6%) in 2016. On the other hand, though there are no representative data on burden of non-communicable diseases (NCDs) and injuries at national level, available service statistics indicates them as major health problems for 5–14-year

age group. NCDs (diabetes, cardiac diseases, chronic respiratory diseases and cancer) are estimated to account for 30% of all deaths in Ethiopia. Unintentional injuries caused about 25,000 deaths among 0-14-year-olds in Ethiopia in 2015, the leading cause being road-traffic injuries, followed by fire, heat/ hot substances and drowning(1).

2.6 Humanitarian emergencies, pandemic and NCH

Between 2016 and 2018, there were widespread civil unrests in the country which had finally forced change in government. During this period internal displacement of communities and disruption of ground level health services were common including disruption of neonatal and child health services. Internal displacement and fluttering of health system have been continued in many parts of the country up to now, fueled up by the unfortunate conflict that erupted in the northern part of the country.

The emergence of COVID 19 pandemic was a huge challenge to the health system and to the country itself. Currently, the health system is overwhelmed by COVID-19 cases since its declaration as a global pandemic and has already eroded the health systems by disrupting basic and essential health services including vaccination and constraining access to food and essential nutrition services which could potentially contribute to plenty of additional U5M (15).

The implementation of the last NNCSS strategy was highly affected by the numerous humanitarian and emergency conditions in the country. And definitely the challenge will also continue during the implementation of the new strategy plan.

2.7 SWOT and Stakeholders Analysis

A brief strengths, weaknesses, opportunities, and threats (SWOT) analysis of the health system was performed based on desk review and key informant interview findings to inform the revision and updating of this national newborn and child survival strategy. The main objective of this SWOT analysis to identify factors that are likely to impact the implementation of identified newborn and child health interventions, and broadly classified them into internal factors (strengths & weaknesses) and external factors (opportunities & threats) -See Table 2.

Stakeholders are key players in the newborn and child health, and understanding their needs is crucial to the success of revised and updated newborn and child survival strategy. Table 3 shows the key stakeholders whose needs and interests should be taken into consideration during the development and implementation of revised and updated national NCSS.

Table 2: Brief summary SWOT analysis of national newborn and child health system

Strength	Opportunity	Weakness	Threat
-Most key NCH interventions were rolled out -Relatively more resources were mobilized -Remarkable gains were recorded in improving EPI coverage and decreasing vaccine preventable disease -Achievements in malaria, diarrhea and pneumonia related interventions were progressive -Presence of key NCH intervention implementation platform (HEP, CBNC, iCCM) -Expansion of Newborn corners, NICU centers and KMCs	-Political commitment and coordination (federal to woreda level) -Engagement of developing partners and NGOs -Efforts for multi sectorial collaboration to address nutrition related problems -Women empowerment became a top political agenda -Improved coverage of secondary and tertiary educations -Enabling policy environment: health policy, HSTP II, -Expansion of private health service -Presence of EHSTG to ensure quality of care at hospitals -Categorized tiers of health service delivery system	- Low uptake and utilization NCH intervention by community -Weak implementation of NCH across continuum of care -Gaps in supply chain management at facility level -Inadequate and /non-functional NICU device -Weak and uncoordinated referral linkage system -Vaccine preventable diseases remained public health problems (measles outbreak) -Focus only on survival aspect of newborn and child health programs -Bureaucratic procurement system -Weak practice of data utilization make informed local decision -Poor infrastructure at facility (water, sanitation and electricity) -Inadequate NCH device at health facility -Weak device maintenance system -Inadequate number of ambulances	- Prevailing COVID-19 pandemic and humanitarian crisis -Political instability and turmoil - Policies and programs are NGO and partners dependent -Global and national macro and micro economic recession - Fragmented community mobilization approach by number of sectors. -Inadequate access and coverage of IEC and SBCC rural and hard to reach communities -Hardship to get foreign currency for procurement -Declining quality of preservice training -Inconsistent and low coverage of CBHI -Still significant indirect out of pocket expenditure

-Improvement in health workforce density and skill mix -Provision of on Job NCH care trainings -ICCM and CBNC were incorporated in HEP -Integration of NCH commodities into IPLS -Presence of annual planning and review meeting practices at different levels -MNCH services are fee exempted	-Revision and revitalization of HEP -Expansion of Health Science Colleges -Presence of women's development group (WDG) -Improving and revitalization of community engagement platforms -NCH interventions are cost-effective -NCH has been one of the core packages for HEP program -Better access for advocacy work, SBCC and EIC , e.g a number TV channels, FM, face book -Expanding access for mobile phone and other technology -Launching of Digital Health/e-health -Presence of EPFSA to manage medicines, supplies	-Inadequate spaces for preterm/ sick newborns and KMC -Inadequate number and skill mix of heath workforce -Uneven distribution of health workforce -Continued reliance of health workers on in service training -Lack of some drugs with pediatric preparation -Poor infrastructure and transportation system for community services -Unplanned hand overingof programs by partners -Inadequate renovation and maintenance for HPs -Burnout, dissatisfaction of HEWs - Less community outreach visits by HEWs -Knowledge and skill gaps of HEWs in NCH -Inadequate number of HEWs -Inconsistent supportive supervision & mentoring -Additional assignments were given to HEWs -Weak integration of MNCH services -Inconsistent perinatal Death Audit, review surveillance and response (PDSR)	-Incomprehensive DHIS (Disease and age disaggregated newborn morbidity and mortality) -High turnover of leadership at lower level -Low commitment and ownership of newborn and child health program at lower leadership level -Barriers related to cultural, religious, beliefs and traditional practices -Harmful newborn and Child Health related perception, attitude and practices at community level . -Low health literacy of the community, particularly Women -Uneven distribution and shrinking number of partners and donors -Weak inter-sectoral coordination and collaboration (MoE, MoiNT, etc) -Lack of packages of incentive(NICU staffs).

	and device at federal level with regional hubs -Information revolution and darta quality were transformative agenda for health sector -Financial protection initiatives (CBHI)	-Poor coordination of logistic and supply chain management (from EPFSA to user level) -Poor stock management at facility -Lack of regular review of operational/strategic plan - In adequate budget allocation and lack of stewardship resource utilization -Cost intensive in-service trainings -Poor and inconsistent NCH advocacy work	-Weak inculcation of NCH program into pre-service training (CBNC, iCCM) -Weakened community mobilization platforms -Weakened functionality of women's Development group

Table 3: Stake holder analysis

Stake holders	Behaviors MoH desire	Stakeholder's need	Resistance issues	Institutional response
RHB	-Be aligned with national strategic plan and policy -Own the program, implementation and utilization of key intervention. -Mobilize community to improve the uptake of the services -Engage in mentorship, monitoring and evaluation	-Regular supervision, monitoring and evaluation -Improve and coordinate supply chain -Timely cascading of national policies, program and strategies -Supporting in capacity building, training and experience sharing -Preparing and availing manuals and guidelines.	-Lack of coordination -Irregular joint forum and review meeting	-Coordination -Regular review forum -Ownership of program -Engagement in monitoring and evaluation
Health care professionals	-Engagement -Ownership -Quality service delivery -Professionalism and accountability -Compassionate and respectful health care service delivery	-Provide unique and extra incentives -Creating conducive working environment -Training and capacity building -Facility readiness	-Lack of motivation -Loose of professionalism -Poor accountability On job training dependent -Dissatisfaction	-Improve capacity building -Improve incentives (tax exemption, performance-based incentives) -Strengthen regulations - Create accountability
Professional societies/Association	-Participate in licensing and accreditation -Promote professional code of conduct -Capacity building -Involve in curriculum, protocol and manual development -Advocacy work	-Need regular and meaningful participation on NCH agendas	-Organizational restructuring -Influence on budget and inter sectoral collaboration	-Transparency, -Advocacy -Capacity building -Financial support

MoSHE, Higher Learining Institutions, MiNT	-Engagement in identifying thematic areas for MNCH related operational researches. -Participatory recruitment health science students -Pro-public health problem curriculum development	-Participation -Engagement	-Weak coordination and collaboration	-Inclusiveness -Participatory -Coordination
Media	-Engagement -Consistency -Sustainable -Coverage	-Prepare content and modality of communication	-Incoordination -Fragmentation	-Ensure coordination quality EIC, SBCC outputs
Developmental partners	-Harmonized and aligned -Participation -More financing -Technical support	-Financial system accountable and transparent -Involved in planning, implementation and M&E	-Fragmentation -High transaction cost -Inefficiencies -Duplication of efforts	-Stewardship -Transparency -Efficient resource use
NGOs	-Resource allocation, -Collaboration in capacity building and skill transfer, alignment with national policy agenda, -Integration -Sustainability	-Commitment, efficiency, effectiveness, timely delivery of reports	-Influence on fund and priority areas -Sustainability -Lack of alignment with the national and local priorities -Duplication of efforts.	-Strengthen communication and coordination -Timely and alignment with national health sector thematic areas.

2.8 Thematic priorities for the strategic plan

Taking the overall implementation status of the last strategy and considering the lessons learned from the implementation of the last strategy, the following areas need attention in the formulation and implementation of the current strategy.

a) **Neonatal health** - strengthen neonatal health interventions, especially the early neonatal care, through the continuum of care model (life cycle and level of care)

b) **Child development** – establish and integrate promotion of nurturing care for early childhood development into the NCH service delivery platforms

c) **Community level care** - revitalize community-based NCH and development programs with meaningful facility linkage integration

d) **Humanitarian and emergency NCH care –** build capacity in neonatal and child health care in humanitarian and emergency conditions

e) **Equity** - Improve the equity of NCH and development services at each tiers of health service delivery with special focus to close the disparity among regions, geographic location and residential areas

f) **Quality** - Improve quality of NCH and development service delivery at all service delivery levels focusing on service standardization, mentorship and performance review.

g) **Collaboration and partnership** - Enhance internal and external collaboration and partnership, including in the area of use of innovation and technologies for quality health service, ensuring supply of commodities, ensuring resource mobilization and advocacy.

h) **Monitoring, Evaluation and Learning (MEL)** - Strengthen monitoring, evaluation and learning

i) **Leadership and communication**_ strengthening health leaders involvement, ownership and leveraging communication platforms utilization at all levels.

3 SCOPE OF THE STRATEGY

Reducing mortality of neonates and children and improving their health and holistic development requires a concerted effort from multiple stakeholders, other than the health sector. Within the health sector, all programs including EPI, Early Childhood Development, Family Planning, Adolescent health, Maternal health, Nutrition and PMTCT contribute to reduction of mortality and improvement of neonatal and child health and development.

This strategy is part of a package of strategies and policies related to address maternal, neonatal and child health, including national EPI comprehensive multiyear plan, national health sector strategic plan for ECD, RH strategy, Adolescents and Youth health strategy, Food and Nutrition strategy The focus of this strategy is limited specifically to the Newborn and Child health and development interventions. The main aim of this strategic document is to provide actionable strategic guidance and recommendation to Child Health programs and interventions for the next five years.

In this strategy the term child refers to age group of 0 to < 10 years old person. Even though the term child usually refers to person who don't reach the age of maturity (i.e. <18 years in Ethiopia), this strategy adopts 0 to <10 years as its scope due to contextual and practical reasons in the health sector. This strategy gives the most attention to under 5 children, and at the same time it wants to bring the older children (5 to <10) into the attention of child health program. The national adolescent and youth health strategy will cover the health needs of children from 10 to <18 years.

4 STRATEGIC DIRECTIONS

4.1 Guiding principles

The key guiding principles of the newborn and child health and development strategy are:

Continuum of Care: Ensuring provision of continuum of care across the life cycle and all health service delivery levels.

Integration- integration of interventions across the continuum of care as per the standards set for each delivery mechanism.

Quality-the programs, interventions and plans targeting children's health, growth and development should be safe, effective, equitable, family-centered, efficient and timely.

