Action Plan to Improve the Control of Pneumonia and Diarrhoea Through the Integrated Management of Newborn and Childhood Illnesses Approach

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Abbreviations

AEA	agricultural extension agents
CBHI	Community-Based Health Insurance
CMAM	community-based management of acute malnutrition
COC	centre of competency
CPD	continued professional development
CSO	civil society organisation
CSTWG	child survival technical working group
DHIS2	District Health Information System
DT	dispersible tablets
eCHIS	Electronic Community Health Information System
EPI	Expanded Program of Immunization
EPSA	Ethiopian Pharmaceutical Supply Agency
GAPPD	Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea
GMP	Growth monitoring and Promotion
HC	health centre
HEP	Health Extension Program
HEWs	health extension worker
HMIS	Health Information Management System
HP	health post
HSTP	Health Sector Transformation Plan
HW	health worker
ICMNCI	Integrated Community Management of Newborn and Childhood Illnesses
IEC	information, education, communication
IMNCI	Integrated Management of Newborn and Childhood Illnesses
IMR	infant mortality rate
IPLS	integrated pharmaceutical logistics management system
IPRM	integrated programme review meetings
ISS	integrated supportive supervision
ITN	insecticide-treated nets
JMV	joint monitoring visits
MCHND	Maternal, Child Health and Nutrition Directorate

MCV	meningococcal vaccine
M&E	monitoring and evaluation
MoH	Ministry of Health
NCH	newborn and child health
NGO	non-governmental organisation
NMR	neonatal mortality rate
ODF	open defecation-free
ORS	oral rehydration salt
PCV	pneumococcal conjugated vaccine
PHCU	primary healthcare unit
PMED	Pharmaceutical Medical Equipment Directorate
PPD	Policy and Planning Directorate
PPP	public-private partnership
PRCMM	performance review and clinical mentoring meeting
PRM	programme review meeting
QI	quality improvement
RHB	regional health bureau
RMNCAH+N	Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition
SBC	social and behaviour change
SDG	Sustainable Development Goal
SAM	severe acute malnutrition
SOP	standards of practice
TA	technical assistant
TVET	Technical and Vocational Education Training
TWG	technical working group
U5MR	under-five mortality rate
WaSH	water, sanitation and hygiene
WDG	Women's Development Group
WoHO	*woreda* health office
VHL	volunteer health leaders
ZHO	zonal health office
ZHD	zonal health departments

Foreword

Children under the age of five account for 16 percent of Ethiopia's population. This vital group is vulnerable to a range of biological, physiological and psychosocial influences within the wider environment. Statistics have shown that children are at higher risk of contracting pneumonia, malaria, diarrhoea and other infections.

More than 80 percent of deaths in children are due to preventable and treatable conditions and close to four-fifth of under-five mortalities are attributed to neonatal causes (56 percent), pneumonia (17 percent) and diarrhoea (eight percent). Nutrition-related factors have been identified as underlying causes in around a third of under-five mortalities. The majority of these deaths occur at home, among the poor, rural and peri-urban populations where mothers and caregivers have limited access to quality life-saving interventions against the major childhood conditions.

The Ministry of Health is committed to addressing pneumonia and diarrhoea, as some of the highest causes of childhood disease and mortality and led the development of the Action Plan to Improve the Control of Pneumonia and Diarrhoea Through the Integrated Management of Newborn and Childhood Illnesses Approach in 2022/2023. The Action Plan was developed in collaboration with partners and stakeholders with widespread consultations at a national level. There was engagement with Ministry of Health professionals, civil society organisations and development partners.

The Action Plan promotes an integrated approach to pneumonia and diarrhoea control through multi-sectoral action. The Action Plan is in alignment with, and builds on, existing strategies, namely the New Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH+N) Strategy, the Integrated Management of Newborn and Childhood Illness (IMNCI) protocol, and the national protocol for Integrated Community Case Management of Newborn and Childhood Illnesses (ICMNCI), among others.

Pneumonia and diarrhoea control is central to achieving universal health coverage and meeting the Sustainable Development Goals in Ethiopia. It is imperative to effectively implement the packages of evidence-based interventions articulated within the Action Plan and plan for protecting and preventing diseases in children, with a focus on underserved and vulnerable communities.

I call on all relevant ministries, departments and agencies, regional governments, partners, civil society groups, donors, the private sector and other stakeholders to support the Ministry of Health in the implementation of the Action Plan. I encourage all relevant stakeholders to provide technical and financial support for accelerating the necessary actions against pneumonia and diarrhoea in children. The operationalisation of the Action Plan will save children's lives and impact on the trajectory of child health outcomes in Ethiopia.

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Executive summary

Despite remarkable efforts to reduce the burden of childhood disease in Ethiopia, pneumonia and diarrhoea remain major causes of mortality in children under five. The Ethiopian Ministry of Health, in collaboration with development partners, is implementing multifaceted efforts to reduce under-five morbidity and mortality. The Ministry of Health has recently developed the National Newborn and Child Development Strategy 2021–2025, which will be instrumental in addressing the burden of childhood illnesses. The strategy aims to reduce the national under-five mortality rate from 59 (2019 level) to 43 per 1,000 live births, the infant mortality rate from 47 to 35 per 1,000 live births and the neonatal mortality rate from 33 to 21 per 1,000 live births, all by 2025.

To support the implementation of the strategy, the Maternal, Child Health and adolescent lead executive of Ministry of Health developed the Action Plan to Improve the Control of Pneumonia and Diarrhoea through the Integrated Management of New born and Childhood Illnesses Approach to focus on pneumonia and diarrhoea as the two leading causes of mortality in children under five. The Action Plan is a three-year plan with an integrated approach focusing on critical gaps in district, health facility and community capacity for prevention, diagnosis and treatment of pneumonia and diarrhoea. It looks to address key challenges within the health system, particularly human resources and drug, vaccine and medical supply systems at all levels of the health system, including securing national drug and medical supply production. The Action Plan references the need for a multi-sectoral approach to the prevention of pneumonia and diarrhoea, the importance of addressing water, sanitation and hygiene, pollution and the underlying economic and social barriers to health, as well as the required coordination with non-health actors across all sectors.

The Action Plan development began with a qualitative assessment that aimed to identify gaps in the implementation of the Integrated Management of Newborn and Childhood Illnesses platform. The findings were used as the starting input for the development of the Action Plan alongside consultations and review. The Action Plan identifies four major objectives and corresponding activities for addressing the Integrated Management of Newborn and Childhood Illnesses implementation and resource gaps: improve equitable access and utilisation of pneumonia and diarrhoea control services; improve the quality of pneumonia and diarrhoea control services; ensure continuous availability of essential child health commodities; and improve regular monitoring and evaluation of child health programmes. Critical activities that need to be conducted in line with the time span of the Action Plan were also identified. The Action Plan emphasises the need for capacity building for healthcare workers at various levels, raising awareness of the burden of childhood pneumonia and diarrhoea, and the need to fully implement the existing Integrated Management of Newborn and Childhood Illnesses platform.

Introduction

Ethiopia has documented notable achievements in improving the health status of children in the last two decades. Despite the encouraging reduction in the under-five mortality rate, it is still estimated that 189,000 children under five die from preventable childhood diseases every year, with more than half occurring during the neonatal period.[1],[2],[3] The newborn and child health agenda has been a top priority for the Government of Ethiopia.[3] However, achievements for the established goals and targets have remained inadequate and a significant number of newborns and children continue to die from preventable causes. National childhood mortality rates show that the planned reduction in child mortality has not been achieved, and that the overall performance or coverage of high-impact interventions is far below the targets set in the National Newborn and Child Development Strategy.[3]

As stated in the Health Sector Transformation Plan Two (HSTP II) the under-five mortality rate was reduced by two-thirds between 2005 and 2019.[3],[4] The under-five mortality rate decreased from 123 to 59 per 1,000 live births. Similarly, the infant mortality rate decreased from 77 to 47 per 1,000 live births. However, neonatal mortality declined modestly, from 39 to 33 deaths per 1,000 live births from 2000 to 2019.[1]

Pneumonia and diarrhoea are caused by multiple factors and the World Health Organization (WHO) recommend integrated preventive and curative services and socio-economic programmes to tackle these diseases. This includes a set of protective, preventive and therapeutic interventions based on global, evidence-based, low-cost and high-impact interventions recommended to tackle pneumonia and diarrhoea, which have been laid out in the integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD).[4][5]

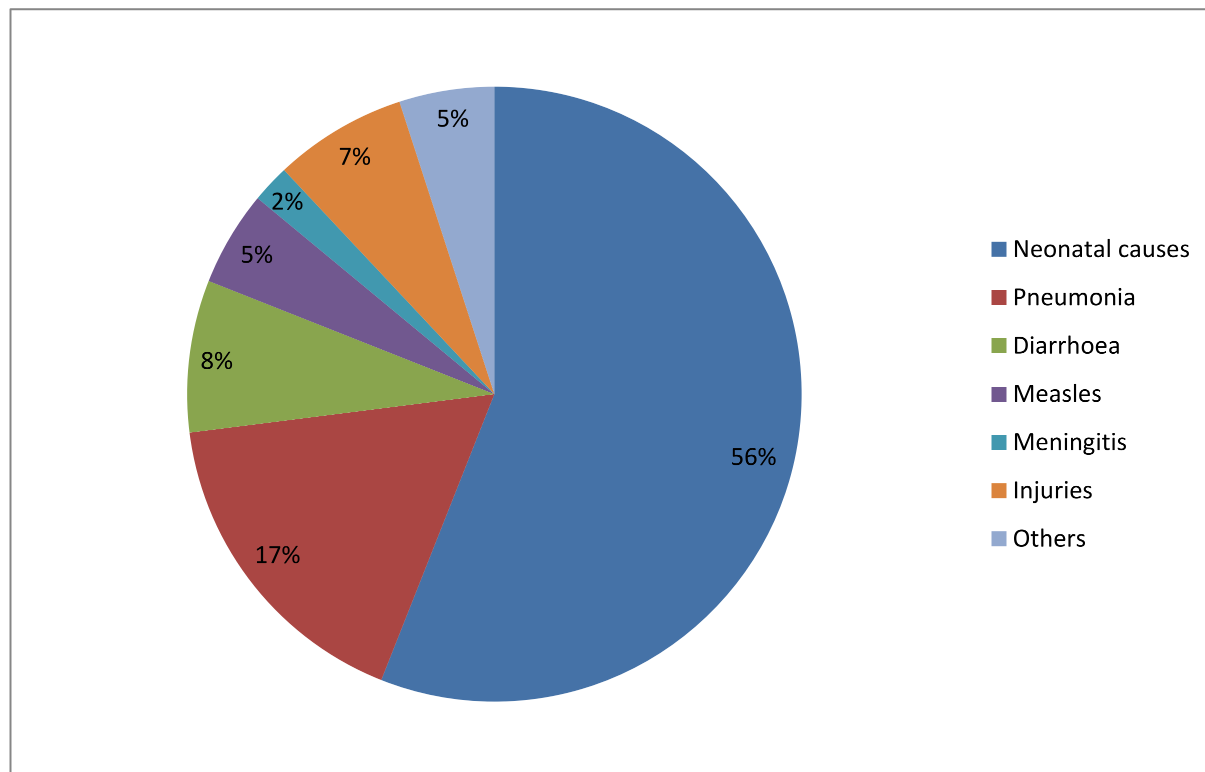
There are key challenges to effective service provision that need to be analysed by region to address differing regional characteristics and the distinct challenges in rural and urban areas to ensure those most at risk are reached. Identifying those children at greatest risk, hardest to reach and most neglected, and targeting them with interventions with proven efficacy, will enable us to close the gap on preventable child deaths.[4]

1 Background

A Cochrane systematic review and meta-analysis examined 12 studies to estimate the causes of under-five child mortality in Ethiopia between 1990 and 2016.[6] The proportional mortality was estimated to be diarrhoeal disease (37.2 percent), acute lower respiratory illness including pneumonia (17.5 percent), measles (15.8 percent), severe acute malnutrition (SAM) (12.1 percent), malaria (7.3 percent) and meningitis (5.6 percent).[6]

Ethiopia's National Newborn and Child Development Strategy 2021–2025 revealed close to four-fifths of under-five mortalities are attributed to neonatal causes, pneumonia and diarrhoeal diseases (Figure 01).[3],[7] 80 percent of under-five mortality occurs during the first year of life, with pneumonia accounting for four percent of neonatal morality.[3]

Figure 01: Causes of under-five mortality in Ethiopia



Source: National Strategy for Newborn and Child Health and Development in Ethiopia Second Draft Version, 2021[7]

Several studies have identified causative factors including indoor pollution, poor access to water and sanitation, poor handwashing practices, and malnutrition including vitamin A deficiency and poor infant feeding practices.[8],[9],[10] Similarly, children in a household where animals live and children in the care of caregivers who do not practice hand washing during a critical time have higher risk of getting pneumonia than their counter parts.[11]

Diarrhoea mortality disproportionately affects the youngest children, with 70 percent of deaths associated with diarrhoea occur during the first two years of life. Diarrhoea can compromise health more broadly by leading to a vicious cycle of malnutrition, stunted growth, cognitive impairment and poor immune response.[11]

In recognition of this, the Ethiopian Ministry of Health (MoH) developed the Roadmap Towards Maximizing Newborn and Child Survival and Wellbeing by 2030, which acts as a benchmark for the Newborn and Child Development Strategy 2021–2025, as well as the HSTP II.[3],[7],[12] These strategic plans

address quality, high impact, low-cost, evidence-based interventions for the community to reduce child morbidity and mortality. The Action Plan will be instrumental for the attainment of the goals set out in these strategic plans, by strengthening pneumonia and diarrhoea control measures in an integrated approach that focuses on protection, prevention and management.

2 The Action Plan development process

A formative assessment was conducted with the objective of determining the implementation status of Integrated Management of Newborn and Childhood Illnesses (IMNCI), Integrated Community Management of Newborn and Childhood Illnesses (ICMNCI), and nutrition and preventative services with a special focus on pneumonia and diarrhoea.[13] The findings of the formative assessment were presented to the national newborn and child health technical working group (TWG) and thematic priorities were identified. Accordingly, the first draft of the Action Plan to Improve the Control of Pneumonia and Diarrhoea Through the Integrated Management of Newborn and Childhood Illnesses Approach was developed with the TWG, presented to partners during World Pneumonia Day 2022 and reviewed in a stakeholder meeting in December 2022. Appendix 01 provides a list of the participants who attended the consultative workshop.

The title of the Action Plan was developed through consultation with the Maternal, Child Health and Adolescent Lead executive and partners. It describes the integrated approach of child health services at facility level with special emphasis on the control of pneumonia and diarrhoea. However, as the child health service of the facility is linked with the community level, the Action Plan also considers key interventions being undertaken at the community level.

3 The Action Plan rationale

The GAPPD provides a roadmap for national governments and their partners to plan and implement integrated approaches for the prevention and control of pneumonia and diarrhoea in children under five.[4] It recognises that for successful implementation, the effective engagement of all relevant stakeholders is key, and it pays special tribute to front-line healthcare providers, especially those at the most peripheral and community level.[4],[14] The GAPPD identifies opportunities to better integrate activities, as well as capture synergies and efficiencies to address the causative factors associated with pneumonia and diarrhoea and treat illness.[4] In line with the need and guidance outlined by the GAPPD roadmap, Ethiopia has developed this Action Plan.

The rationale for the Action Plan aims to:

1. Elevate pneumonia and diarrhoea control interventions within the integrated newborn and child health agenda
2. Improve pneumonia and diarrhoea control within integrated programming, through articulating clear priorities and actions
3. Establish structures for collaboration and accountability in the health system to deliver a multi-sectoral and life-course approach.

The first step is to develop an integrated implementation plan to provide concrete guidance to a range of government and non-government actors across multiple sectors on how they can better support integrated pneumonia and diarrhoea control and intervention. It is important to emphasise that the Action Plan does not recommend the creation of separate pneumonia and diarrhoea approaches, rather it builds on broader policies, strategies and the existing health service delivery platforms (e.g., ICMNCI, IMNCI, Expanded Program of Immunization [EPI], the community-based management of acute malnutrition [CMAM] and SAM management). The Action Plan provides a starting point to ensure that the attention and funding going to pneumonia and diarrhoea are proportionate with the disease burden, and that it will continue to adapt and evolve as implementation begins.[4],[5],[15]

The Action Plan seeks to strengthen pneumonia and diarrhoea control interventions by:

- Strengthening the community engagement platform
- Using a multi-sectoral approach to create demand generation activities
- Establishing a feedback mechanism to address community concerns
- Ensuring the availability of child health commodities
- Ensuring the provision of quality ICMNCI and IMNCI services at health posts (HPs) and health centres (HCs)
- Working with relevant partners to address the identified problems
- Improving programme ownership, governance and leadership at all levels.

4 Scope of the Action Plan

The Action Plan does not replicate existing strategies and child health intervention platforms rather it is a part of a package of strategies and policies related to addressing neonatal and child health, including the Ethiopia National Expanded Program on Immunization Comprehensive Multi-Year Plan (2021–2025); the National Strategy for Newborn and Child Health and Development (2021–2025); the Ethiopia Food and Nutrition policy/strategy; and the Ethiopia Sanitation and Hygiene Strategy. The Action Plan identifies IMNCI implementation gaps and proposes feasible recommendations that support the achievement of the National Newborn and Child Development Strategy. The focus of the Action Plan is limited specifically to the control of pneumonia and diarrhoea in children under five.

5 An integrated approach to protecting, preventing, and treating common childhood illnesses in Ethiopia

The Ethiopian government has been implementing the EPI, CMAM, SAM, ICMNCI and IMNCI at all levels of service outlets.[1] IMNCI and ICMNCI are key strategies for this Action Plan. IMNCI and ICMNCI are integrated approaches to child health that focus on the wellbeing of the whole child. It is an approach that integrates all available measures for health promotion, prevention and integrated management of the most common childhood diseases through early detection and effective treatment, as well as the promotion of healthy habits within the family and community. The IMNCI/ICMNCI strategies contains three main components: improving case management skills of healthcare staff; improving the health systems; and improving family and community health practices.

This integrated approach is strengthened by the Electronic Community Health Information System (eCHIS). eCHIS is a suite of mobile applications with a web-based monitoring portal, which intends to capture electronic data on the Health Extension Program (HEP) and other community-level services, as well as utilise data to improve HEP performance, community health outcomes and serve as a job aid to health extension workers (HEWs). It is intended to improve data quality and assist in HEWs capacity to collect, analyse and use data, promoting a culture of data use in the community. The Health Extension Worker Application supports HEWs in providing ICMNCI services and follow-up, while the Health Centre Referral Application supports health workers (HWs) working at HCs to confirm referrals and provide referral feedback to HEWs, as per the protocol of IMNCI.

The specific indicators and targets for the IMNCI and ICMNCI, and the relevant interventions, can be found in Appendix 03 and 04.

Through various platforms and strategies the government outline the interventions for controlling pneumonia and diarrhoea in children under five year as:

a. **Protect.** Making children healthier and less vulnerable to pneumonia and diarrhoea. Protecting children by establishing and promoting good health practices through early and exclusive breastfeeding for six months, adequate complementary feeding, vitamin A supplementation and anti-helminthic practices/deworming.[16]
b. **Prevent.** Preventing children from pneumonia and diarrhoea with proven interventions by vaccinating children with the pentavalent, pneumococcal conjugated vaccine (PCV), rotavirus and measles vaccines to prevent illness and death due to pathogens that can cause pneumonia and diarrhoea. Preventing pneumonia and diarrhoea through hand washing with soap, safe drinking water and sanitation, reducing household air pollution, HIV prevention and cotrimoxazole prophylaxis for HIV-infected and exposed children.[17]
c. **Diagnose.** Diagnosing pneumonia using a pulse oximeter and strengthening referral linkage and feedback through improved primary healthcare unit (PHCU) linkage.[18] The majority of the HCs and HPs in Ethiopia use classification algorithms to diagnose pneumonia and diarrhoea as per the protocol of IMNCI and ICMNCI respectively, while hospitals and a limited number of HCs use a pulse oximeter to diagnosis pneumonia.