Resilience- neonatal and child health and development interventions should withstand public health emergencies and humanitarian crisis, and be available to the needy in such difficult conditions

Equity- all differences that result in diminished opportunities for children, whether rooted socially, economically, demographically, or geographically, would be addressed so that disadvantaged children benefit.

Collaboration and partnership – all stakeholders of neonatal and child health works together to maximize the outcomes of the strategy and to gain efficient use of resources.

Community engagement, empowerment and ownership- Communities should meaningfully participate in planning, implementation, monitoring and evaluation of interventions and ensuring accountability at family, community, and facility level.

Multisectoral engagement- To realize the health and wellbeing of children, coordinated involvement of health and non-health sectors is important.

Rights based approach- Recognizing that every child has the inherent right to life, which includes getting the maximum possible health and development care which doesn't depend on the willingness of family implying families need to be supportive for newborns and children to access care and treatment.

4.2 Vision

To see every child in Ethiopia enjoys the highest attainable standard of health and achieves his/her full developmental potential.

4.3 Mission

To ensure effective delivery of evidence-based, comprehensive high impact and quality neonatal and childhood health and development interventions at all levels of the health care to end all preventable neonatal and child deaths.

Goals

By 2025, to reduce national mortality levels of children from the 2019 levels of:

- U5MR from 59 to 43/1,000 live births,
- IMR from 47 to 35/1000 live births and
- NMR from 33 to 21/1,000 live births.

The goal of this strategy is adopted from the targets of HSTP-II.

4.4 Strategic Objectives

i. Improve universal access to high impact interventions for newborn and child health with strong bidirectional referral linkage.
ii. Reduce inequity of neonatal and child health care among the poorest and marginalized sections of the population.
iii. Improve the quality of essential health care for newborns and children at the community and facility level
iv. Improve the resiliency of essential health care services for newborns and children at the community and facility level
v. Scale up integrated nurturing care for early childhood development into at all levels of maternal, neonatal and childhood service delivery.
vi. Enhance family and community engagement, empowerment and mobilization for effective uptake and utilization of NCH interventions

5 STRATEGIC RECOMMENDATIONS, ACTIVITIES AND TARGETS

5.1 SO 1: Improve universal coverage

Improve universal coverage of high impact interventions of newborn and child health

Description:

Common neonatal and childhood conditions account for the majority of the under-five mortality in Ethiopia. Neonatal complications (prematurity, asphyxia, neonatal infection/sepsis and other neonatal causes), pneumonia and diarrhea are the leading causes of under-five mortality in Ethiopia accounting for nearly 80% of all deaths. These conditions are the focus of interventions in this strategic objective. In addition to the causes of mortality, conditions which contribute to the high burden morbidity, poor growth and development of children are also considered as target of child health problems.

The selection of interventions as key high impact intervention mainly relies on two sources: first from previous neonatal and child health strategy and secondly from the high priority interventions included in Ethiopian Essential Health Service Package. The strategy encompasses almost all of the high impact interventions listed in the 2015 national newborn and child survival strategy and other interventions already introduced or in the process of being introduced in the Ethiopian health system.

To achieve universal or wider coverage of selected high impact interventions, implementation of interventions has to be across all levels of service delivery and throughout the life course. So continuum of care, integration and collaboration are crucial components of the strategic objective.

Strategic recommendations:

i. Continue strengthening continuum of care through life course and across all levels of health care delivery
ii. Strengthen collaboration and coordination with health team/desks in MOH and RHBs to integrate interventions and to create favorable health system environment for the implementation of interventions
iii. Continuous monitoring of coverage of interventions

Major Activities: To realize the strategic objective and to achieve the targets indicated, the neonatal and child health team/desk should give attention and implement the following activities:

a) Revise and update neonatal and child health service delivery guidelines, so that all high impact and high priority interventions are appropriately included (See Table 4; and Annex - Tables 7 and 8 for list of interventions)
b) Prepare or revise list of medicines, medical device and supplies needed for the implementation of interventions at all levels
c) Ensure allocation and availability of budget for basic NCH and development interventions
d) Continue capacity building (including training, mentoring and supportive supervision) and support of health managers and service providers on planning and giving appropriate high impact interventions across the health delivery levels
e) Continue working on expanding of in-patient services in health centers and neonatal intensive care units in hospitals; this includes availing newborn corners in all HFs which give delivery services.
f) Work towards initiating and establishing a dedicated outpatient care outlet for children aged 5-9 or 5-14 in health centers and hospitals, where the child version of Ethiopian Primary Health Care Clinical Guideline (EPHCCG) is used as standard care of service
g) Collaborate closely and work with EPI, nutrition, malaria, family planning, maternal health and adolescent health team/desks, so that integration of interventions is addressed (See Annex -Table 9, for list of some important interventions to work with other health team/desks and Table 10 for initiatives and activities across continuum of care)
h) Collaborate closely and work with pharmaceutical and medical device directorate/unit and EPSA, so that the necessary medicines, device and other input are quantified, forecasted, purchased, distributed and maintained for implementation of the interventions (See Annex Table 11, for specific and detail related activities).
i) Collaborate closely and work with Health Extension and Primary Health Care, Clinical Services and Human resource for health directorate/units of MOH, so that appropriate health system support (like availing adequate number of health workers) is given to implementation of interventions

j) Collaborate closely and work with Policy Planning Monitoring and Evaluation directorate/unit, so that coverage and status of interventions is monitored continuously; and interventions are included in the currently available health management information system tools. (See Annex Table 11, for specific and detail related activities)
k) Collaborate and work with the Ethiopian Health Insurance Agency (EHIA), so that neonatal and child health and development interventions are appropriately covered with payment exempted schemes and different health insurance systems, hence, needy children benefits from the coverage (see Annex Table 11 for specific and detailed activities).
l) Collaborate closely and work with Health Information Technology directorate/unit, so that IT and related innovation technologies are used for enhancement of service coverage and quality. ((See Annex Table 11, for specific and detail related activities)
m) Strengthen partnership and continue working with development partners, civic societies and other stakeholders, so that available support and resources are channeled to improve coverage and impact of interventions.

5.2 SO 2: Reduce inequity

Reduce inequity of neonatal and child health care among the poorest and marginalized sections of the population.

Description: In general, Ethiopia has high neonatal and child mortality burden and inadequate neonatal and child health service coverage. The high burden of mortality and low coverage are not uniform throughout the country. There is disparity of mortality rates in different sections of the population: among and within regional states, between urban and rural communities, among the poorest section of the community/population and among different age group of childhood. Nearly similar disparity of neonatal and child health services is seen in those population sections.

Inequity is the result of many factors, which are mainly rooted in social, educational, economic and political grounds, which could be attributed by factors beyond the health sector. But still the health sector has some leverage to alleviate the burden of inequity by Obtaining free medication at the health center and HP level, as well as health insurance issues, will address income disparities, and having a contextualized system will address geographical inequities**.**

Improving/raising coverage of interventions and reducing mortality burden in the country shouldn't be allowed to worsen the inequity. Understanding the inequity of child mortality burden, and trying to alleviate this problem is the aim of this strategic objective.

Strategic recommendation:

i. Apply equity lens in planning and implementation of all neonatal and childhood interventions
ii. Work on local context specific implementation of neonatal and child health initiatives
iii. Advocate and collaborate in alleviating currently prevailing inequity

Activities:

a. Continue working on generating evidence and learning about the details of inequity related to neonatal and child mortality and morbidity in Ethiopian context,
b. Work on mainstreaming the equity dimension in planning and implementation of interventions and other initiatives,

c. Build capacity of MCH programs on monitoring and interpreting inequity in neonatal and child health services,

d. Establish and strengthen neonatal and child health service delivery platforms (including newborn corners, NICUs and pediatric ICUs). in pastoralist areas and hard to reach population**,**

e. Collaborate and work with the health system and special support directorate/unit of MoH, so that neonatal and child health services are appropriately included in its initiatives of special support

f. Mobilize partnership and continue working with development partners, civic societies and other stakeholders, to support and contribute in the efforts of alleviating inequity related to neonatal and child health.

5.3 SO 3: Improve quality

Improve quality of essential health care for newborns and children at the community and facility level

- **Description:** Universal coverage of interventions will bring the necessary impact, if only the interventions are delivered with required standard of service and quality. The previous strategy acknowledged that quality of health care didn't catch up with the expansion of health care services made. There is an improvement in quality with the activities conducted to improve quality of new born and child health services in the previous strategy, but still there are more rooms for improvement in planning & implementation of quality-focused projects.
- Quality of health care has different components and dimensions. By identifying the components of quality neonatal and child health care like Preparation and/or adoption of national neonatal and child health care quality standards and guidelines, standards of care for small and sick babies, and IMNCI, the quality of service can be improved so that planned targets are achieved.

This strategic objective aims to improve continuously the quality of neonatal and child health care services.

Strategic recommendations:

i. Align neonatal and child health quality improvement initiatives with the national health care quality and safety framework and strategy

ii. Strengthen collaboration with team/desks in MOH, EPHI and RHBs to integrate quality improvement initiatives on neonatal and child health services

Activities

a) Prepare and/or adopt national neonatal and child health care quality standards and guidelines for all levels of care, (i.e. PHCU and Hospital level Pediatric care; including all integrated intervention packages) - based on national health care quality and safety strategy (NQSS), and if need be also based on WHO's small and sick newborns quality standard and the pediatric standard of care (See Annex – Fig 8 and Fig 9)
b) Collaborate and work closely with other programs of MCH, to align quality standards of related programs or interventions.
c) Collaborate and work closely with the health service quality directorate/unit of the MOH on adoption and integration of the NQSS to neonatal and child health services
d) Collaborate and work closely with EPHI/PHEM to improve neonatal and child health care quality through implementation and monitoring of critical interventions and activities, like implementation of MPDSR (Maternal and perinatal death surveillance and response) and Pediatric death audits.
e) Build capacity of RHBs, WorHOs and health facilities to implement and monitor neonatal and child health quality of standards (see Figure 12, 13 & annex -Table 14)
f) Mobilize partnership and continue working with development partners, civic societies and other stakeholders, so that they can support the adoption, implementation and monitoring of quality standards.
g) Additional detailed list of suggested activities to improve quality of neonatal care at community and facility levels – (See Annex Table 13 and 14.)

6 SO 4: Improve resiliency of newborn and child health care delivery

Improve resiliency of essential health care for newborns and children at the community and facility level

Description: Universal coverage of interventions will bring the necessary impact, if only the interventions are delivered with required standard of service and quality in health disaster situations too. In addition to delivering quality interventions, uninterrupted availability of these interventions is important to achieve and maintain results. Different types of shocks disrupt the availability of services. Resilience of a health system refers to the degree to which the system withstands and absorbs such disruptions including humanitarian crisis, public health emergencies and global uncertainties. Resiliency of a health system includes its capacity to resist such types of disruptions, and its ability to adapt to the challenging situation so that it continues the delivery of the services without significant interruptions. Resilient neonatal and child health care services are highly needed to achieve and sustain the targets and goals of this strategy.

This strategic objective aims to improve continuously resilience of neonatal and child health care services.

Strategic recommendations:

iii. Align neonatal and child health initiatives with the national humanitarian response plan and/or strategy

iv. Strengthen collaboration with team/desks in MOH, EPHI and RHBs to integrate quality and resiliency improvement initiatives on neonatal and child health services

Activities

a) Prepare or revise neonatal and child health service delivery and implementation guidelines in humanitarian emergency and crisis scenarios (See Annex – Table 12); including incorporating NCH standards into the national minimum initial service package (MISP) for SRH in humanitarian emergencies.

b) Build capacity of RHBs, WorHOs and health facilities to implement revised service delivery guidelines in case of humanitarian emergency

c) Collaborate and work closely with Nutrition team/desk MoH, EPHI/PHEM and National Disaster Risk Management Commission (NDRMC) to integrate the revised service delivery guidelines of NCH in humanitarian emergency with available national humanitarian response plans and platforms.
d) Mobilize partnership and continue working with development partners, civic societies and other stakeholders, so that they can support the adoption, implementation and monitoring of revised guidelines for emergencies.