   Pulse oximetry is a diagnostic tool for pneumonia to be used at HC and hospital level.[19] With evidence-based recommendations, other respiratory counting aids can be used for the diagnosis of pneumonia.
d. **Treat.** Treating children who are sick from pneumonia, diarrhoea and malnutrition with appropriate treatment, improved care seeking and referral, and case management at the health facility and community level with relevant supplies and interventions such as low-osmolarity oral rehydration salts (ORS), zinc, antibiotics, ready to use therapeutic food, oxygen and continued feeding.[18],[20]

   The MoH National Medical Oxygen and Pulse Oximetry Roadmap (2016–2020/21) states that improving access to oxygen and pulse oximetry has demonstrated a reduction in mortality from childhood pneumonia up to 35 percent in high-burden child pneumonia settings.[19] Oxygen availability varies widely across regions and between facility types (hospitals vs. HCs). The availability is generally higher at the hospital level. Only 11 percent of HCs have oxygen systems.[19] The National Medical Oxygen and Pulse Oximetry Roadmap indicates that staff are generally untrained, lack standard

operating procedures (SOPs)/job aids and supportive supervision for oxygen management. Most hospitals have oxygen systems but only 62 percent have sufficiently equipped or filled oxygen devices in paediatrics, and fewer have been reported to have pulse oximeters available (45 percent).[19]

e. **Health seeking behaviour.** Equitable access, quality services and service demand creation are primary factors in improving health seeking behaviour. Improving community engagement through dialogue and supported participation using multiple primary and community services looks to improve knowledge and behaviour that support prevention and early health seeking behaviour.

Table 01 below, illustrates the barriers from the demand and supply sides, existing efforts at all levels of the health system and the recommended remedial action, alongside the relevant bodies responsible for IMNCI/ICMNCI implementation. This has been informed by the formative assessment report, developed as part of the Action Plan development process.[13]

Table 01: Barriers, existing efforts, recommendations and responsible bodies for IMNCI/ICMNCI implementation

Identified gaps	Existing efforts	Recommended action	Responsibility
Community related			
Low service utilisation	Community mobilisation by the available structure	Community mobilisation and training of health professionals to improve service quality	MoH, regional health bureaus (RHBs), *woreda* health office (WoHO) and zonal health office (ZHOs), HWs, HEWs, volunteer health leaders (VHLs), media and partners, civil societies
Low health-seeking behaviour	Community mobilisation by the available structures	Community mobilisation and community dialogue	MoH, RHBs, WoHO, ZHO, HWs, HEWs VHLs, media and partners
Caregivers' perception that childhood illnesses resolve by themselves	Key messages have been developed to address the caregiver's perception that childhood illness resolve by themselves Counselled caregivers on the key messages during GMP, nutritional screening, immunisation etc.	Awareness creation in the community and community dialogue	MoH, RHBs, WoHO, ZHO, HWs, HEWs, VHLs, media and partners
Caregivers' delayed child healthcare seeking behaviour	Key messages have been developed on when to seek medical care for sick children Counselled caregivers on the key messages during GMP, nutritional screening, immunisation etc.	Awareness creation of pneumonia and diarrhoea using different channels	MoH, RHBs, WoHO, ZHO, HWs, HEWs, VHLs, media and partners
Caregivers' perception that a child is only severely ill when the child is unable to eat or breastfeed	Key messages have been developed on when to seek medical care for sick children	Awareness creation of common childhood illnesses including pneumonia and diarrhoea using different channels	MoH, RHBs, WoHO, ZHO, HWs, HEWs, VHLs, media and partners

Identified gaps	Existing efforts	Recommended action	Responsibility
	Counselled caregivers on the key messages during GMP, nutritional screening, immunisation etc.		
Preference for traditional healers or home remedies	Key messages have been developed on where to seek medical care for sick children Counselled caregivers on the key message during GMP, nutritional screening, immunisation etc.	Community dialogue and community mobilisation	MoH, RHBs, WoHO, ZHO, HWs, HEWs, VHLs, media and partners
Low recognition of pneumonia and diarrhoea as serious childhood illnesses	Media messages during pneumonia day	Awareness creation of the risks associated with common childhood illnesses	MoH, RHBs, WoHO, ZHO, HWs, HEWs, VHLs, media and partners
Low awareness of ICMNCI services	HP open house	Awareness creation of service availability	MoH, RHBs, WoHO, ZHO, media and partners
Perceived poor quality of service by caregivers	Improved training of HEWs and supportive supervision	Training and supervision at all levels	MoH, RHBs, WoHO, ZHO and partners
Low immunisation coverage	EPI catch up strategy and the national zero dose strategy	Improve accessibility, improve service quality, conduct community dialogue and community mobilisation	MoH, RHBs, WoHO, ZHO and partners
High vaccination dropout rate	Facility and outreach services	Improve EPI service quality including promotion through community dialogue, community mobilisation, defaulter tracing, increased outreach, improved data collection and supply chain analysis and support	HWs, HEWs, VHLs, health facilities, WoHO and ZHO
Supply related			
Shortage of essential commodities and equipment at service delivery points	Annual quantification exercise and procurement of supplies	Quantify essential supplies, medicine and logistics	MoH, Pharmaceutical Medical Equipment Directorate (PMED), MCHND, RHBs, zonal health departments (ZHDs), WoHO, health facilities and partners

Identified gaps	Existing efforts	Recommended action	Responsibility
No pulse oximeters at service delivery points	Some HCs started purchasing pulse oximeters	Purchase and distribute pulse oximeters to all HCs and HPs to correctly identify pneumonia cases and maintain non-functional pulse oximeters	MoH, PMED, MCHND, RHBs, ZHDs, WoHO, health facilities and partners
No medical oxygen at service delivery points	Limited medical oxygen distributed by MoH and partners	Map oxygen services, utilise medical oxygen for selected high-load pneumonia cases, maintain non-functional oxygen concentrators and cylinders, train key staff on maintenance, and provide SOPs and monitoring support for correct use Promote health facilities to procure medical oxygen from their internal revenue budget Monitor use in neonatal care Research oxygen need and oxygen regulatory systems for neonatal care	MoH, RHBs, PMED, MCHND, ZHDs, WoHO, health facilities and partners
Inadequate cold-chain infrastructure	Inventory of cold-chain equipment, maintenance of equipment and HW training	Map purchase and use of cold-chain equipment and the maintenance of equipment HW training resource mobilisation	MoH, RHBs, WoHO and ZHO and partners
Capacity related			
Inadequate training of HEWs and HWs	IMNCI and ICMNCI training have been conducted but not adequately	Resource mobilisation and cascade Provide IMNCI/ICMNCI training and capacity building to HWs and HEWs based on need	MoH, RHBs, MCHND, ZHDs, WoHO, health facilities and partners
Weak supportive supervision	Existing inadequate (irregular, not comprehensive or problem solving) supervision system	Conduct regular supportive supervision at all levels Train and support supervisors, and provide increased digital health support tools	MoH, RHBs, MCHND, ZHDs, WoHO, health facilities and partners

Identified gaps	Existing efforts	Recommended action	Responsibility
Sub-optimal quality management of childhood illness	Training of HWs and supervision to improve quality	Improve service quality provided at all levels through training and supervision, access to resources and improved supply systems	MoH, RHBs, WoHO, ZHO, health facilities and partners
Weak pre-service training of IMNCI and ICMNCI at teaching institutions	Tutor training started	Strengthen pre-service training	MoH, RHBs, MCHND, teaching institutions and partners
No IMNCI preservice training at private teaching institutions	No efforts	Initiate pre-service training at private teaching institution	MoH, RHBs, MCHND, professional associations and partners
No public-private partnerships (PPP) with private health facilities	No efforts	Establish PPP at federal, regional, zonal and *woreda* levels to harmonise standardised IMNCI service provision at private facilities	MoH, RHBs, MCHND, regulatory department, ZHDs, WoHOs and partners
Erratic child health treatment at private health facilities		Harmonise IMNCI treatment protocol at private health facilities	MoH, RHBs, MCHND, regulatory department, ZHDs, WoHOs and partners
Governance related			
Uneven distribution of health resources		Equitable resource allocation and distribution	MoH, RHBs, ZHDs and partners
Closure of HPs during working hours	Additional deployment of HEWs	Reinforce the commitment of HEWs, encourage accountability at all levels, and improve leadership and governance	MoH, RHBs, ZHDs, WoHOs, regional governments, zone, *woreda* and *kebele* administration
Poor physical structure and dismantled HPs	Renovation	Maintain HPs, encourage accountability at all levels, and improve leadership and governance	MoH, RHBs, ZHDs, WoHOs, regional governments, zone, *woreda* and *kebele* administration, and partners
High staff turnover	Replacement staff	Capacitate care providers on the identified gaps and close the gaps	MoH, RHBs and ZHO
Urban-rural differences	Expansion of health services	Reach majority of population segments with proven intervention and close the gap	MoH, RHBs and ZHO

Identified gaps	Existing efforts	Recommended action	Responsibility
Regional differences	Attention has been given for pastoralists e.g. ICMNCI contextualisation	Reach marginalised and disadvantaged community groups through equity health services Contextualise regional differences based on evidence	MoH, RHBs and regional governments
Weak multi-sectoral collaborations	Multi-sectoral collaboration started for nutrition	Strengthen multi-sectoral collaboration for other child health areas	MoH, RHB and TWGs
Inadequate government budget allocation	Treasury and Sustainable Development Goal (SDG) budget allocation	Adequate treasury and SDG budget allocation and domestic resource mobilisation	MoH, regional governments and partners
Inadequate staffing at w*oreda* level for newborn and child health programmes	Performing newborn and child health task as an additional task	Recruiting newborn and child health specific experts through government structures	MoH, RHB and ZHD
Monitoring and evaluation			
Lack of integration of pneumonia and diarrhoea indicators into the scorecard data	Identified indicators to include in the scorecard	Integrate pneumonia and diarrhoea indicators into RMNCAH+N score card	MoH, RHB and partners
Lack of adequate evidence of referral acceptance for pneumonia and diarrhoea, and facility level uptake of pneumonia and diarrhoea commodities, etc	Use other countries with similar context data	Generate country specific data on referral acceptance and commodity uptake on pneumonia and diarrhoea	MoH, RHB and partners
Lack of adequate incidence estimates for pneumonia and diarrhoea	Use other countries with similar context data	Generate country specific data on incidence of pneumonia and diarrhoea	MoH, RHB and partners

6 Stakeholder analysis

The pneumonia and diarrhoea control system involves a complex landscape of actors. A sustainable and long-term reduction in newborn and child mortality depends on harmonised, complementary actions at different levels by all key stakeholders. The health sector cannot address all underlying determinants of newborn and child mortality alone and the coordinated participation of other sectors and stakeholders is also needed.[3],[7],[12] Understanding their needs is crucial to the success of the Action Plan. Table 02 shows the key stakeholders indicated in the National Newborn and Child Health Development Strategy whose needs and interests should be taken into consideration during the implementation of the Action Plan and other child health-related programme implementation. Specific partners and their existing areas of support can be found in Appendix 02.

Table 02: Stakeholder analysis of the anticipated support in implementing the Action Plan

Stakeholders*	Behaviour we desire	Stakeholder needs	Resistance issues	Institutional response
Community	• Participation • Engagement • Ownership • Service utilisation • Healthy lifestyle	• Access to health information and service • Empowerment • Quality of healthcare	• Dissatisfaction • Underutilisation	• Community mobilisation • Ensure participation quality and equitable services and information
Civil servants (including HWs, HEWs and admin staff)	• Commitment • Participation CPD • Compassionate, respectful and caring of those they support	• Conducive environment • Transparency incentive	• Dissatisfaction • Unproductive • Attrition	• Motivation involvement
Health professional training institutes and professional associations	• Knowledgeable, skilled and ethical, trained health professionals • Participation in licensing and accreditation	• Technical • Policy support • Guidance	• Curriculum revision • Withdrawal	• Policy and leadership • Advocacy • Capacity building

	• Promote professional code of conduct			
Development partners (including NGOs and CSOs)	• Harmonised and aligned participation • More financing, resource mobilisation and technical support	• Involvement in planning, implementation and M&E • Accountable and transparent financial system	• Fragmentation • High transaction cost inefficiencies	• Transparency • Efficient resource use • Build financial management capacity • Advocacy
Line ministries (inter-sectoral collaboration)	• Inter-sectoral collaboration • Consider health in all policies and strategies	• Evidence-based plans and reports • Effective and efficient use of resources • Coordination of technical support	• Fragmentation • Dissatisfaction • Considering health as a low priority	• Collaboration • Transparency • Advocacy
Parliament, Prime Minister's office, Council of Ministers, regional governments	• Ratification of policies, proclamations and resource allocation	• Implementation of proclamations, policies etc. • Equity and quality plans and reports	• Administrative measures • Organisational restructuring • Influence on budget allocation	• Strong M&E system • Comprehensive capacity-building mechanisms

*HW = health worker; HEW = health extension worker; CPD = continued professional development; NGO = non-governmental organisation; CSO = civil society organisation; M&E = monitoring and evaluation.

Source: Adapted from the Nigerian Federal Ministry of Health. National Integrated Pneumonia Control Strategy & Implementation Plan August, 2019[15]

7 Strategic directions

The Action Plan has been developed in line with the vision, mission, goals and strategic objectives of the current National Newborn and Child Development Strategy. It identifies key intervention areas, timeframes and resources needed to attain the goals of the National Newborn and Child Development Strategy. Please refer to the National Newborn and Child Development Strategy 2021-2025 to review the full details of the strategic direction of the document.[7] The Action Plan identifies key strategic objectives and recommendations to enhance the implementation of the strategy. These objectives are as follows:

1. Improve equitable access and utilisation of pneumonia and diarrhoea control services
2. Improve the quality of pneumonia and diarrhoea control services
3. Ensure continuous availability of essential child health commodities
4. Improve regular monitoring and evaluation of child health programmes.

7.1 Strategic objective, recommendation and activity

7.1.1 Objective 1: Improve equitable access and utilisation of pneumonia and diarrhoea control services

Strategic recommendations:

- Strengthen pneumonia and diarrhoea control interventions within facility- and community-based care, IMNCI and ICMNCI
- Integrate pneumonia and diarrhoea control activities in mobile health
- Ensure continuous service availability at HPs/minimise closer of HPs
- Improve caregiver awareness and change behaviour to better prevent, recognise and seek care for pneumonia and diarrhoea
- Improve advocacy and social mobilisation at different levels
- Ensure dissemination and implementation of the Action Plan and other pneumonia-related policies at the national and regional level
- Improve programme ownership at all levels
- Engage private sector service providers and civil society organisations (CSOs)
- Strengthening leadership and good governance.

Table 03 below outlines the key strategic recommendations for Objective 1 and the corresponding activities as set out by the Action Plan.

Table 03: Overview of the strategy and activity for Objective 1

Key strategies and activities	Target	Frequency	Responsible	Remark
a. Strengthen pneumonia and diarrhoea control interventions through facility- and community-based care, IMNCI and ICMNCI				
Provide RHB, ZHD and Technical and Vocational Education Training (TVET) trainers with the revised ICMNCI and IMNCI training materials	321	Once	MoH, RHBs	All trainings in this manual are need based and the target may vary
Pre-deployment/gap filling training for new HEWs on the revised ICMNCI training	5,000	Continuous until year 3	RHBs, TVETs, ZHDs, WoHO	MoH and partners support training process and ensure quality
A three-day training at HCs and for primary hospital HWs on the revised IMNCI and ICMNCI training	7,600	Once	MoH, RHBs	Completed by end of year 1
IMNCI training for HC HWs who have not been IMNCI trained, including supervisory skill training	1,582	Annually	MoH, RHBs, zones, partners	Two HWs per HC not providing IMNCI and as per protocol
Train HWs on IMNCI to address issues of attrition gap filling training including supervisory skill training	388	Annually	MoH, RHBs, zones, partners	Considering 5% attrition rate starting from year 2
Train HWs on immunisation in practice	388	Annually	MoH, RHBs, zones, partners	
Train HWs on SAM management	388	Annually	MoH, RHBs, zones, partners	
Conducting post training follow up at HCs	985 HCs	Annually	MoH, RHBs, zones, partners	985 HCs addressed in year 1 and the remaining HCs addressed in the consecutive years
b. Strengthen pneumonia and diarrhoea control interventions through community-based care, ICMNCI				
Train HEWs on ICMNCI	5,758	Annually	MoH, RHBs, zones, partners	Two HEWs per HP not providing ICMNCI and as per protocol
Train HEWs on ICMNCI to address issues of attrition	1,719	Annually	MoH, RHBs, zones, partners	Considering 5% attrition rate starting from the 2nd year
Train HEWs on integrated refresher training and Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH+N) programmes	2,100	Annually	MoH, RHBs, zones, partners	
Conduct post training follow up at HPs	3,008 HPs	Annually	MoH, RHBs, zones, partners	3,008 HPs addressed in year 1 and the remaining HCs addressed in the consecutive years
c. Integrate pneumonia and diarrhoea control activities in mobile health				
Integrate pneumonia and diarrhoea control activity in the mobile health service being implemented in pastoralist regions	4	Once	MoH, RHBs, Zones, partners	Once in each region
d. Ensure continuous service availability at HPs/minimise closer of HPs				
Identify the maximum dates between two consecutive cases of ICMNCI during performance review and clinical mentoring meetings (PRCMM)	18,129	Quarterly	HEWs, PHCUs, WoHOs	

Key strategies and activities	Target	Frequency	Responsible	Remark
Provide feedback based on maximum dates identified	18,129	Quarterly	HEWs, PHCUs, WoHOs	
Regularly monitor the improvement during the next PRCMM	18,129	Quarterly	HEWs, PHCUs, WoHOs	
e. Improve caregiver awareness and change behaviour to better prevent, recognise and seek care for pneumonia and diarrhoea				
Orientate HEWs on the community dialogue on infection prevention and control, community mobilisation and effectively working with VHLs and PHCUs as a team	42,336 HEWs	Once	RHB, PHCUs, partners	
Orientate VHLs in community dialogue on pneumonia and diarrhoea key messaging including barriers and their mitigation for early health seeking for sick children	343,780	Annually	HEWs, PHCUs, WoHOs	Supported by HCs and WoHOs
One-day advocacy and sensitisation workshop on care seeking and availability of services (one per *kebele*)	18,129	Quarterly		PHCUs
Half-day community dialogues on pneumonia and diarrhoea control interventions within the *kebele* (3 session per *kebele*)	54,387	Quarterly	HEWs/VHL	Supported by HCs
One-day orientation of agricultural extension agents (AEAs) to integrate community mobilisation activities with their daily deliverance	18,129 AEAs	Biannual	HEWs/VHL, HCs	
Support pregnant women forums and incorporate newborn and child health issues in the forums (danger sign in newborn)	18,129 forums	Monthly	PHCUs	Existing forums strengthened and supported
Identify and update relevant health promotion information, education and communication (IEC) materials related to pneumonia and diarrhoea	NA	Once	Child survival technical working group (CSTWG)	Year 1
Endorse the revised or updated pneumonia and diarrhoea control IEC	NA	Once	CSTWG	Year 1
Quantify and print IEC materials	NA	Once	CSTWG	Year 1
Identify appropriate messaging distribution channels to distribute IEC materials to regions for further tailoring and dissemination	NA	Annually	CSTWG	
Map schools for school health programmes to inform distribution of key messages	NA	Quarterly	PHCUs, CSTWG	Primary schools are the target
Design and integrate newborn and child health programmes within identified school health programmes	NA	Once	CSTWG	
Distribute IEC materials (key messages) to primary schools (at least one primary school per *kebele*)	18,129 primary schools	Annually	CSTWG, WoHOs, partners	
Transmit pneumonia and diarrhoea related key messages through radio and 952 hotline and safari com in different local languages	NA	Quarterly	MoH, RHB	
Conduct media dialogue (TV or radio) on IMNCI intervention	4	Quarterly	MoH, RHB	
Establish a billboard in zonal capital cities	1 per zone	Annually	ZHDs, RHBs	
Establish billboards in regional capital cities	5 per region	Annually	MoH, RHBs	
Prepare posters customised to the local language	8,5945	Annually	MoH, RHBs	5 posters per *kebele*
f. Improve advocacy and social mobilisation at different levels				