6.1 SO5: Scale up integrated nurturing care for ECD

Scale up integrated nurturing care for early childhood development at all levels of maternal, neonatal and child health service delivery.

Description: Addressing the survival agenda of neonatal and child health is not adequate to realize the vision of healthy and fully capable children. Global evidence indicated that addressing the need of a child to thrive is imperative to realize the full potential of a child. Accordingly, MoH/MCH has developed a national health sector strategic plan for ECD in Ethiopia.

During the recent revision of the national IMNCI guideline, the nurturing care component for early childhood development (NC/ECD) is included and integrated for the first time. This strategic objective aims to endorse the ECD strategy and to integrate promotion of the NC/ECD into neonatal and child health services. The integrated promotion of NC/ECD involve counseling the caregiver on responsive care giving and early stimulation, developmental millstone monitoring and playbox sessions for awareness creation and promotion of developmental play.

Activity:

a. Assess, document and share lessons learned from integration and implementation of ECD into IMNCI guideline
b. Initiate integration of NC/ECD with other maternal, neonatal and child health service packages including EPI, iCCM or ICMNCI and Child version of EPHCCG based on lessons learned from integration of ECD into IMNCI

c. Build the capacity of RHBs and health facilities on adopting and implementing NC/ECD through trainings, mentorship and supportive supervision.
d. Assess the feasibility of initiating and establishing a dedicated outpatient outlet for children in health centers and hospitals, where all promotive and preventive interventions, including continuous growth monitoring and ECD interventions, are given as a standard care of service,
e. Work towards identifying, establishing and strengthening appropriate referral facilities for treatment and care of identified development related problems. (Including different forms of disabilities (hearing and movement), Attention deficit/hyperactivity disorder (ADHD), Autism etc),
f. Collaborate and work with the Nutrition team/desk, other relevant team/desks, and other stakeholders so that the alignment and integration of NC/ECD care into neonatal and child health services (both in outpatient and inpatient services) is realized.
g. Use the revised community engagement platforms (WDG, VHL, and Idir, MDG) to create enabling environment for the adoption of early stimulation activities and responsive care giving practices in the community, including male participation in ECD.
h. Monitor the integration and scale up of NC/ECD care services in neonatal, child and other health services at all levels of care.

6.2 SO6: Enhance family and community engagement

Enhance family and community engagement, empowerment and mobilization for effective uptake and utilization of NCH and development interventions

Description: Family and community engagement is said to be one of the pillars of health system building blocks which plays pivotal role in ensuring adoption, acceptability, uptake and utilization of key NCH intervention. This strategic objective focuses on ensuring active participation and engagement of the community (including family members, religious leaders, leaders and other influential members of the community) in planning, implementation, monitoring and evaluation of NCH interventions. It is about involving the families and communities to take part in their children's health and wellbeing through sustainable IEC, SBCC and other health literacy mechanism. The yields of this strategic objective are to achieve changes in sociocultural, perceptions and harmful practices affecting the uptake and utilization of key NCH interventions.

Major activities:

a. Scale up existing community empowerment approaches for MNCH in areas where they can work (family centered empowerment approaches) (See Annex Table 15).
b. Design & implement evidence based and tailored community engagement /empowerment approaches (male engagement, Women Development Groups, religious leaders, village health leaders, youth engagement) to support individuals, families and communities take responsibility for NCH action (See Annex Table 13).
c. Strengthen mothers-to-mothers and women's groups education: mothers-to-mothers education demonstrated to be of the most effective applications of peer-to-peer education. Mothers are trained to advise other mothers and pregnant women (including pregnant women conferences) on healthy living and care seeking.
d. Consider neonatal and child health intervention uptake as criteria for "model family (See Annex Table 15)
e. Ensure meaningful engagement /participation of children and adolescent in community groups such that they have a say in decisions focused on their survival and wellbeing.
f. Develop innovative strategies including mobile phone based applications, social media platforms, etc. to empower different segments of the population with health information, demand quality health care and hold health care providers and managers accountable.
g. Collaborate and work with Information and Technology directorate/unit of MoH to support the scale-up of eCHIS and to utilize it to improve community level neonatal and child health services.
h. Improve family and community literacy, health seeking behavior through sustainable SBCC and IEC and other communication channels. Including raising families' and communities' awareness on healthy newborn and child care, danger signs, and avoidance of harmful traditional practices through BCC messages and tools

6.3 Targets:

The following identified key interventions coverage targets will be used to measure the achievement of the strategic objectives. See Table 4, and for the detail version of the targets, see Annex - Table 16.

Table 4: Key high impact intervention, baseline (2019/20), and target for 2025 across continuum of care, Newborn and Child Health

S.No	Key intervention	Baseline 2019/20	Target 2025
1	Skilled attendance at birth	50%	76%
2	Early breast feeding within 1hr	72%	86%
3	Neonatal resuscitation	11%	50%
4	Antibiotic treatment of neonatal sepsis/ VSD	30%	45%
5	Chlorhexidine for cord care of newborns	6%	70%
6	Thermal care of newborns	57%	80%
7	KMC for preterm babies	<10%	70%
8	Post-natal care visit with in 48 hrs.	35%	76%
9	Exclusive breastfeeding	59%	80%
10	Complementary feeding and continued breast feeding	60%	85%
11	Vit.A supplementation	45%	90%
12	Minimum acceptable diet	12%	60%
13	Antibiotics for dysentery	44%	67%
14	Antibiotic treatment for pneumonia	48%	69%
15	Oxygen for Pneumonia treatment	47%	100%
16	ORS and Zinc treatment for diarrhea	44%	67%
17	Management of children with SAM	40%	100%
18	MTCT of HIV	13%	<5%
19	Malaria ACT treatment	48%	70%
20	Deworming for children	74%	90%
21	Children sleeping under ITN	54%	85%
22	Early stimulation and responsive care from parents or caregivers	-	20%
23	Children assessed and classified for development	-	20%

7 IMPLEMENTATION ARRANGMENT OF THE STRATEGY

The strategy is contingent on the implementation of the Health Sector Transformation Plan-II (HSTP-II) and sustainable Development Goal (SDG) from global perspective. The strategy aims to ensure universal effective coverage of quality newborn and child health interventions and nurturing care through closing the existing gaps in realizing equitable access among regions, geographic location, and use of services across regions and among different sections of communities.

Taking the best scenario into account, by 2025, every individual will have access to quality essential newborn and child health care without financial hardship, and the families and the communities will be empowered to improve demand and utilize the available services. The strategy proposes close monitoring of the implementation of identified interventions with frequent reviews of progress, and pragmatic approach will be employed to timely take corrective measures for identified implementation challenges at local or national levels.

7.1 Integration of NCH intervention

Capitalizing on the experiences of the implementation of previous national NCSS, sets of programs and interventions will be packaged and put into practice to realize the vision and mission of National NCHD strategy. The implementation, monitoring and evaluation of this strategy will be harmonized, aligned and integrated across all MNCH programs impacting newborn and child health and development interventions.

7.2 Newborn and child health service delivery arrangement

The Ethiopian health service system has been structured under three-tier health care delivery platforms (primary, secondary and tertiary level health care) in which newborn and child health service provisions are arranged accordingly (see Figure 7). Primary health care service delivery platforms including CBNC, iCCM, HEP and community outreach services will be revitalized to ensure quality and accessibility to the needy segment of population (see Annex table 11 for specific and detailed activities). Similarly, facility level promotive, preventive and curative NCH intervention packages will be consolidated. Strong referral linkage will be ensured among different tiers of NCH service delivery arrangements

7.3 Governance and leadership

Strong governance and leadership are critical for effective implementation of proposed interventions and achievement of desired goals. The existing governance structures at different levels of the health sector will lead the planning, implementation, and monitoring and evaluation of identified interventions.

Three main aspects of successful health governance and leadership effecting improvement of child survival and development include: establishing and echoing child survival as a top national priority; backing by a comprehensive policy and strategic framework, and leveraging sufficient human, financial and material resources; bringing together donors, strategic partners, health and non-health stakeholders and beneficiaries to collaborate in strategic planning, implementing and evaluation (see Annex Table 11 for specific and detailed activities).

7.4 Newborn and child health care for pastoralist, and cross-border mobile communities and during humanitarian crisis

The context tailored needs of communities in regions requiring equitable development and pastoralists areas make a one-size-fit-all approach challenging. The MOH, with input from health development partners, and capitalizing suitable experiences in collaboration with all concerned sectors will try to address the existing gaps. Leveraged support and context specific approach will be employed to optimize the access and coverage of preventive, promotive and curative newborn and child health and development interventions.

7.5 Public-Private Partnerships (PPP)

Private providers include nongovernmental hospitals and clinics, pharmacists and medicine sellers, as well as traditional healers in communities. The partnership aims to improve the engagement of the private sector in improving access and quality of health services. Private-sector providers will deliver the minimum essential package of newborn health interventions along the continuum of care. Private-sector providers are required to use national standards and guidelines for all aspects of clinical care. Strategies that will be adopted include building capacity of private providers in how to effectively engage in public-private partnerships, as well as how to deliver the essential package of newborn health interventions(72)

Key activities by MoH, RHB and ZHB

i. Identify key public-private partnerships with private institutions and organizations for the delivery of the defined package of interventions
ii. Undertake training for key private and public health managers in how to engage in sustainable public-private partnership ventures using available training manual
iii. Distribute updated protocols, guidelines, checklists, tools and other materials to private providers
iv. Strengthen links with and facilitate improving quality of care in private institutions
v. Facilitate appropriate capacity building and supportive supervision of skilled private providers to improve quality of care for the newborn and child
vi. Facilitate harmonization with the national government reporting system in private institutions through provision of standards, guidelines and DHIS2 tools.
vii. Conduct supervisory visits to private health care centers to monitor progress, identify problems and discuss on ways forward
viii. Develop links with suitable private providers in the community to facilitate community-based programs

7.6 Collaboration for implementation of the strategy

Inter-sectoral collaborations should be strengthened at different levels of the health system through the formal government institutions (such as regional and woreda councils) and health sector governance structures by practicing initiation of joint planning, implementation, monitoring and evaluation of the health system. Since health is an integral part of sustainable socio-economic development, there should be collaborative activities among different ministries, institutions, organizations and the MoH for the implementation of newborn and child health and development strategy.

7.7 Risk and Mitigation strategy

During the implementation of NCHD, the child health programs may encounter risks that hinder the achievement of results. Table 5 shows the risks identified through SWOT and stakeholder analysis, and the strategies identified to address or mitigate them.

Table 5: Risks and mitigation strategies

S.No	Risk	Mitigation Strategy
1	COVID-19 and its effect on NCH	-The MoH will strengthen effective implementation of preventive and control measures through vaccine and infection and control precautions. -Strengthening essential NCH services deliveries per the national protocol
2	Inadequacy of financial resource. Sudden reduction of donor funds (Low predictability of external funding)	-Strengthening advocacy work to secure reasonable budget for NCH care. -Improve facility level revenue generation to subsidize NCH -Strengthen CBHI -Reduce cost-intensive in-service training for health professional (incorporate important NCH related programs and intervention to pre-service training curriculum). -Stewardship budget allocation and utilization -Working with the government to increase budget for NCH
3	Weak inter-sectoral Collaboration	-The CH team/desk will work closely with the partners, professional societies and other programs to collaborate in implementing NCH interventions
4	Inadequate private sector involvement	-The CH team/desk will work with other directorate/unit of the MoH and agencies, professional society organizations, to strengthen public-private partnerships
5	Population displacements and political instability	-Establishing NCH service delivery points at IDP sites and refugee centers and strengthening health services in these sites. -Strengthening/introduce leveraged outreach service deliveries, mobile health care system

8 MANAGEMENT OF THE STRATEGY

The Strategy will guide planning and operationalizing implementation of newborn and child health-related programs, but its success will require the coordinated action of a wide range of different programs and stakeholders at different levels of the health system.