Key strategies and activities	Target	Frequency	Responsible	Remark
Conduct advocacy and social mobilisation at national level	1	Annually	MoH, partners	
Conduct advocacy and social mobilisation at regional level	13	Annually	MoH, RHBs, partners	1 per region
Conduct advocacy and social mobilisation at zonal level	116	Annually	RHBs, zones, partners	1 per zone
Conduct advocacy and social mobilisation at *woreda* level	1,054	Annually	Zones, WoHO, partners	1 per *woreda*
Conduct advocacy and social mobilisation at PHCU level	3,873	Biannually	WoHO, PHCUs, partners	1 per PHCU
Appoint one national champion (one person)	1 national champion	Annually	MoH, partners	
Appoint one national champion per region	13 national champions	Annually	MoH, RHBs, partners	1 per region
Conduct media professional training	100	Annually	MoH, partners	
Carry out media campaign using different forms of media	NA	Annually	MoH, partners	
g. Ensure dissemination and implementation of the Action Plan and other pneumonia-related policies at the national and regional level				
Disseminate the Action Plan and other pneumonia and diarrhoea related policies to regions and stakeholders	NA	Once	MoH, partners	Year 1
Provide technical support to disseminate the Action Plan and other pneumonia and diarrhoea related policies at regional, zonal and *woreda* level	NA	Once	MoH, partners	Year 1
h. Improve programme ownership at all levels				
Conduct workshop on programme ownership for RHB, ZHD and WoHO	4,732	Once	MoH, partners	Provide orientation on how to create programme ownership for 4 participants per level
Ensure pneumonia and diarrhoea control is integrated within monthly, quarterly and yearly RMNCAH+N performance review meetings	NA	Quarterly	MoH, RHBs, zones, WoHO, PHCUs, partners	
Coordinate with the Ministry of Education, Environment, Women Affairs, Agriculture and Rural Development, Water, and Information by ensuring all ministries are members of the CSTWG and a representative from each attends every CSTWG meeting	NA	Quarterly	MoH, CSTWG	
Share lessons across regions on what is working and what is not via CSTWG meetings	NA	Quarterly	MoH, CSTWG	
i. Engage private sector, medium clinic service providers and civil society organisations (private sectors medium clinics are expected to implement IMNCI)				
Map health professional associations in the country	NA	Annually	MoH, partners	
Conduct workshops with professional associations on the Action Plan	NA	Annually	MoH, partners	
Disseminate the Action Plan for professional associations	NA	Annually	MoH, partners	
Engage private sector, civil society and faith-based organisations to raise awareness about pneumonia and diarrhoea burden, gaps in funding and activities, and key	NA	Annually	MoH, partners	

Key strategies and activities	Target	Frequency	Responsible	Remark
interventions (e.g., protection through vaccines, early recognition of symptoms) via meetings and conferences to encourage stronger advocacy				
Enumerate a list of policies relevant to pneumonia and diarrhoea control across the health and other sectors	NA	Annually	MoH, partners	
Engage regions with the largest implementation gaps to encourage dissemination and implementation of the latest policies and guidelines related to pneumonia and diarrhoea	NA	Annually	MoH, partners	
Hire technical assistants (TAs) at national and regional level for at least one year to help implement the strategy, track progress and work with partners to integrate and amplify pneumonia control within their work	15 TAs	Annually	MoH, RHB, partners	For 3 years

7.1.2 Objective 2: Improve quality of pneumonia and diarrhoea control services

Strategic recommendations:

- Review, print and distribute guidelines and SOPs such as an IMNCI and ICMNCI chart booklets, family health guides and portable registration documentation
- Strengthen performance review and clinical mentoring meetings (PRCMM)
- Document and scale up localised, best-quality-improvement (QI) practices
- Strengthen referral linkage
- Use innovations and technology for QI such as eCHIS, pulse oximetry and other evidence-based tools
- Explore community experience on the quality of care being given at HCs and HPs.

Table 04 below outlines the key strategic recommendations for Objective 2 and the corresponding activities as set out by the Action Plan.

Table 04: Overview of the strategy and activity for Objective 2

Key strategy and activity	Target	Frequency	Responsible	Remark
a. Review guidelines and stand operating procedures (SOPs)				
Regular revision of case management protocols for HPs, HCs and primary hospitals	Once	Every 5 years	CSTWG	Will be based on emerging evidence and feasibility
Revision and refining of IMNCI and ICMNCI programme specific checklist to include issues related with pneumonia and diarrhoea	Once	Every 5 years	CSTWG	
b. Print and distribute guidelines and SOPs				
Map health professional teaching institution support to incorporate IMNCI in their curriculum for pre-service training	NA	Annually	MoH/RHB	
Quantify, print and distribute IMNCI training materials for teaching institutions	35 teaching institutes	Annually	MoH	MoH to print and distribute
Print updated IMNCI and ICMNCI chart booklets and distribute to HCs and HPs	25,000	Every two years	MoH/RHB, partners	
Quantify the need for IMNCI and ICMNCI registration books and print and distribute to HCs and HPs	25,000	Every two years	MoH/RHB, partners	
Quantify, print and distribute speaking books	25,000	Once	MoH/RHB, partners	
Development of HEW-guide and job aid to facilitate community dialogue and meetings	NA	Once	MoH, RHBs, CSTWG	This will be a very simplified guide
Print a portable register copy for HPs to be used during house-to-house case management	NA	Once	MoH/RHB, partners	All the actions will be executed at *woreda* and PHCU levels
c. Strengthen performance review and clinical mentor meeting (PRCMM)				
Conduct PHCU level PRCMM	3,873	Monthly	PHCUs, HPs	All PHCUs will conduct PRCMM

Key strategy and activity	Target	Frequency	Responsible	Remark
d. Document and scale up localised best quality-improvement (QI) practices				
Introduce an IMNCI and ICMNCI related QI project	13	Annually	RHBs/MoH	
Learn from the process of the QI project	13	Annually	RHBs/MoH	
Document IMNCI and ICMNCI best practices	13	Annually	RHBs/MoH	
Scale up documented IMNCI and ICMNCI best practices	13	Annually	RHBs/MoH	
e. Strengthen referral linkage				
Develop referral cards with brief patient information to improve referrals among health facilities	Once	Every 2 years	MoH, RHB, partners, CSTWG	
Print and distribute referral sheets (1 pad per HPs/voucher cards)	18,129	Every 2 years	MoH, RHB, partners	
f. Use innovations and technology for QI such as eCHIS, pulse oximetery and other evidence-based tools				
Scale up eCHIS to all HPs	25% of HPs	Annually	MoH and RHBS	Supported by PMED
Introduce pulse oximeters to all HCs	3,873 HCs	Annually	MoH and RHBS	
Introduce pulse oximeters to all comprehensive HPs	2,000 HPs	Annually	MoH and RHB	
Select priority hospitals per region to improve medical oxygen deliveries for hypoxemia management and equipment	13	Annually	RHBs/MoH	Supported by PMED
g. Community experience on quality of care being given at HCs and HPs				
Bi-annual community-PHCU meeting to explore the quality-of-care issues and set up contextual quality improvement actions at PHCU level	3,873 meetings	Bi-annual/ quarterly	PHCUs, WoHOs, TAs	

7.1.3 Objective 3: Ensure continuous availability of essential child health commodities

Strategic recommendations:

- Forecast and procure essential drugs and supplies
- Mobilise financial resources across multiple sectors to support pneumonia control efforts
- Support local manufacturing of amoxicillin dispersible tablets (DT), zinc and ORS and increase availability across all public points of care
- Strengthen the distribution of drugs and vaccines to last-mile communities
- Strengthen the supply of pulse oximeters, oxygen and related products at facilities
- Drive increased availability and affordability of clean cooking fuels via government and private sector engagement
- Strengthen the supply of sanitation materials at the community level
- Ensure supportive supervision inclusive of child health commodities.

Table 05 below outlines the key strategic recommendations for Objective 3 and the corresponding activities as set out by the Action Plan.

Table 05: Overview of the strategy and activity for Objective 3

Key strategy and activity	Target	Frequency	Responsible	Remark
a. Forecast and procure essential drugs and supplies				
Quantify and cost IMNCI/ICMNCI supplies using updated estimates	Annually	Bi-annually	CSTWG, Ethiopian Pharmaceutical Supply Agency (EPSA), integrated pharmaceutical logistics management system (IPLS) task force	
Regular quantification, packaging, transportation and distribution of IMNC/ICMNCI commodities from the national hub to regional hubs and down to PHCUs	3,873 HCs 18,129 HPs	Every 2 months through RRF	CSTWG, IPLS task force, EPSA, RHBs, ZHDs, WoHOs, PHCUs	All the processes are fully integrated with and follow through the existing IPLS channel
Purchase amoxicillin DT, ORS, zinc and cipro floxacillin via pooling orders from all health facilities in catchment areas and stocking them in WoHO stores	NA	Bi-annually	EPSA/MoH	
Train new HEW-graduates on IPLS and supply chain management	5,000 HEWs	Annually	CSTWG, partners, RHBs, TVETs	All new HEW graduates

Key strategy and activity	Target	Frequency	Responsible	Remark
Initiate IPLS preservice education in all higher education institutions	33 higher education institutions	Annually	MoH, RHB	
Orientation of existing HEWs on IPLS and supply chain management	42,336 HEWs	Annually	PHCUs, WoHOs, CSTWG, partners	Integrate with PRMs
b. Mobilise financial resources across multiple sectors to support pneumonia control efforts				
Integrate pneumonia and diarrhoea control activities into memorandum of understanding (MOU) agreements between regions and partners	NA	Annually	MoH	
Actively coordinate with platform resources focused on newborn and child health (e.g., GAVI Health Systems Strengthening) to ensure high-priority pneumonia and diarrhoea control activities receive adequate funding	NA	Quarterly	MoH	
Develop a concise investment case with the health, economic and political benefits for pneumonia and diarrhoea control by organising meetings	NA	Annually	MoH	
Present the investment case to the house of representatives for approval	NA	Annually	MoH	
Engage private sector and philanthropic actors who may be interested in supporting pneumonia and diarrhoea control	NA	Annually	MoH	
c. Support local manufacturing of amoxicillin DT, zinc and ORS and increase availability across all public points of care				
Identify local manufacturers which have potential to produce essential supplies in the country	NA	Annually	MoH, partners	
Conduct one consensus agreement workshop with all local manufacturers	NA	Annually	MoH, partners	
Support local manufacturers to avail essential supplies	NA	Annually	MoH, RHB, partners	Throughout the project implementation
d. Strengthen the distribution of drugs and vaccines to last-mile communities				
Continue to strengthen vaccine supply by reinforcing the reach every child strategy to address supply chain and logistics challenges and regularly follow up on progress	NA	Annually	MoH/EPSA	Throughout the project implementation
Adequate inclusion of IPLS and supply chain management on PHCU and *woreda* based integrated programme review meetings (IPRMs)	NA	Quarterly	CSTWG, RHB/ZHD TAs, WoHO, PHCUs	
Train PHCU and WoHO personnel on IPLS, supply chain management and supportive supervision skills	8,800 PHCU and WoHO personnel	Once	CSTWG, RHB/ZHD, partners	2 HWs per HC and 1 WoHO
Ensure regular updating of bin cards by all HPs by including supportive supervision and review meetings (RMs)	18,129 HPs	Monthly	PHCUs, WoHOs, partners	
Regular requests for ICMNCI/IMNCI supplies and drugs and stock data compilation and reporting	18,129 HPs 3873 HCs	Quarterly	PHCUs, WoHOs, partners	
Establish stock monitoring and accountability mechanism at HCs and HPs	18,129 HPs 3,873 HCs	Monthly	*Kebele* command posts, PHCUs, WoHOs, ZHD, RHB	Stock balance analysis will be done against utilisation level every month through the supportive supervisions

Key strategy and activity	Target	Frequency	Responsible	Remark
Encourage regional governments to create adequate cold-chain storage facilities to improve the supply and distribution of vaccines	13 regions	Annually	MoH/EPSA	
e. Strengthen the supply of pulse oximeters, oxygen and related products at facilities				
Estimate the number of facilities that need pulse oximeters and medical oxygen	NA	Annually	MoH, partners	Supported by PMED
f. Drive increased availability and affordability of clean cooking fuels via government and private sector engagement				
Work with the energy minister to estimate clean cooking fuel needs	NA	Quarterly	MoH, partners	Throughout the project implementation
g. Strengthen the supply of sanitation materials at the community level				
Work with water, sanitation and hygiene (WaSH) experts to estimate sanitation materials needed at community level	NA	Quarterly	MoH, partners	Throughout the project implementation
h. Ensure supportive supervision inclusive of child health commodities				
Supportive supervision to HPs for supply chain management	18,129 HPs	Quarterly	PHCUs, primary hospitals, WoHOs, partners	To be integrated with existing programme-specific supervisions and integrated supportive supervision (ISS). The checklists will be revised to adequately address IPLS and supply chain management

7.1.4 Objective 4: Improve regular monitoring and evaluation of child health programmes

Strategic recommendations:

- Conduct regular supportive supervision at all levels
- Conduct regular programme review meetings (PRMs) at all levels
- Strengthen the aspects of data collection, analysis and use that are most critical for pneumonia and diarrhoea relevant indicators at service delivery level to ensure accurate data
- Promote operational research on priority areas identified during implementation.

Table 06 below outlines the key strategic recommendations for Objective 4 and the corresponding activities as set out by the Action Plan.

Table 06: Overview of the strategy and activity for Objective 4

Key strategy and activity	Target	Frequency	Responsible	Remark
a. Conduct regular supportive supervision				
Programme specific supportive supervision to PHCUs	25% of PHCUs	Quarterly	WoHOs, ZHD TAs, PHCUs, partners	25% of PHCUs supervised by WoHOs
Conduct quarterly national newborn and child health technical working group meetings	36	Quarterly	MoH and partners	
Conduct quarterly regional technical working group meetings	36	Quarterly	RHB and partners	
Programme specific supportive supervision to HPs	1,8129 HPs	Quarterly	PHCUs	25% of the visits supported by WoHOs
Review the newborn and child health sections of the ISS	NA	Once	CSTWG, MCHND, Policy and Planning Directorate (PPD)	
Monthly ISS visit to HPs	18,129 HPs	Monthly	HCs, WoHOs	
Quarterly ISS to PHCUs	3,873 PHCUs	Quarterly	WoHOs, ZHD TAs	WoHOs conduct the ISS
Zonal/regional joint monitoring visit (JMV) sessions to PHCUs and WoHOs/zones	4	Quarterly	RHB/ZHD TAs, partners	
National JMV sessions to regions, zones, WoHOs and PHCUs	2	Bi-Annual	MoH/CSTWG	PHCUs selected from zones
b. Conduct regular programme review meetings (PRMs)				
PHCU level PRMs	3,873 PHCUs	Quarterly	PHCUs, WoHOs, ZHD TAs	All PHCUs conduct PRMs
Woreda level PRMs	1,054 *woredas*	Quarterly	WoHOs, ZHD/RHB TAs, partners	All *woredas* conduct PRMs

Key strategy and activity	Target	Frequency	Responsible	Remark
Zonal level PRMs	116 zones	Quarterly	ZHD/RHB TAs, WoHOs, partners	All zones conduct PRMs
Regional level PRMs	13 regions	Bi-Annually	RHB, ZHD, partners, CSTWG	All regions
National level PRMs	1	Annually	MoH/CSTWG	
c. Strengthen aspects of data collection, analysis and use most critical for pneumonia and diarrhoea relevant indicators at service delivery level to have accurate data				
Develop and disseminate quality of care indicator dashboards to drive quality improvement and track quality of care and service delivery for key childhood illnesses	1	Annually	MoH	
Include pneumonia, diarrhoea and SAM treatment indicators as part of performance evaluation indicators for HP, HCs and *woredas*	All facilities	Annually	MoH	
Include pneumonia and diarrhoea related indicators in the reproductive, maternal, neonatal and child health score card and monitor the performance on a monthly base	All levels	Monthly	MoH, RHB, ZHDs, WHO, PHCUs	
Establish a motivation mechanism (including non-financial) with agreed evaluation indicators for good performing HPs, HCs and *woredas*	NA	Annually	MoH	
Include detailed data on pneumonia and diarrhoea in surveys such as EDHS and STA		Every 2 to 5 years	MoH	
Regular compilation, analysis and use of supportive supervision data	3,873 PHCUs	Quarterly	PHCUs, WoHOs	PHCUs supported to use data for programme improvement
Train staff facilities to use District Health Information System (DHIS2) data to improve data quality and data use culture	3,873 HCs	Annually	PMED	
d. Promoting operational research				
Midterm programme evaluation	1		MoH, CSTWG, partners	Dependent on availability of resources
Programme implementation and operations research	1	Continuous	MoH, CSTWG, partners	Dependent on availability of resources

8 Strategic priorities and guiding principles

The Action Plan gives due consideration for the strategic priorities and guiding principles of the National Newborn and Child Survival Strategy. It advocates for the access and quality of low-cost, high-impact pneumonia and diarrhoea control interventions within an integrated management approach. Equity, quality, community empowerment, collaboration and partnership are key guiding principles of the implementation of IMNCI/ICMNCI interventions.

9 Implementation approaches of the Action Plan

The Action Plan is the implementation plan for pneumonia and diarrhoea through IMNCI to realise the National Newborn and Child Survival Strategy, taking into consideration the approaches outlined in the GAPPD. The Action Plan focuses on effective coverage of pneumonia and diarrhoea control interventions, equitable access between geographic locations and the use of services across zones and different sections of the community. The Action Plan proposes close monitoring of the implementation of identified interventions with frequent progress reviews. A programmatic approach should be employed to take corrective measures for identified implementation challenges at local or regional levels in a timely manner.

Pneumonia and diarrhoea control interventions will be integrated into the existing system. The relevant structures and arrangements (in particular at government level), as well as key roles and responsibilities are described below.

9.1 Governance and leadership

The existing governance structures at different levels of each sector should lead the planning, implementation, and monitoring and evaluation (M&E) of the identified interventions.

9.2 Public-private partnerships

Public-private partnership (PPP) aims to improve the engagement of the private sector in improving access and quality of services. Private-sector providers are required to use the national standards and guidelines for all aspects of care. The strategies that will be adopted should focus on building the capacity of private providers effectively engaged in PPPs, as well as inform how they deliver integrated pneumonia and diarrhoea control interventions.

9.3 Collaboration for implementation of the Action Plan

Inter-sectoral collaborations should be strengthened at different levels of the government system through formal government institutions (such as regional and *woreda* councils) and sectoral governance structures by practicing joint planning, implementation and M&E. Since the Action Plan is an integral part of other health sector strategies, there should be collaborative activities among different sectors, institutions and organisations during implementation.

9.4 Mobilisation and effective use of resources

There is a lack of adequate financial and human resource dedicated to child health programmes in the country. Funds mostly come from development partners and the sustainability and predictability of these funds is challenged by other competitive programmes and initiatives. Therefore, the government needs to secure public funding to child health programmes, specifically those addressed in the Action Plan, through effective mobilisation and commitment of sustainable regular funds to achieve the targets set out in the Action Plan. Steps have been taken by the government to mobilise resources including interventions such as the provision of a fee waiver for high-impact interventions through an exemptions programme; subsidisation of more than 80 percent of the cost of care in government health facilities; implementation of community-based health insurance schemes; and full subsidisation for the very poor through fee waivers for health services and community-based health insurance premiums. However, to support the implementation of the Action Plan and child health programmes, increased domestic funding and support must be made available by the government, alongside the continued financial commitment of partners working in the child health area.

9.5 Service delivery platforms

The calibre and scope of interventions for controlling pneumonia and diarrhoea in the context of integrated service delivery across the public and private points of care should be improved. Service delivery is connected to all interventions for pneumonia and diarrhoea diagnosis and treatment. It also refers to the promotion of ICMNCI, IMNCI, immunisation and nutrition interventions by HEWs and other health professionals.

Strengthen pneumonia and diarrhoea control interventions at health post level:

- Strengthen ICMNCI intervention to improve the quality of care at the community level
- Provide integrated training to HEWs on ICMNCI, nutrition and immunisation to provide holistic services at the community level
- Conduct task-specific supportive supervision at the HP level following agreed guidelines, competency assessment tools, and collecting and analysing performance data at facility, district and regional level
- Strengthen HC-HP linkage, ensuring regular meetings, joint data reviews and action plans
- Strengthen the referral system including discharge follow-up between HPs and HCs
- Analyse the drug and medical supply systems, identify weaknesses, adapt the system to ensure essential commodities and job aids at all locations, and monitor the availability of pulse oximeters, respiration counters and essential drugs
- Provide community mobilisation using the available community platforms, including but not limited to the Health Development Army and townhall meetings.