8.1 NCH Strategic Plan Dissemination

Several key informants (primarily at the district and health sector, but also in national level positions) expressed that they were not familiar with the components of existing strategic plans or were not able to immediately recall them. Hence, the Ministry of Health and the national newborn and child health technical working groups should, therefore be committed to ensuring that key messages of the NCH strategic plan of 2021-2025, and other complementing programs (EPI, Nutrition and PMTC and malaria, WASH, TB program) are disseminated widely and across the facility as well as providers, managers, local leaders, consumers and community structures. The goal however is not just distribution of the document, but also to help promote implementation, quality care, and accountability at all levels. As such, the key messages of the plan will be simplified into a shorter format for easier dissemination and discussion. A variety of media channels will be used to disseminate information to the population about key NCH health priorities, such as newborn health, vaccination, nutrition and early childhood development; importance and timing of ANC, skill birth attendance and PNC visits; and information on where and when to access NCH services.

8.2 Partnerships, Roles & Responsibilities

A sustainable and long-term reduction in newborn and child mortality depends on harmonized complementary actions at different levels by all key stakeholders. The health sector can produce rapid changes in childhood morbidity and mortality by addressing specific causes of illnesses and death. However, the health sector is not in a position to address all underlying determinants of maternal and childhood mortality, such as: lack of education; low status of women in society; meaningful financial protection, availability of transport and good road networks for referrals; adequate supply of food, safe drinking water, and power etc. Active cooperation and participation of other sectors is therefore needed to address these underlying determinants of child health and development.

8.3 Partnership for the Newborn and Child Health and development in Ethiopia

Several local and international partners support the planning, implementation, monitoring and evaluation of, newborn and child health interventions in Ethiopia. Some of these partners include:

1. UN agencies
2. Bilateral and multi-lateral organizations
3. Local and international MNCH implementing partners.
4. Universities – particularly medical & health professional training institutions
5. Professional societies – Ethiopian Pediatric Society (EPS), Ethiopian Society of Obstetrics and Gynecology (ESOG), Ethiopian Public Health Association (EPHA), Ethiopian Nurse midwives Association (ENMWA), Ethiopian Nurse Association (ENA), Ethiopian Pharmacists Association (EPA), Public Health Officers Association (PHOA), Ethiopian Medical Association (EMA), etc.
6. Private sectors – pharmacies, pharmaceutical companies, private clinics, private Hospitals and community at large

Implementation of the strategy requires active and substantive involvement of local and international partners, including private sector and NGOs, through participation, coordination and mobilization of resources. This calls for advancing the one plan, one budget and one report approach. Partners are expected to advocate for equitable access for evidence-based NCH interventions, provide financial and technical support including monitoring and evaluation of implementation of high impact MNCH interventions.

Activities of partners

i. Hold major stakeholder meetings to harmonize operation and arrive at a common understanding on selected issues, including: (a) targets year by year; (b) time of key activities; and (c) allocation of resources, taking into consideration the funding gaps and intervention coverage levels
ii. Develop and harmonize a coordinated framework for community and facility level approach to child health and development interventions
iii. Develop a common harmonized platform for supervision, monitoring and reporting

iv. Form additional Technical Working Groups and Task Forces amongst partners as and when necessary to achieve a given task
v. Conduct annual, bi-annual, quarterly and monthly Joint Program Reviews meetings
vi. Ensure multisectoral coordination at Federal level
vii. Functionalize the coordinating committees in the Regional States
viii. Support and coordinate monitoring, evaluation and learning

Roles and Responsibilities Ministry of Health

The MOH takes the lead to:

i. Provide policy guidance and institutionalization of high impact newborn & child health and developmental interventions in the national health sector strategic and operational plans
ii. Advocate and mobilize more resources for improving newborn & child health and developmental interventions
iii. Ensure universal coverage of key interventions with focus on equity and quality of services
iv. Overall coordination, planning, implementation, monitoring, evaluation and learning of NCH strategies and programs
v. Improve health information system and local use of data for decision making
vi. Develop and update appropriate national guidelines and training packages on NCH
vii. Build the managerial and clinical skills of program managers and providers to improve the quality of MNCH services
viii. Support the quality of health service graduates through institutionalization of key NCH packages in the pre-service education curricula
ix. Support and coordinate operational and implementational researches and periodic surveys on NCH interventions
x. Ensure all essential NCH commodities, supplies and medical devices are available in all health facilities & health posts
xi. Improve the quality of NCH services at all levels of the health care system
xii. Support and monitor the coordination and implementation of child health and developmental programs at sub national levels

xiii. Monitor and evaluate the progress of implementation of the national strategy

National Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) and Nutrition Technical Working group:

It is chaired by the MCH and Nutrition directorate/unit of MOH.

It will have the mandate to technically overview the feasibility and appropriateness of policies, programs and strategic matters to ensure that all the programs at the national level, including the NGOs and partner projects supporting the strategy abide by one plan for the implementation of national strategy for NCHD.

Key roles

i. Co-ordinate the planning of all NCH programs to be in line with the HSTP-II
ii. Advocate for the adoption of RMNCAH and nutrition friendly policies and evidence-based interventions
iii. Map resources for RMNCAH and Nutrition interventions
iv. Support each sub technical working groups
v. Co-Monitor and evaluate the national implementation of the HSTP-II

National Newborn and Child Survival Technical Working Group

The national Newborn and Child Survival Technical Working Group is chaired by the Child Health Team/desk coordinator of MOH. It will have the authority to ensure that all the programs at the national level, including the NGOs and partner projects supporting them, develop, promote and abide by one plan for the implementation of the strategy.

Key roles:

Coordinate the planning and implementation of all programs that relate to newborn & child health, in line with the revised national Newborn and Child Survival and Developmental Strategy

i. Advocate for adoption of child friendly policies and evidence-based newborn & child health and development interventions
ii. Map and mobilize more resources for newborn & child health and development programs

iii. Develop, harmonize and disseminate technical and managerial guidelines for all aspects of newborn & child health and development
iv. Support regional planning for newborn and child health and development
v. Support Regional problem-solving and planning for newborn and child health and development in special population groups
vi. Disseminate key summary of strategic plan, technical and managerial guidelines on newborn, child survival, development & nutrition
vii. Monitor and evaluate the national implementation of the Strategy – including regular reviews of the implementation of the Strategy, and facilitate learning opportunities

Research advisory council (RAC)

Key roles

i. Advocate for evidence-based clinical practice to improve quality of NCH interventions
ii. Play bridging role in translating available evidences and research findings to impart clinical care practices
iii. Engage in revision and updating of research thematic priorities for NCH
iv. Overview and coordinate overall NCH related research activities

Regional RMNCAH & Nutrition Technical Working Group

Key roles

i. Coordinate the planning and implementation of all newborn, child health and development and nutrition interventions in the region in line with the National Newborn and Child health and development Strategy, newborn and child survival roadmap and Nutrition Program.
ii. Coordinate the inputs of partners and NGOs working on child health & nutrition in the Region
iii. Disseminate technical and managerial guidelines on newborn, child survival & nutrition
iv. Ensure the availability and sustainability of all essential device and supplies to health facilities within the region

v. Make sure and recommend all health facilities are staffed with the required skill mixes and update their knowledge and skills regularly
vi. Develop context tailored approaches to address the child health and developmental needs of special population groups
vii. Collaborate with the Regional offices for Education, Water and Sanitation, agriculture and nutrition on activities relevant to Newborn and Child health , development & nutrition
viii. Support Woreda Health Offices in planning for Newborn and Child health and development, and in reviewing progress using BSC and solving problems
ix. Monitor and evaluate the implementation of the child health, development and nutrition programs, including regular and scheduled reviews

Woreda RMNCAH & Nutrition Committee

Key roles

i. Coordinate the planning, implementation, supervision, mentorship, coaching and overall support of all child health, development & nutrition activities in the Woreda
ii. Ensure that all newborn and child health , development and nutrition interventions are incorporated in the annual operational plans of the woreda and implemented effectively
iii. Coordinate the inputs of partners and NGOs in the Woreda in the area of Newborn and child health and , development and nutrition programs
iv. Improve care seeking behavior of the families and communities through community mobilization platforms including women development Group (WDG) networks
v. Establish linkage with other sector offices (education, water, sanitation, and agriculture) on activities relevant to Child Health , development & nutrition
vi. Ensure adequate staffing of health facilities with appropriately qualified health workers
vii. Make sure that health facilities are able to manage sustainable availability of all essential commodities, supplies and medical devices relevant to newborn and child health and developmental interventions
viii. Strengthen the use of BSC at all levels to track progress of the strategic plan
ix. Monitor and evaluate newborn and child health , developmental & nutrition activities, including regular scheduled reviews of implementation and learning opportunities.

Village Health Leader (VHL)(60)

key roles

i. Coordinate all NCH and nutrition activities in the kebelle and ensure implementation through the HDG/WDG
ii. Identify beneficiaries' including pregnant mothers and under-five children in the catchment area
iii. Plan and monitor the implementation of key child health , development and nutrition interventions aiming universal coverage for all beneficiaries in the kebele

iv. Increase care seeking and effective utilization of preventive/promotive and basic curative services provided at the health post level
v. Support the functionality of WDG to improve water & sanitation coverage in the villages
vi. Strengthen and establish first window referral system for delivering mothers & very sick children to next level health facilities

Women Development Group (WDG)

This is a network of women in which those who have adopted better health behavior through completing the 16 packages of HEP are networked too their women who have not yet completed the 16 packages so that they can influence the later to practice a healthy life style. WDG form a women (health) development team with leadership comprising the leaders of the WDG

i. Use the model family to increase the care seeking behavior of the community regarding MNCH
ii. Promote the available NCH services delivered at the community and health facility level including iCCM, CBNC
iii. Strengthen health cultures that significantly reduce the newborn and under-five mortality like IYCF, continuum of kangaroo mother care at community level.

Health Facilities (health Centers & Hospitals)

Key roles

i. Create awareness of newborn and child health and development agenda for their staff
ii. Incorporate NCH activities into their annual operational plans
iii. Improve quality of services in their facility
iv. Regularly update/build capacity of their staff on current practices
v. Ensure continuous availability of essential commodities, supplies &device
vi. Revitalize integrations of service delivery platforms across continuum of care
Establish Newborn and Child death review committee
vii. Conduct regular newborn and child death audit and reviews, and take corrective measures accordingly

viii. Strengthen health data quality and utility to track the progress of the plan and to put ways forward
ix. Regular Standard care monitoring and evaluation, regular quarterly, bi annual or annual based performance measurement, quality improvement and follow up
x. Provide mentorship support for lower-level health facilities with in its catchment areas

Health Training Institutions & Professional Associations/Societies

Key roles

i. Advocacy for the adoption of favorable health policies for newborns and children
ii. Advise the FMOH for adoption of evidence-based NCH interventions
iii. Capacity building of health cadres through both pre-service and in-service trainings
iv. Develop and update national preventive/promotive and curative guidelines & training packages
v. Provide supportive supervision and mentoring for quality improvement
vi. Support improvement of quality of NCH services at all levels of the health care system
vii. Document best practices and conduct operational researches to guide implementation policy directions
viii. Conduct monitoring and evaluation of MNCH program implementation

9 MONITORING, EVALUATION AND LEARNING (MEL)

Successful implementation of the newborn and child health and development strategy will rely on comprehensive monitoring evaluation and learning system. Hence, monitoring, evaluation and learning will be an integral part of the strategy. Continuous monitoring of progresses and evaluations of outcome and impacts will provide an evidence-based decision for effective, efficient and synergistic implementation of programs status. Implementing strong monitoring evaluation and learning system requires effective harmonization and coordination among various programs within the MOH, and with local and international health development partners. As some of the newborn and child health interventions are very much intertwined with maternal health interventions, there should be strong integration among partners working on newborn/child health and maternal health.

To implement effective monitoring and evaluation of the strategy, key intervention tracking indicators should be selected carefully and should be SMART (specific, measurable, achievable, relevant and time-bound) in order to provide easy guidance for action and accountability at all levels within the health system.

Existing DHIS/HMIS data capturing system will be strengthened and updated to trace the newly added interventions as it will be the main source of information for routine tracking of performance of most of the interventions. In addition to this evidence generation by standard researches from partners supporting newborn and child health, local and international Universities has to be done. Implementation and evaluation researches had better be done for the improvement of newborn and child health outcome.

The NCH balanced scorecard (BSC) will also be updated to reflect the new high impact interventions and used effectively to track progress made by regional states and woredas and health facilities. health and developmental strategy.

Successful implementation of the strategy highly relies on strong and systematic MEL of

- ✓ Input
- ✓ Process
- ✓ Output
- ✓ Outcome
- ✓ Impact

To set-up, an effective monitoring evaluation .and learning system requires:

i. adequate resource allocation into all components of monitoring and evaluation including base-line, mid-term, and end-line surveys and evaluations
ii. standardized reporting forms
iii. strengthen perinatal auditing system at all levels followed by accountability and action (Giving adequate attention to P of MPDSR system)
iv. development of a plan for the continuous review and update of the monitoring and evaluation methodology throughout the life of strategy
v. allow to measure results at all levels including inputs, process, outputs, outcomes and impact
vi. programs that aim to increase coverage across the continuum of care, should measure their progress and outcomes using a set of indicators

All stakeholders who are engaging in implementation and management of this national strategy NCHD should perform rigorous and regular monitoring, evaluation and learning during the life span of the strategy.

Major activities include:

Monitoring

- ✓ Establish regular performance tracking system
- ✓ Coordinate collection, processing, analysis and management of NCH data
- ✓ Verify whether activities have been implemented as planned to ensure accountability and address problems that have emerged in a timely manner.
- ✓ Provide feedback to data providers and relevant authorities to improve future planning
- ✓ Strengthen the use of balanced score card (BSC) at facilities and Woreda health bureaus

- ✓ Report monthly quarterly, half-yearly and annual progress of all key NCH activities.

Evaluation:

- ✓ Measure the degree to which NCH interventions have been successfully implemented and scaled-up, as measured against targets from 2021 to 2025.
- ✓ Conduct scheduled monthly, quarterly and annual review meetings with key stake holders and developing partners to asses gains, challenges and bottle necks
- ✓ Assess changes in preventable new-born and child morbidity and mortality after the scale-up of NCH interventions (2021-2025)
- ✓ Assess the plausible attribution of the NCH interventions to any observed decreases in new-born and child morbidity and mortality due to NCH interventions between 2021 – 2025
- ✓ Provide guidance for routine monitoring, as well as provide guidance on key operations research studies necessary to inform NCH programmatic decisions.

Learning:

- ✓ Capture and share knowledge generated during the annual implementation phases of the strategy
- ✓ Ensure that NCHD strategy is integrated and harmonized with related programs and build on each other's' efforts to make a significant impact
- ✓ Identify gaps that may need prompt correction
- ✓ Facilitate evidence sharing that will enable the strategy and the programs to adapt and apply best practices
- ✓ Facilitate identification of failures, challenges and bottle necks as learning opportunities
- ✓ Share knowledge and best practices externally to create broader opportunities (e.g for funding)

Figure 8: Monitoring and evaluation framework

Domains	**Input and process**			**Output**		**Outcome**	**Impact**
	Leadership and Governance	-Financing and financial risk protection -Medical commodities and supplies -NCH Health workforce -Family and community -Health infrastructure -Health information	Service deliver (Promotion, Prevention, Curative & Nurturing care)	-Availability of essential NCH service -Resilience in NCH service provision -Demand for NCH service		Coverage of high impact NCH intervention and nurturing care	Reduced U5M, IMR and NMR
Data Source	Routine Information System: DHIS/HMIS, HRIS, Fee Exempted Service Systems, Administration records, Reports from different developmental partners Mentoring, Supervision and Coaching Reports Facility Assessments: SARA, SPA					Household and Facility Based Assessments, Population Based Surveys, Program review reports Researches, DHIS/HMIS, Newborn and Child death audit reports Global reportings	
Analysis & Synthesis	Data Quality Assurance; Triangulation of Data from different sources; Independent monitoring team (LQAS) Comparison of performance against targets, baselines, standards and national and international commitments)						
Communication, use and learning	Regular activity reporting and performance monitoring team reporting Monthly, quarterly and annual review meetings among care provider, health care managers, WoHO, ZHB RHB, MoH; Regular forums for communities and other stakeholders. Midterm and end term review meetings Share information products by different platforms						

Newborn and Child Mortality Review

Death review or mortality audit is a means of documenting the causes of a death and the factors that contributed to it, identifying factors that could be modified and actions that could prevent future deaths, putting the actions into place and reviewing the outcomes. It also helps to identify patterns of morbidity, mortality, modifiable factors and interventions to improve the quality of care and outcomes in hospitals and other health care facilities.

The review of mortality of neonates or children can be built upon on the currently available MPDSR system. This can start from strengthening the perinatal component of the surveillance system and extending to neonatal and child deaths.

Table 6: Roles of facilities, subnational and national level child mortality review committees; adopted from Operational guide for facility-based audit and review of Pediatric Mortality

National Level	• Provide policy guidance and legislation for mortality audits • Establish subnational systems • Provide orientation and capacity building for conducting child mortality audits • Provide the resources necessary to address gaps in the quality of care • Establish national accountability mechanisms • Disseminate information, including an annual report on child morbidity
Subnational Level	• Form a subnational committee • Conduct orientation and training of facility teams • Conduct monthly analysis of audits from facilities. • Send annual reports to national authorities. • Prepare action plans, and allocate resources. • Follow up and implement recommendations at subnational level • Monitor facilities that conduct child death reviews • Provide feedback to facilities on their response plans. • Encourage staff and give guidance on problems.
Facility Level	• Establish a quality improvement team and mortality audit committee. • Conduct child mortality and morbidity audits. • Implement recommendations and change at health facilities. • Monitor and evaluate the changes introduced, patient outcomes and case fatality rates. • Send reports to subnational or national committee.

Survey, Implementation and Operation research

The existing national surveys which include EDHS, Ethiopia Service Provision Assessment (ESPA), Annual SARA Surveys, Malaria indicator surveys, Immunization coverage surveys and program specific surveys such as ICCM and CBNC will remain essential components of MEL for the national NCHD strategy. Implementation researches will be strengthened to identify implementation challenges and to guide contextualized approach to mitigate the bottle necks.

Therefore, the MOH will strengthen its collaboration and partnership with research centers, agencies and universities to engage in both operational and implementation researches to insight the operation and implementation of the strategy.

10 COSTING

Baseline data for NCH high impact interventions were extracted from situational analysis finding while the targets for most of the interventions were set in line with HSTP-II targets. However, estimation, extrapolation and lastly experts' opinions were also employed to set targets of some interventions which were not addressed in HSPT-II.

Assumption

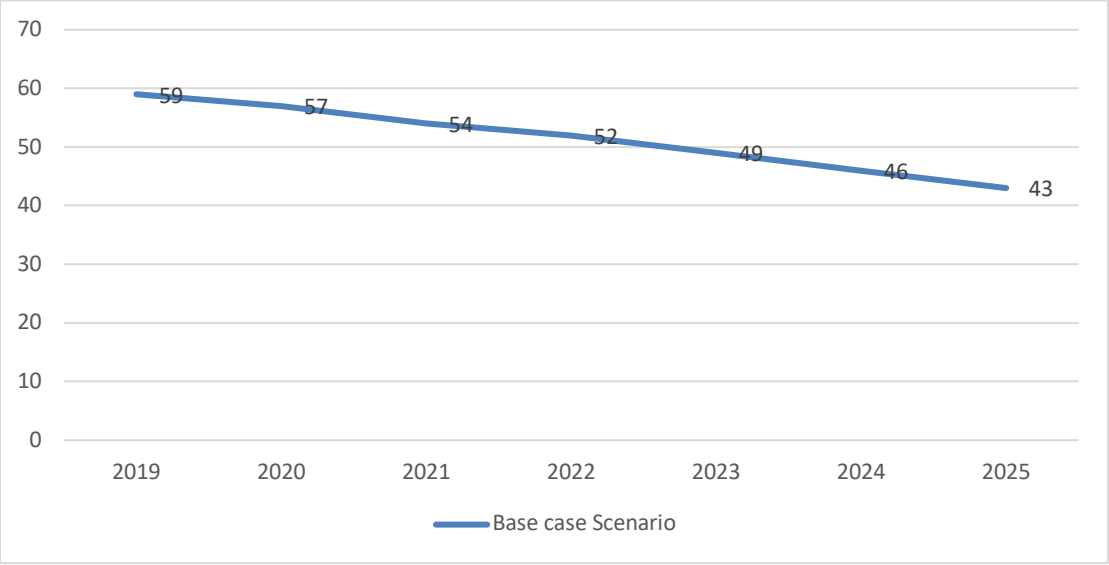
The cost estimation of NCHD is prepared under two scenarios: the base and high case scenarios. The base case scenario is to achieve the targets set in NCHD strategy for the coming five years.

The high case scenario has very ambitious targets where health system capacity especially the secondary and tertiary tiers of health service delivery levels need higher investments. This assumption is adopted from HSTP-II costing estimation.

As illustrated in Fig 9, intervention targets set under the base scenario will allow Ethiopia to reduce under-five mortality level from 59 per 1000 live births to 43 between 2019 and 2025.

The majority (80%) of under-five live savings were assumed to come from effective implementations of key newborn interventions.

Figure 9: U5MR Target Scenario



Costing Methodology

The SPECTRUM OneHealth Tool (OHT) package v6.08 was used to compute the estimated resources for implementing this newborn and child health and development (NCHD) strategy, and LiST impact module was applied to model neonatal and child mortality rates, and additional lives saved.

Delivery channel mode approach was employed, and input data for the cost estimation were imported from national default data, OHT data packages of HSTP-II, and also loaded from other available official sources. Triangulations were also performed with HSPT-II cost estimates whenever necessary.

For both case scenarios, interventions were costed using the bottom-up approach which allows modeling depending on population demographics, disease and health profiles, tiers of service deliveries and coverage level of high impact NCH interventions.

Cost items such as trainings, IEC, SBCC, supervision, mentorship, monitoring, evaluation and review meetings were also considered under program management.

The cost estimate is based on:

- ✓ The best accessed information on morbidity and mortality profiles, and coverage status of key NCH interventions
- ✓ Used official figures for base year population demographics
- ✓ Assumed that facilities are functioning
- ✓ Assumed that the minimum required health work forces are active
- ✓ Expansion targets are set to meet the standards as based on population figures and other set criteria
- ✓ National protocols and expert opinions were used for clinical practices

Exclusion during cost estimation:

The cost estimates for the NCHD strategy excludes the Infrastructure, WASH, reproductive and maternal health, Pediatric emergency and critical care and EPI that have survival impacts on newborns and children. Linking the targets and costing to the specific programs was ensured.