Strengthen pneumonia and diarrhoea control interventions at heath centre level:

- Conduct training for HWs on IMNCI, nutrition, immunisation, communication, data and supply management

- Conduct regular supportive supervision following agreed guidelines, competency assessment tools, and by collecting and analysing performance data at facility, district and regional level
- Reinforce integrated services within the health facility working across maternal and newborn health, child health, nutrition and EPI services
- Ensure diagnostic supplies, particularly pulse oximeters, are available in all facilities (purchased from the healthcare finance budget)
- Ensure access to oxygen systems in high demand HCs and ensure staff are trained to use these systems
- Avail and monitor essential supplies of amoxicillin DTs, ORS and zinc
- Improve the data utilisation system for the improvement of service quality and coverage (District Health Information System [DHIS2])
- Strengthen the referral system between HPs, HCs and PHCUs.

Strengthen pneumonia and diarrhoea control interventions at the *woreda* level:

- Conduct regular supportive supervision
- Reinforce integrated ICMNCI and IMNCI service delivery at all health facilities
- Avail and monitor essential supplies of amoxicillin DT, ORS and zinc
- Conduct regular review meetings to improve service quality and coverage
- Conduct regular data reviews that ensure data is used for the improvement of service quality and coverage
- Reinforce commitment and accountability at all levels to provide compassionate and respectful care for the community.

Strengthen pneumonia and diarrhoea control interventions at the zonal level:

- Ensure training and support for supervisors conducting health facility and community services
- Ensure access to supervision guidelines, job aids, hybrid reporting tools and the ability to collate, analyse and act on performance data at *woreda* and health facility level
- Reinforce integration of ICMNCI and IMNCI service delivery at all health facilities ensuring integrated health and nutrition services, integrated maternal, child and newborn services, and social and behaviour change (SBC) services all address the utilisation and equity of service access
- Avail and monitor essential supplies of amoxicillin DT, ORS and zinc
- Avail medical oxygen for high case load HCs and all hospitals ensuring a system for maintenance and staff training
- Conduct regular review meetings to improve service quality and coverage using DHIS2 and additional data for action
- Monitor data utilisation systems at all levels to improve service quality and coverage
- Work with partners to improve service quality against an agreed action plan and benchmarks based on nationally approved indicators
- Review activities and take corrective action for identified gaps.

Strengthen pneumonia and diarrhoea control interventions at the regional and federal level:

- Conduct regular supportive supervision to zones, *woredas* and health facilities
- Strengthen the link between IMNCI and ICMNCI services at all health facilities
- Avail essential supplies amoxicillin DT, ORS and zinc
- Avail medical oxygen for high case load HCs
- Conduct regular review meetings to improve service quality and coverage
- Monitor data utilisation systems at all levels of improvement of service quality and coverage including the introduction of digital health
- Work with partners to improve service quality
- Prepare updated curriculum training materials (manuals, chart booklets, videos, photo booklets and registration books) and job aids and oversee their rollout
- Strengthen multi-sectoral collaboration between water, sanitation and hygiene (WaSH), environmental control, nutrition and health services
- Support coordinated SBC strategies to support relevant prevention, control and advocacy activities
- Capacitate and monitor teaching institutions to include IMNCI and IMNCI training in their pre-service curriculum
- Include IMNCI on the centre of competency (COC) for graduate health professionals
- Include IMNCI in continued professional development (CPD)
- Conduct research on IMNCI and ICMNCI service quality and the prevalence of pneumonia and diarrhoea
- Utilise available research findings as input.

9.6 Engage private health facilities and medical teaching institutions in pneumonia and diarrhoea control interventions

Private teaching institutions:

- Strengthen PPPs to harmonise appropriate diagnosis and treatment protocols for the management of newborn and child illnesses as per the national algorithm
- Establish a relationship with professional associations private teaching institutions
- Map private medical teaching institutions, strengthen institutional links and support them to include ICMNCI and IMNCI training in the curriculum and strengthen capacity
- Include IMNCI in the COC for graduation students' accreditation.

Private health facilities (clinics, HCs and hospitals):

- Strengthen links with professional associations and private health facilities
- Provide technical support in availing essential diagnostic and treatment supplies, protocols and guidelines
- Facilitate capacity strengthening and supportive supervision of private health facilities to improve the quality of care
- Facilitate harmonisation with the MoH reporting system in private institutions through the provision of standards guidelines and DHIS2 tools

- Conduct supportive supervisory visits to monitor the quality of child health services
- Support and facilitate private health facilities to participate in immunisation services and campaigns.

9.7 Supply and distribution

Scale up the availability of essential drugs and medical products required for pneumonia and diarrhoea control intervention:

- Strengthen intrasectoral collaboration with the Pharmaceutical Medical Equipment Directorate (PMED) and other directorates
- Strengthen multisectoral collaboration with partners including private institutions
- Strengthen quantification and procurement of supplies
- Strengthen the regular distribution of commodities to health facilities
- Support local manufacturing of amoxicillin DTs and increase availability across public and private points of care
- Avail pulse oximeters, medical oxygen and other related products
- Track pulse oximeters and medical oxygen availability and functionality through the DHIS2 platform
- Strengthen the supply of clean cooking fuels and stoves at the community level.

10 Monitoring, evaluation and learning

Monitoring, evaluation and learning are critical activities that inform the entire project cycle from design through to implementation and back again, as they feed new and ongoing planning. A functional and comprehensive approach to M&E will be key requirements for the effectiveness of IMNCI/ICMNCI programmes. All pertinent input, process, output, outcome and impact indicators should be regularly tracked, collected, analysed and used for performance improvement and decision-making through various existing mechanisms.[3]

To implement effective M&E of the Action Plan, 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.

10.1 The Health Information Management System and District Health Information System

The Health Information Management System (HMIS)/DHIS2 should be used as the primary source to collect, analyse, interpret and utilise data for decision making on selected indicators to improve IMNCI/ICMNCI services:

- Under-five diarrhoeal treatment coverage
- Under-five pneumonia treatment coverage

- CMAM and SAM treatment outcomes
- Vitamin A and deworming supplementation
- Pentavalent, pneumococcal vaccine (PCV), meningococcal vaccine (MCV) and rotavirus vaccine coverage.

10.2 Regular supportive supervision and programme monitoring visits

Supportive supervision is a process of guiding, helping, training and encouraging staff to improve their performance in order to provide high-quality health services through the use of integrated supportive supervision tools. Supportive supervision visits should be used for programme monitoring purposes and quality of service provision. Currently, certain data cannot be obtained through HMIS and the programme performance picture and improvement will be incomplete unless of IMNCI/ICMNCI service quality is regularly monitored, improved and maintained. The prime aim of supportive supervision is to identify gaps in the IMNCI/ICMNCI service quality and performance and provide remedial action. Additionally supportive supervision and visits are needs to equip zonal, *woreda*, HC and HP staff with the necessary skills to improve service quality.

10.3 Performance review and clinical mentorship meetings

Performance review and clinical mentorship meetings (PRCMM) are a complementary activity to strengthen ICMNCI, capacitate HEWs and facilitate HEWs peer learning. This activity should be conducted at the *woreda*/PHCU-level through observation of the ICMNCI registers of HPs. This will improve service quality and performance at HPs and HCs.

10.4 Performance review meeting

Along with *woreda*/PHCU-based PRCMM, *woreda*-based integrated programme review meetings should also be held quarterly or biannually. During these meetings, programme data should be gathered, shared and used by all PHCUs and primary hospitals to evaluate performance and create action plans. Similarly, zonal level and regional health bureau (RHB) programme reviews will be held bi-annually as part of monitoring, evaluation and performance improvement. The national review meeting should be conducted annually to review the performance.

To achieve high levels of performance and maintain the results, the Action Plan requires the identification of targets and indicators, which should be tracked against the performance throughout the implementation period. This will need close coordination at all levels of the health system and with development partners to support data modernisation activities.

10.5 Research

To address the causes of morbidity and mortality in children under five a formative assessment on IMNCI implementation in Ethiopia, with special emphasis on pneumonia and diarrhoea case management was conducted.[13] The formative assessment findings demonstrated critical supply shortages (including

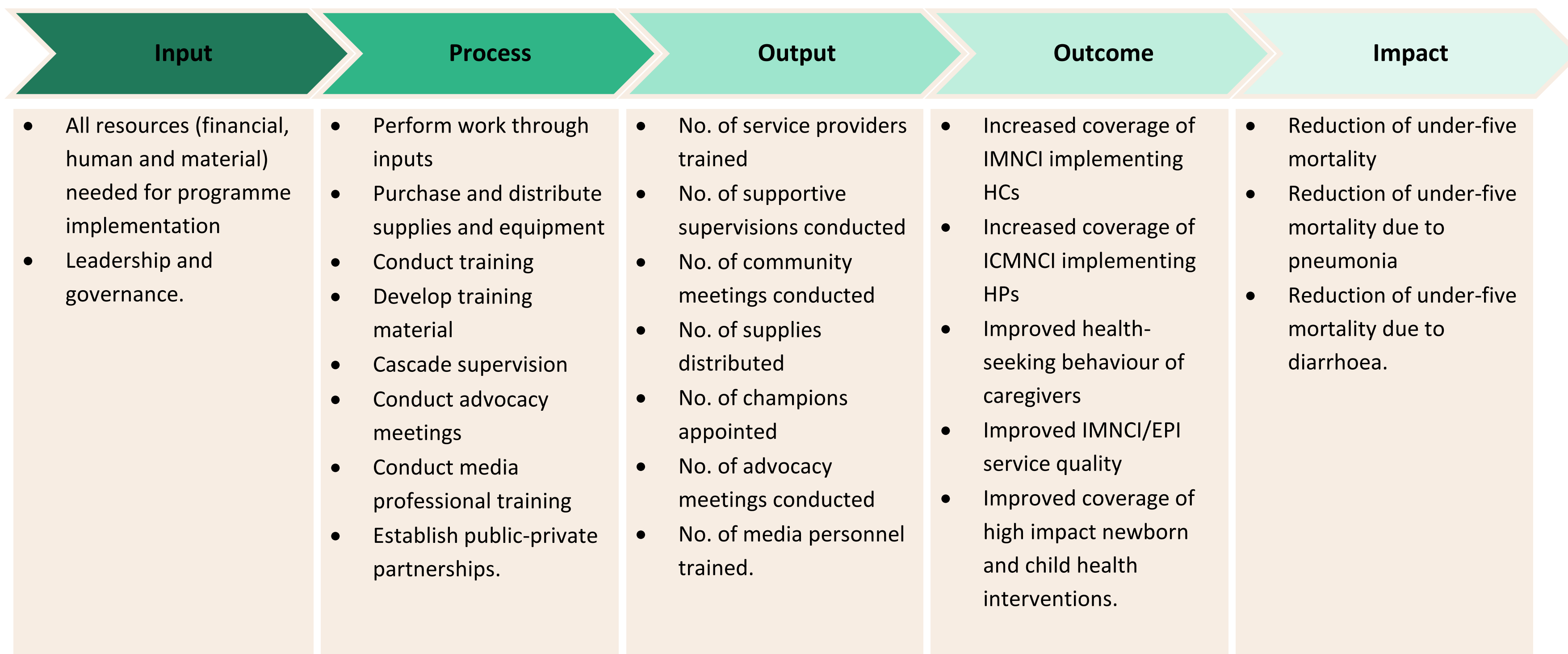
amoxicillin DT and zinc tablets), poor service quality with untrained healthcare providers, high turnover of HWs and HEWs, weak coaching and mentoring, closure of HPs and weak early referral pathways, were all cited as contributing factors to poor health services and increased under-five morbidity and mortality. From the demand side, the formative assessment revealed that low uptake of child health services, low awareness of the danger signs of childhood illness, delayed health-seeking behaviour, and delayed and weak adherence to treatment amongst caregivers were key factors. Additionally, declining budget support from partners, weak community mobilisation and ownership-related factors were bottlenecks to address child health problems.