Costing Results

Base case scenario

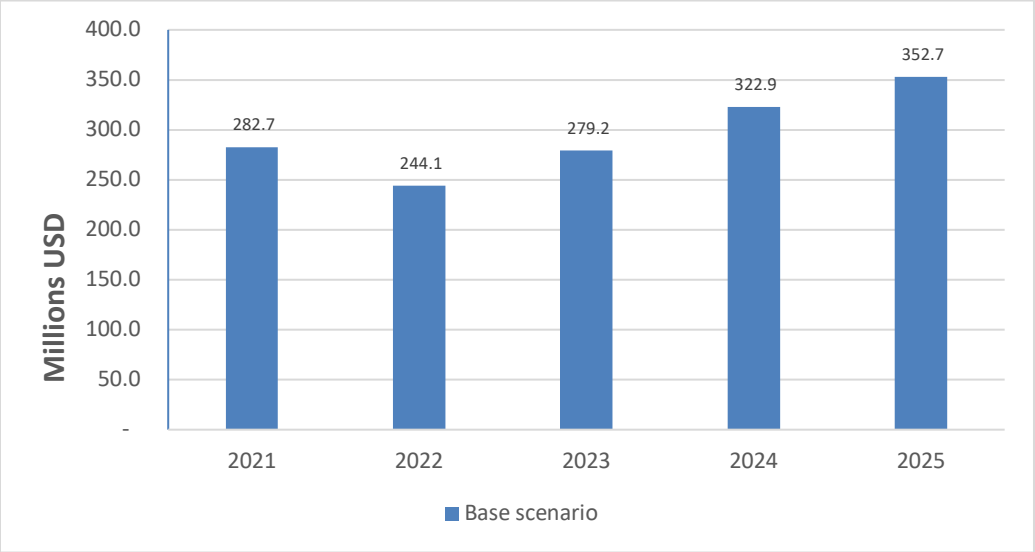
Under the base case scenario, effective implementation of NCHD strategy requires mobilization of around 1.60 billion USD over the five-year period to contribute the savings of additional 152,819 and 191,378 newborn and under-five children's lives respectively.

Out of the total estimated costs, 70.3% (1.12 billion USD) will be spent on PHCU (Household/community level, Health Post, Health Center, and Primary Hospital), and 25.1% (402 million USD) will be allocated for secondary and tertiary health care levels (Figure 10).

On the other hand, from the total estimated costs about 66.4% (1.05 billion USD) will be spent on drugs, commodities, supplies and medical devices, 26.1% (432 million USD) for human resource related, and about 7.5% (120 million USD) for program management costs.

Annual estimated cost is also projected for the five years, and the distribution across the consecutive five years doesn't follow the linear modelling pattern indicating the interlinking and interdependence of health care delivery system across successive years.

Figure:11 Estimated annual cost distribution for base case scenarios



Limitations of current cost estimates:

- ✓ Estimations were dependent on available data inputs, including unit costs, and may need further updating with the latest available information

- ✓ Need additional analysis on potential source of funding for newborn and child health and development programs
- ✓ There may be a need to adjust targets considering feasibility of implementation of some of the interventions and availability of financial space
- ✓ The cost estimates didn't consider the health care for older children aged 5-9 years
- ✓ Impact of the newborn and child health and developmental strategy was projected with the assumption that family planning, maternal health, nutrition, EPI program, WASH and other relevant sectors will perform to the optimum level

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12 ANNEXES:

12.1 Table 7: Essential and high priority neonatal health interventions, extracted from MOH EHSP 2019

SN	High priority interventions
New-born care	
1	Essential new born care
2	Chlorhexidine cord care
3	Detection of congenital anomalies (cleft lip, palate, imperforate anus, club foot, meningeal, spina bifida, dysmorphism, microcephaly)
4	Screening for congenital heart diseases and management
5	Kangaroo mother care
6	Voluntary new-born male surgical circumcision
7	Early infant diagnosis for HIV (DBS)
Intensive or Specialized Neonatal Care	
1	Identification and treatment of new-born sepsis
2	Premature sick new-born care: incubator and nutritional
3	Management of perinatal asphyxia
4	Management of thermoregulation: radiant warmer therapy
5	Nutrition: breastfeeding and feeding other than breast milk
6	Management of neonatal tetanus
7	Management of NEC (Neonatal Enterocolitis)
8	Management of meconium aspiration syndrome
9	Management of neonatal seizure
10	Management of birth trauma
11	Management of fluid and electronic imbalance
12	Parenteral feeding for premature babies
13	Management of neonatal acute emergency surgical conditions
14	Prevention of respiratory distress syndrome in neonates using surfactants

12.2 Table 8: Essential and high priority Child health interventions, extracted from MOH EHSP 2019

SN	High priority interventions
Child Health: iCCM & IMNCI	
1	Integrated community case management of New-born & childhood illness (iCCM)
2	Vitamin A for treatment of measles
3	Treatment of severe measles
4	Vitamin A Supplementation for treatment of xerophthalmia
5	ORS - oral rehydration solution
6	Treatment of severe diarrhoea (children)
7	Antibiotics for treatment of dysentery
8	Zinc for treatment of diarrhoea
9	Oral antibiotics for pneumonia
10	Treatment of severe pneumonia
11	ACTs - Artemisinin compounds for treatment of malaria
12	Treatment of severe malaria
13	SAM - treatment for severe acute malnutrition
14	MAM - treatment for moderate acute malnutrition
15	Deworming every 6 months
16	Supplementation of Vitamin A every 6 months
Child Health: Curative Care	
1	Paediatric HIV point-of-care CD4 testing strategy
2	Management of eye infections: trachoma,
3	Management of ear infections: Otitis media
4	Management of infective endocarditis (Antibiotics)
5	Management of rheumatic fever/ Rheumatic heart diseases
6	Management of shock in paediatrics
7	Management of acute abdomen
8	Management of Urinary Tract Infections (Lower) with antibiotics
9	Management of Dermatitis/Eczema
10	Management of Scabies
11	Management of Meningitis
12	Management of Seizure disorders
13	Coma Management
14	Management of Poisoning
15	Management of Diabetes Mellitus

12.3 Table 9: Selected key interventions implemented mainly by other health team/desks, but have significant impact on child mortality reduction

S.No	Selected Key intervention
1	Family Planning
2	Focused ANC
3	Iron Folate Supplementation during pregnancy
4	Reducing MTCT of HIV
5	Tetanus Toxoid immunization of pregnant
6	Use of ITNs for pregnant women
7	Mg So4 use during pregnancy & at Birth
8	Antenatal Corticosteroids for preterm labor
9	Antibiotic for premature rupture of membrane
10	Skilled attendance at birth
11	Penta_3 (DPT-HepB-Hib) vaccination
12	PCV vaccination
13	Rota virus vaccine
14	Measles Immunization
15	Vit.A supplementation every 6 months
16	Safe water source for HHs
17	Improved sanitation facility for HHs

12.4 Table 10: Programs, strategic initiatives and recommended activities across continuum of care approach

Strategic initiative across life cycle	**Activities/recommendations**
Introduce preconception care	**Optimize literacy of mother on risks of** -Adolescent pregnancy -Short birth intervals -Lack of birth preparedness -Suboptimal of nutritional counselling and folate to decrease most congenital malformation
Ensure quality, content and coverage of ANC	-Provide holistic health education during ANC to addresses newborn health and breast feeding -Counsel on newborn danger signs and health seeking behavior -Rise awareness of mother to increase uptake of immunization services -Incorporate newborn related care in to the ANC check lists -Counsel the mother about ECD with focus on responsive care
Antenatal corticosteroids	-Maintain continuous supply of drug (Betamethasone or dexamethasone -Update protocol and guide line -Introduce data tracking system
Antibiotics for PROM	-Maintain continuous supply of drug (Ampicillin/amoxicillin and erythromycin) -Update protocol and guide line -Introduce intervention tracking indicators
Improve quality of care during labor and delivery	-Encourage institutional deliveries/skill birth attendant -Mobilize competent and motivated health workforce -Conduct training on BmONC, EmONC and HBB in harmonized forms -Avail basic device (Ambu bag, Sucker, radiant heater, partograph) -Strengthen newborn corners at labor wards -Restructuring labor ward and NICU in close proxy -Consolidate maternity and newborn service integration -Maintain strong referral linkage -Conduct close supportive supervision and mentorship
Ensure universal coverage of ENC (Thermal care, Helping baby breath Early initiation and Excusive breast feeding, cord care)	-Conduct Essential Newborn Care Training for HEWs and health care professionals -Counsel and support mother on how to continue provision of ENC at both facility and home -Provide consistent SBCC and EIC for families and communities -Procure of newborn resuscitation device (ambu bags/mask sizes 0 & 1, suction devices, Resuscitation tables with Radiant warmer, Chlorhexidine)

Strategic initiative across life cycle	**Activities/recommendations**
Improve quality and coverage of KMC	-Allocate budget for KMC service delivery -Conduct needs and set up assessment for KMC service establishment -Develop manual, and conduct KMC training to build capacity of health care providers -Prepare guidelines and standard for quality KMC provision -Counsel and support mothers to continue KMC at home -Improve community awareness through SBCC and IEC -Dedicate adequate space with infrastructures (water, electric power, furniture and TV)
Improve care for Low birth weight (LBW) /premature baby	-Increase attendance at birth by SBA -Increase home visits by trained provider following delivery -Train health professional on thermal care -Optimize feeding of premature baby -Maintain thermal care at all levels -Raise family and community literacy about LBW/premature baby (complication and chances of survival and development) -Promote infection prevention practice at all level of care -Procure and avail respiratory support devices (oxygen blender, CPAP, Mechanical ventilation) -Dedicate appropriate premises at NICU for preterm babies -Strengthen infection prevention and control practices (Hand hygiene, room hygiene, trafficking, overcrowding, isolation for highly infectious patients)
Ensure management of PSBI/Neonatal Sepsis	-Raise awareness of families and communities on risk of infections, and promote practices to reduce risk and promote timely care-seeking for illness -Raise mother and community awareness of danger signs for infection, and improve self-referral for early infection management -Strengthen staff capacity to recognize sick newborns and treat appropriately according to protocols -Equip and upgrade HP/HC for management of neonatal sepsis -Avail up-to-date guidelines for standard infection, management prevention and control at all levels of care
Asphyxia management	-Promote delayed age at first pregnancy, increased birth spacing, use of antenatal corticosteroid -Promote complete ANC and birth preparedness -Increase capacity of health professional to identify high risk pregnancy and birth asphyxia at all levels -Train and capacitate midwifes on BmONC, EmONC and HBB -Avail products to conduct BmONC and EmONC(Radiant Heater, manual sucker, Ambubag, mask) -Strengthen supportive supervision and mentorship
Postnatal care	-Shift the task of PNC activities to HEW through home visits -Train HEW on PNC -Give PNC for at least 24 hours for institutional deliveries -Provide PNC during outreach service -Counsel and encourage mothers/family to utilize PNC -Aware community about PNC through SBCC and IEC -Counsel the caregiver about ECD

12.5 Table:11: Strategic recommendation and activities to strengthen health system to improve quality, uptake and coverage of NCH interventions

Strategic Recommendation	Activities
Ensure adequate, competent and motivated human resource for NCH	-Introduce packages of incentives for health professional working at overloaded service outlets -Introduce performance-based recognition -Provide need based and cost effective on job training -Strengthen provision of capacity building on ethical practice, motivation and professionalism (CRC) -Have an administrative directive to ensures minimal rotation of nurses with neonatal skills -Devise mechanisms for efficient utilization and retention of available human resources Have an administrative directive to ensures minimal rotation of health professional with neonatal and child care skills -Work and plan with human resource for health directorate/unit to fill the number and skill gaps of health professional for NCH -Strengthen the Human Resources Information System (HRIS) for accurate planning
Ensure timely procurement, equitable distribution, and management of quality essential medicines, medical devices, and commodities	-Develop detailed lists and specifications of supplies, commodities and device for NCH services -Facilitate regular quantification, forecasting, procurement and distribution of drugs, supplies and commodities and maintain sufficient levels of stock at all times; -Monitor utilization and transactions of drugs and supplies at all levels of service provision -Ensure availably of medicine and commodities in child use friendly preparations -Orientate and support pharmacy technicians at health centers on logistics management -Strengthen integrated pharmaceutical and logistic system (IPLS) -Procure additional transportation and communication device (e.g.motor bike for community level). -Strengthen regular inspection and maintenance of device -Maintain strong communication pipeline from facility level to regional hubs and EPFSA

Improve health care financing and financial risk protection	-Carry out advocacy works to increase budget allocation and funds for newborn and child care -Strengthen MNCH care fee exemption system across all level of care -Institutionalize strong system for reimbursement of fee exempted services -Minimize NCH service interruption and supply stockout to mitigate expenses related to hidden costs -Strengthen CBHI, social insurance and other financial pooling mechanism (Private wing) to subside MNCH services -Devise domestic resource mobilization mechanism for NCH (SMS with Telecommunication, trust fund)
Enhance meaningful leadership and governance ownership of NCH programs	-Ensure ownership of newborn and child health agenda as a national top priority -Devise mechanisms to support staff who care for sick newborns and child (appropriate hours of working, an appropriate ratio of sick child to staff and emotional support) -Conduct regular sensitization to governing boards on MCH flagship -Form a team or assign at least one person designated to lead initiatives for improving the quality of NCH care in the facility -Engage leaders and groups at different levels and capacities, including parliamentarians, in promotion of newborn and child survival interventions -Strengthen regular review meetings between administrators, health professionals and other stake holders to evaluate MNCH related activities and ways forward -Regular facility readiness assessment -Conduct at least one meeting a month to review data, monitor performance, make recommendations to address any problems, honor good performance and encourage staff or teams who are struggling to improve -Framing advocacy platforms, EIC and SBCC on NCH -Strengthen health professional regulatory framework to create accountability.
Improve the quality and utility of data, research and health information for decision making,	-Strengthen and digitalize health information and commodity management (quantification, distribution, monitoring) systems. -Introduce tracking of childhood NCDs in the HMIS disaggregated by age. -Operationalize the key newborn indicators to be fully incorporated into DHIS/HMIS

	-Introduce innovative strategies to improve culture of data use for program management and decision making at all levels. -Adapt tools for collecting data/information to monitor NCH input, processes and outcomes -Strengthen Perinatal Death Audit /Surveillance and Response (PDSR) at all levels; and use the data to improve service delivery -Introduce use of equity analysis for decision making and tailored interventions -Introduce surveillance system for monitoring congenital malformation -Introduce mortality surveillance system /monitoring of child mortality through conducting pediatric death audits and response. -Generate evidence on burden of disease in children, disaggregated by age, for decision making -Expand EDHS/DHIS to include disaggregated newborn and child morbidity and mortality data -Introduce a system to monitor and evaluate the ECD integrated interventions
Enhance use of innovation, ehealth/digital health to improve utilization and coverage of NCH intervention	-Provide relevant NCH information to mothers using personalized text and/or voice messages that encourage them to visit local facilities for NCH danger signs and to immunize their children -Disseminate health information via short text message to support disease prevention and patient self-management (refer to mDhil project, India) -Strengthening Telemedicine to connect remote populations with health providers: communication of patients with their health care providers to save travel time and to improve the efficiency of service delivery -Strengthen implementation of digital health at facility level to ensure data and health information quality. -Use mHealth platform – Mobile based collection and delivery of MNCH information to mothers, families and health workers, for referral and linkage, for tracking, for data collection and reporting, and track of stock levels and reporting of stockouts of supplies

12.6 Table 12: Ensuring availability of essential NCH services during public health emergency and humanitarian crisis(73)

Phases	Activities
Preparedness	-Address underlying causes of vulnerability and risk factors through the equity focused approach to implement essential NCH interventions -Coordinate with other key sectors such as water and sanitation, food agriculture, shelter and education -Consider community case management platform to build on -Engage with the Health Cluster from regional to Woreda level and train and equip volunteers accordingly
Response	-Contribute to rapid assessment of health sector through Health Cluster/Inter-facility coordination mechanism -Assist in re-establishing the delivery of essential care services to women, newborn and children with a main focus on management of: • Malaria, pneumonia, diarrhea, immunization; nutrition (breastfeeding and infant and young child feeding) • Maternal and newborn health services -Re-establish disrupted referral systems by facilitating transport and communication between communities, PHCU and hospitals -Set up community-based triage and referral system for women and children to nearby functioning health facilities and where applicable, a basic health emergency care unit -When access to a health facility is not possible, provide clean delivery kits to visibly pregnant women and birth attendants -Disseminate key health education messages to affected communities with a focus on health services available, danger signs recognition and home management of the most common life-threatening conditions
Recovery	-Continue support to the delivery of essential interventions and emergency health services -Consider using emergency response as a platform for strengthening and scale-up of pre-existing health services -Assist in integrating prevention and preparedness into community recovery and longer term MNCH programs

12.7 Table 13: Strategic recommendations and related activities to improve quality and coverage of Integrated community case management of Newborn & Childhood Illness (iCCMNCI)

Strategic recommendation	Activities
Improve capacity of HEWs	-Deploy optimum number and skill mix of HEWs -Provide new/refresher training for HEWs on iCBNCC, KMC, PNC and ECD -Provide training for HEWs on pneumonia and diarrhea related promotion and prevention intervention. -Introduce reliable performance based incentivization and career structure development -Avail updated use friendly guidelines and job aid -Improve the use of the family folder and community health information system -Conduct monthly regular supportive supervision and mentorship -Strengthen family engagement and empowerment in newborn and child care
Ensure continuous availability of commodities, supplies and other infrastructure	-Improve system for procurement of essential medicines and commodities. -Strengthen integrated pharmaceutical logistic system at health posts -Ensure all health posts have means of transport (bi/motor cycle) or equivalent for drugs and supplies transportation
Strengthen functioning referral systems	-Document appropriate information communication and feedback to relevant health care center -Prompt facilitation of transportation for referral -Provide prereferral provision of antibiotics and other care -Facilitate to accompany by health care provider

12.8 Table 14: Strategic recommendation and related activities to improve quality of NICU (74, 75)

Strategic recommendation	Activities
Ensure the NICU and pediatric critical care outlets have appropriate physical premises and environment, with adequate water, sanitation, waste management, energy supply, medicines, medical supplies and device	-Establish more NICU -Dedicate adequate and categorized premises for NICU (KMC, premature, isolation, triage rooms etc) -Avail adequately maintained, safe, clean, appropriately lit and well-ventilated rooms for NICU -Strengthen ETAT services at all levels of newborn care -Identify a list of essential medications, commodities, and medical devices with the necessary specifications and quality control -Procure and avail respiratory support devices (oxygen blender, CPAP, Mechanical ventilation) -Ensure equitable and timely distribution of appropriate supplies, commodities and device for NICU -Develop SOP, protocols and Guideline for proper maintenance and replacement of parts of device -Introduce regular inventory of supplies, commodities and inspection of device
Enhance evidence-based care and management of illness according to WHO guidelines	-Prepare protocol, guideline and SOP to standardize NICU (guideline for care small and sick baby -Establish strong infection prevention and control, and patient safety practices at all levels of care -Promote regular refresher training/updating mechanism on available/new evidences and practices
Deploy competent, motivated, empathetic and multidisciplinary health workforce	-Assign adequate and appropriate multidisciplinary health workforce -Match the number of nurses working at NICU care to the minimum standard as per EHSTG or other recommendation -Provide NICU care training to improve knowledge, skill, attitude and motivation of health workers -Provide training on infection prevention and control -Minimize rotation of nurses with neonatal care skills -Periodically appraise all staff, and devise mechanisms for performance-based recognition and feedback
Ensure provision of age appropriate ECD for all small and sick newborns	-Promote mothers/care givers to stay with small and sick newborns and child whenever possible with minimal separation

	-Provide age appropriate ECD training for health professionals -Provide age-appropriate developmental supportive care for all small and sick newborns -Minimize stress stimuli including external stimuli (sound, light, tactile), clustering NICU care activities and minimal handling
Strengthen generation of actionable health data and information	-Standardize registers, clinical records, follow up charts and data collection forms - Standardize system for classifying clinical conditions, diseases and health outcomes, including births and deaths -Include indicators to capture added interventions -Strengthen joint perinatal death audit and surveillance with maternity team -Establish strong performance monitoring team (PMT) and data assurance committee
Establish a system for appropriate and timely referral through integrated continuum of care	-Provide appropriate pre-referral care -Decide referral without delay -Maintain continuum of care during referral accompanied with appropriate health care providers -Look for alternatives if the usual receiving facility cannot accept a newborn -Do appropriate information exchange and feedback to relevant health care staff -Provide safe, efficient transfer to and from referral neonatal care by experienced, qualified personnel -Dispatch adequate number of Ambulances
Improve communication with small and sick newborns, critically sick child, and their families with meaningful parental participation and involvement	- Provide information about the newborns and child's illness and care to care giver - Enable all care givers to participate actively in the newborns and child's care

12.9 Table:15: Strategic recommendation and activities to strengthen community level NCH interventions

Strategic recommendation	Activities
Revitalize family and community engagement and empowerment platforms	-Update and/or develop IEC/SBCC materials and related tools to promote use of high impact NCH -Provide sensitization on pneumonia and diarrhea related prevention interventions. -Conduct regular household visits (FHT) to provide individual counseling on high impact NCH intervention - Conduct regular mass media activities and spots (radio, TV) programs to support maternal, newborn and child survival initiatives -Build capacity of Media such as health sector program columnists, producers/directors, editors and journalists of both print and electronic media at national/regional levels on newborn and child health agendas -Use religious leaders, and social gatherings to show /discuss various newborn and child survival issues -Revitalize small social groupings (WDG, MDG, VHL) and harmonize with HEWs
Strengthen population outreach service delivery in general and for pastoralist and hard to reach areas in particular.	-Strengthen the family health team (FHT) for the outreach service delivery -Establish supply and inventory management system for essential products at health posts which are important for outreach service deliveries -Ensure availability of vehicles and motorbikes with fuel for integrated outreach and referral services -Integrate service provision of: CBNC, ICCM, EPI, growth monitoring, ECD, ITNs, ANC, iron-folate, vitamin A, de-worming-Close mentoring and supportive supervision

12.10 Table 16: Detail, Key high impact intervention, baseline (2019/20), target for 2025 across continuum of care, Newborn and Child Health

S.No	Key intervention	Indicator	Baseline 2019/20	Target 2025	Remarks
1	Skilled attendance at birth	Proportion of births delivered with the assistance of doctors, nurses/midwives, health officers, and health extension workers. (MDHS 2019)	50% -Source: Mini-DHS 2019, pp 58	76% - Set based on HSTP-2 target, p 106	
2	Early breast feeding within 1hr	Proportion of alive births with initiation of breastfeeding within 1 hour of birth. (MDHS 2019)	72% Source: Mini-DHS 2019, pp 96	86%- - Adopted from National Food and Nutrition Strategy 2021; Annex 2 SO 4.12	
3	Neonatal resuscitation	Proportion of newborns with birth asphyxia who were resuscitated and survived. Denominator: Estimated number of neonates with birth asphyxia (FMOH HMIS Indictor Reference 2017)	11% - Source: HSTP-2, pp 106	50% - Set based on HSTP-2 target, p 106	
4	Treatment of neonatal sepsis or very severe disease (VSD)	Proportion of sick young infants (0-2 months) treated for sepsis/VSD within a given period. Denominator: Estimated number of sick young infants with sepsis or VSD, based on recent research findings or estimates. (FMOH HMIS Indictor Reference 2017)	30% Source: HSTP-2, pp 106	45% Set based on HSTP-2 target, p 106	
5	Chlorhexidine for cord care of newborns	Proportion of alive newborns who got chlrohexidine cord care.	6% PMA Ethiopia 6wk Panel Survey result, 2019	70% Set based on expert opinion; assuming that nearly all deliveries in HFs will get Chlorhexidine cord care.	
6	Thermal care of newborns	Proportion of mothers who delayed bathing of the newborn for 24 hours.	57% PMA Ethiopia 6wk Panel Survey result, 2019	80% Set based on expert opinion; assuming that all deliveries in HFs and additional home deliveries will practice delaying bathing of the newborn.	

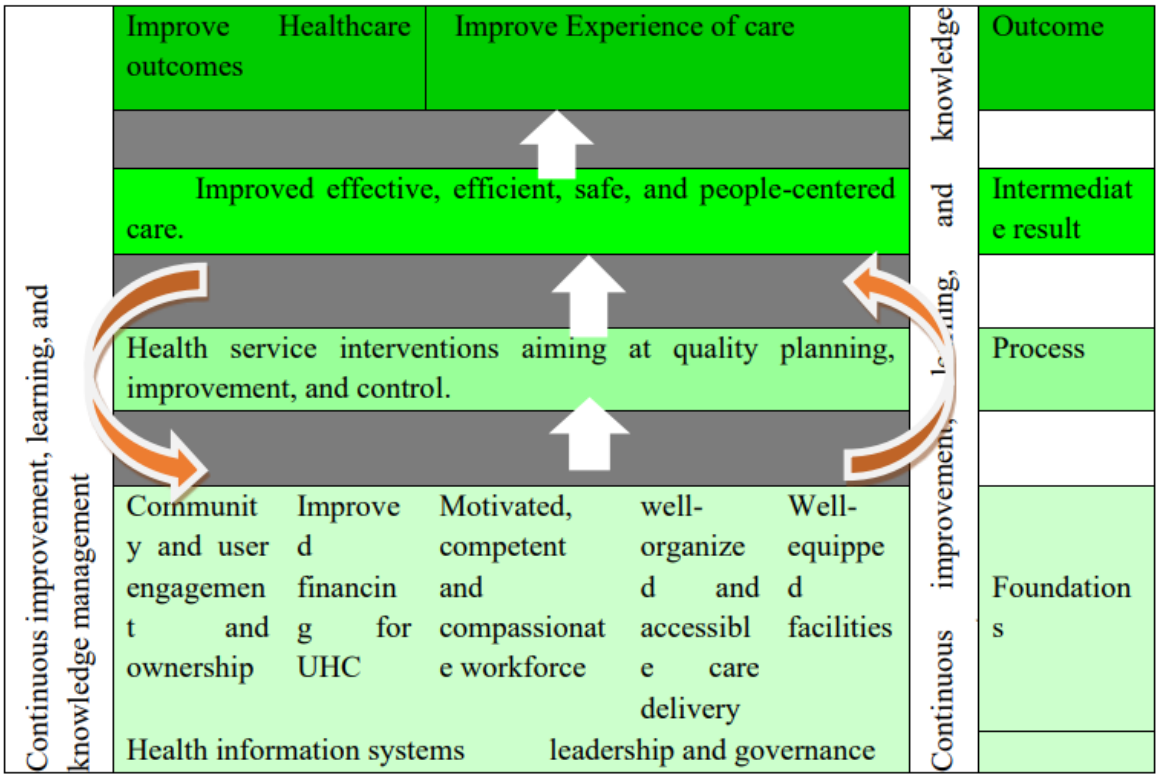
S.No	Key intervention	Indicator	Baseline 2019/20	Target 2025	Remarks
7	KMC for preterm babies	Proportion of newborns weighing <2,000gm and/or premature newborns for whom thermal care in the form of KMC was initiated after delivery. Denominator: Estimated number of newborn weighing <2000gm and/or premature delivery; based on recent research findings or estimates. (FMOH HMIS Indictor Reference 2017)	<10% Source: Expert opinion/estimate, based on studies in SSA countries.	70% Set based on expert opinion; assuming that nearly all premature deliveries in HFs will get KMC.	
8	Post-natal care visit with in 48 hrs,	Proportion of newborns who received a postnatal check-up within 2 days from birth. (MDHS 2019)	35% Source: Mini-DHS 2019, pp 60	76% Set based on HSTP-2 target, p 106	
9	Exclusive breastfeeding	Proportion of children age 0-5 months who are fed exclusively with breast milk. (MDHS 2019)	59% Source: Mini-DHS 2019, pp 97	80%- Adopted from NNS 2021, Annex 2 SO 4.14	
10	Complementary feeding (age 6-8 months) and continued breast feeding	Proportion of infants who start complementary feeding at 6 months	60% Source: National Food and Nutrition Strategy	85%	
11	Provide biannual vitamin A supplementation for children 24–59 months	Proportion of children aged 6-59 months who received vitamin A supplementation in the past six month	45% Source: National Food and Nutrition Strategy	90%	
12	Minimum acceptable diet	Proportion of children age 6-23 months who receive a minimum acceptable diet. Note: indicator is a composite of children fed with a minimum dietary diversity and a minimum meal frequency. (MDHS 2019)	12% Source: Mini-DHS 2019, pp 100	60%- Adopted from NNS 2021, Annex 2 SO 4.25	
13	Antibiotic treatment for pneumonia of under five children	Proportion of under 5 children treated for pneumonia at health facility and community (HP). Denominator: Total number of under 5 children with pneumonia, estimated based on recent research findings. (FMOH HMIS Indictor Reference 2017)	48% Source: HSTP-2, pp 107	69% Set based on HSTP-2 target, p 107	

14	ORS and Zinc treatment for diarrhea of under five children	Proportion of under 5 children treated with ORS and Zinc for diarrhoea at health facility and community (HP). Denominator: Total number of under 5 children with diahrroea, estimated based on recent research findings. (FMOH HMIS Indictor Reference 2017)	44% Source: HSTP-2, pp 107	67% Set based on HSTP-2 target, p 107	
15	Antibiotic for dysentery	Proportion of children with dysentery who received antibiotics Denominator: Total under 5 children with dysentery	No data 	67% Extrapolation from the set target that 67% under 5 children with diarrhea receive ORS and Zink	
16	Deworming for children 24-59 months of age, twice yearly	Proportion of biannually dewormed children 24-59 months of age	74% Source: APR;2019/20	90% Source: National Food and Nutrition Strategy	
17	Pulse oximeter and Oxygen for Pneumonia	Proportion of under 5 children with hypoxic pneumonia who received oxygen therapy Denominator: Total under 5 children with hypoxic pneumonia	47% Source: SARA report 2018	100% Assumption: High case fatality rate if not treated	
18	Management of children with SAM	Proportion of children under five years screened for malnutrition (FMOH HMIS Indictor Reference 2017)	40% Source: National Food and Nutrition Strategy, 2021.	100% Target adopted from National Food and Nutrition Strategy, 2021; Annex 2 SO 4.36. Source will be HMIS.	
19	MTCT of HIV	Mother to child transmission rate of HIV, based on spectrum modelling estimate.	13% Source: HSTP-2, pp 107	<5% Set based on HSTP-2 target, p 107	

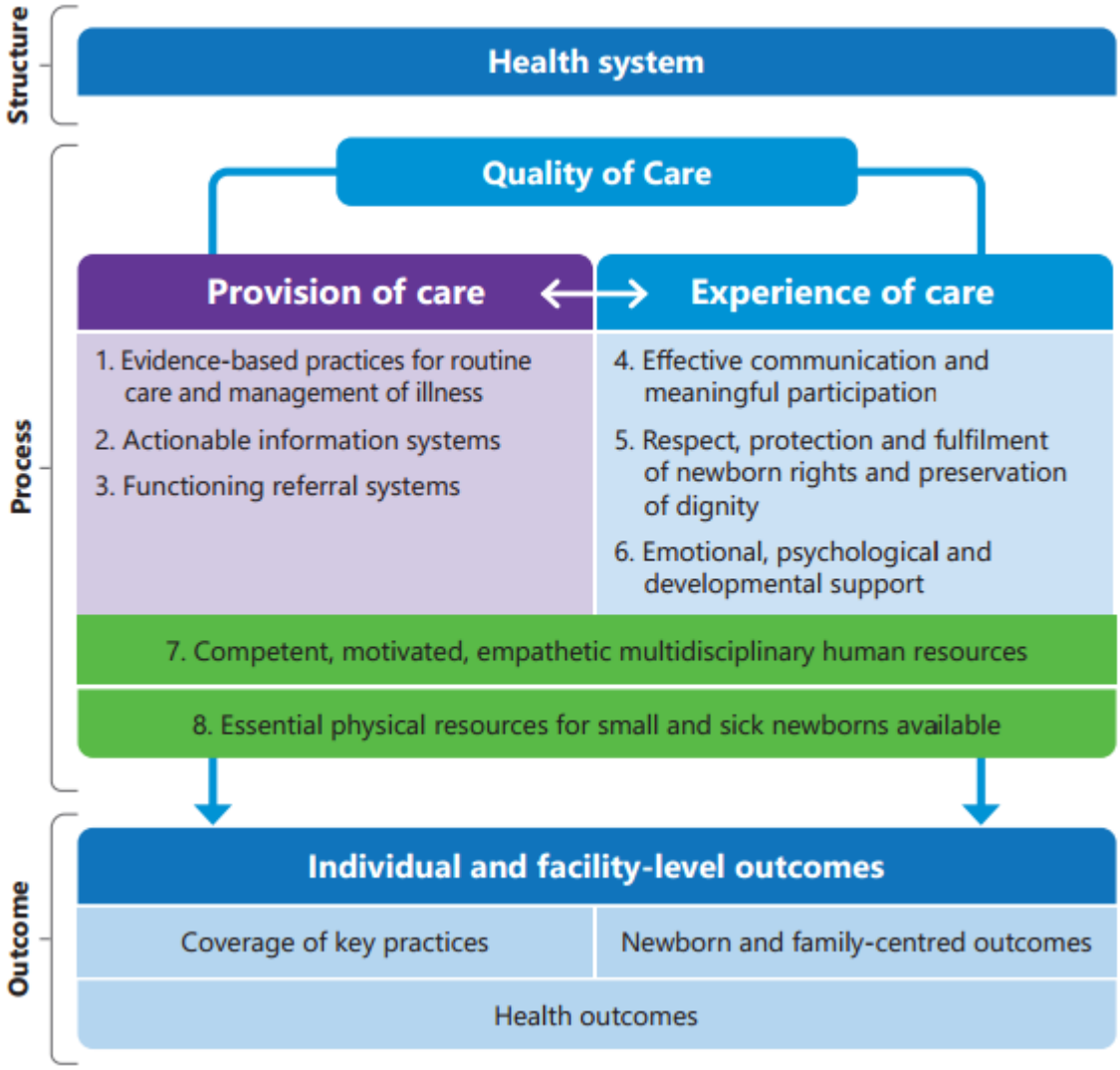
20	Malaria ACT treatment	Proportion of under 5 children with fever for whom advice or treatment was sought from a health worker or facility. Denominator: Children under age 5 with fever in the 2 weeks before the survey. (EDHS 2016)	48% Source: Estimate for 2020, from extrapolation based on EDHS 2011 & 16.	100% Target adopted from Ethiopia Malaria Elimination Strategic Plan: 2021-5 – EMESP21-25. Source will be EDHS 2025/6.	
21	Children sleeping under ITN	Proportion of under 5 children in malarious areas who slept under an LLIN the previous night (Ethiopia Malaria Elimination Strategic Plan: 2021-5 – EMESP21-25)	54% Source: Estimate for 2020, from extrapolation based on MICS 2011 & 15.	85% Target adopted from EMESP21-25. Source will be MICS.	
22	Early stimulation and responsive care	Proportion of children under 5 years receiving early stimulation and responsive care from their parents or caregivers	- 	20% Expert opinion, Child Development Team, MoH	
23	Children assessed and classified for development	Proportion of children get assessed for development and intervened.	- 	20% Expert opinion, Child Development Team, MoH	

12.11 Figure 12: Ethiopian health quality and safety framework,

(Source: MOH, National Healthcare Quality and Safety Strategy, NQSS, 2021-25)



12.12 Figure 13: Framework for improving the quality of care of small and sick newborns, (adopted from WHO quality standard, 2020(75).)



12.13 Table 17: List of contributors,

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