The Action Plan does not include a specific research agenda, but associated stakeholders have recommended key areas of research and subsequent support. These include, but are not limited to, antibiotic resistance (particularly for amoxicillin as the first line treatment for pneumonia); pneumonia and diarrhoea prevalence; IMNCI and ICMNCI service quality; improved digital decision support tools; and oxygen need.

10.6 Monitoring and evaluation framework

The monitoring and evaluation of the implementation of the Action Plan will be guided by the monitoring and evaluation framework below (Figure 02). It illustrates the logical link between the inputs, outputs, outcomes and impacts of the health system. The framework includes domains for these respective levels. It also contains a summary of data sources, data management mechanisms (data analysis and synthesis), and communication and use.

Figure 02: Monitoring and evaluation framework



11 Implementation financing and costing

Successful implementation of the Action Plan needs efficient resource mobilisation at all levels. Moreover, securing these resources will require resource planning and mobilisation efforts to secure commitments from government and non-governmental actors. Given the Action Plan builds on existing efforts, the majority of the resources required are linked to integrated programming that already exists, such as routine immunisation, IMNCI and ICMNCI. Understanding these resource needs—many of which are ongoing implementation costs—and how to plan for them requires detailed, bottom-up costing at different levels. In addition, the Action Plan requires additional resources over specified years to execute catalytic activities that strengthen pneumonia and diarrhoea control interventions (Appendix 05).

Over the course of three years, the Action Plan will require a total of 2,747,474,360 birr. A significant portion of the budget (19 percent) will be used to purchase medications such as amoxicillin DT, zinc and ORS, while 17 percent will be used to train HEWs on ICMNCI, as well as conduct integrated refresher training on the Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH+N) module. *Woreda*-level quarterly review meetings, PHCU-level performance reviews and clinical mentorship programme strengthening will account for eight percent and seven percent of the total budget required, respectively.

The budget for this Action Plan (Appendix 05) was calculated by taking into account the current market rate for some goods and equipment, the government payment rate for daily allowance, as well as the market inflation rate for the future. Activity-based costing through a simple Excel sheet was used to calculate the budget needed. The cost of the medicines/drugs and some equipment was directly extracted from the MoH Annual Child Health Commodity Quantification Report.[21] The budget will be disbursed to each region based on their identified need and the utilisation for the intended purpose will be followed by the MoH.

Appendix

Appendix 01: List of Participants who attended the consultative workshop for the Action Plan to Improve the Control of Pneumonia and Diarrhoea Through the IMNCI Approach

Full name	Organisation
Mr. Meles Solomon	Ministry of Health
Mr. Yirdachew Semu	Ministry of Health/Malaria Consortium
Dr. Abeba Bekele	Children Investment Fund Foundation
Katie Madson	Bill and Melinda Gates Foundation
Dr. Lisanu Tadesse	HaSET
Mirafe Solomon	Save the Children
Dr. Tiliksew Bekele	Clinton Health Access Initiative
Endashaw W/Senbet	FHI-360
Dr. Tewodros W/Mariam	Ethiopian Paediatric Society
Dr. Abebe Negesso	Ministry of Health
Dr. Irrekhar Rashid	United States Agency for International Development
Lelisse Tadesse	Emory University
Abiy Seifu Estifanos	Addis Ababa School of Public Health
Dr. Tamiru Wondie	Project HOPE
Mrs. Sebelewongel Girma	Ministry of Health
Mrs.Tirist Grishaw	PATH
Dr. Zelalem Kebede	Malaria Consortium, Ethiopia
Elizabeth Berryman	Malaria Consortium, United Kingdom
Dr. Radhika Khanna Hexter	Malaria Consortium, United Kingdom
Dr. Agonafer Tekalegne	Malaria Consortium, Ethiopia

Appendix 02: Specific support of developmental partners on IMNCI/ICMNCI, immunisation and nutrition programmes

This appendix outlines the partners registered to support the child health programme in Ethiopia through the Resource Mobilisation Directorate of the MoH and their current or planned support in the area of newborn and child health, immunisation, hygiene and nutrition.

Name of partners	Relevant programmes they support	Type of support provided
Action Against Hunger	Immunisation and nutrition	Both technical and financial
Alive & Thrive	Nutrition	Both technical and financial
Amref	Immunisation and hygiene	Both technical and financial
Carter Center	Child health, immunisation and nutrition	Both technical and financial
Catholic Relief	Immunisation	Both technical and financial
Consortium of Christian Relief and Development	Immunisation	Both technical and financial
Clinton Health Access Initiative	Child health and immunisation	Both technical and financial
Children Investment Fund Foundation	Child health, immunisation and nutrition	Both technical and financial
Concerned Worldwide	Immunisation and nutrition	Both technical and financial
Doctors with Africa CUAMM	Child health	Both technical and financial
Digital Health Activity	Child health, immunisation and nutrition	Technical
The Ethiopia Data Use Partnership	Child health, immunisation and nutrition	Technical
Ethiopian Medical Association	Child health and immunisation	Technical
Ethiopian Pharmaceutical Supply Agency	Child health and immunisation	Technical
Gavi, the Vaccine Alliance	Child health and immunisation	Both technical and financial
Goal	Child health and immunisation	Both technical and financial
JSI	Child health, immunisation and nutrition	Both technical and financial
Malaria Consortium	Child health	Both technical and financial
Nutrition International	Newborn, child health and nutrition	Both technical and financial
PATH	Newborn, child health and immunisation	Both technical and financial

Name of partners	Relevant programmes they support	Type of support provided
Project HOPE	Immunisation	Both technical and financial
Policy Studies Institute	Immunisation and nutrition	Both technical and financial
Results for Development	Child health supply	Both technical and financial
Schistosomiasis Control Initiative	Child health, immunisation and nutrition	Both technical and financial
Saving Little Lives	Newborn and child health	Both technical and financial
United Nations Children's Fund	Child health, immunisation and nutrition	Both technical and financial
United States Agency for International Development	Child health, immunisation and nutrition	Both technical and financial
WEEMA	Child health, and nutrition	Both technical and financial
World Health Organization	Child health, immunisation and nutrition	Both technical and financial
World Vision	Child health, immunisation and nutrition	Both technical and financial

Appendix 03: Specific indicators and targets for the Action Plan for IMNCI and ICMNCI intervention

Strategic areas	Indicators	Targeted objective
Goal	Neonatal mortality rate (NMR)	NMR will reduce from 33 to 21 per 1,000 live birth (Min EDHS 2019)
	Infant mortality rate (NMR)	IMR will reduce from 47 to 35 per 1,000 live birth (Min EDHS 2019)
	Under-five mortality rate (U5MR)	U5MR will reduce from 59 to 43 per 1,000 live birth (Min EDHS 2019)
Community intervention	Increase exclusive breastfeeding	The proportion of exclusive breastfeeding practices will increase from 59 percent to 80 percent
	Increase complementary feeding	The proportion of complementary feeding practices will increase from 71 percent to 100 percent
	Increase early initiation of breastfeeding (within one hour of birth)	The proportion of early initiation of breastfeeding (within one hour of birth will increase from 79 percent to 90 percent
	Improved household access to drinking water	The proportion of households with improved drinking water will increase from 76 percent to 100 percent
	Improved household sanitation facilities	The proportion of households with improved sanitation facilities will increase from 73 percent to 100 percent
	Increase the proportion of model households	The proportion of model households will increase from 18 percent to 90 percent
	Increase the proportion of *kebeles* declared open defecation-free (ODF)	The proportion of *kebeles* declared ODF will increase from 40 percent to 90 percent
	Increase the proportion of households with hand washing facilities at the premises with soap and water	The proportion of households with hand washing facilities at the premises with soap and water will increase from eight percent to 60 percent
	Children sleeping under insecticide-treated nets (ITN)	The proportion of children sleeping under ITN will increase from 54 percent to 85 percent
Service delivery	Increase the proportion of children under one that receive Penta_3, PCV3, and rota 2 vaccine	The proportion of children under one-year that received Penta_3, PCV3, and rota 2 vaccine will increase from 69 percent, 63 percent and 68 percent to 96 percent

Strategic areas	Indicators	Targeted objective
	Increase the proportion of children who receive MCV1 and MCV2	The proportion of children who receive MCV1 and MCV2 vaccines will increase from 58 percent to 96 percent and 85 percent respectively
	Increase the proportion of children treated (according to protocol) with antibiotics for pneumonia	The proportion of children who are treated with antibiotics for pneumonia will increase from 35 percent to 80 percent
	Increase the proportion of children treated (according to protocol) with medical oxygen for pneumonia	The proportion of children who are treated with medical oxygen for pneumonia will increase from 47 percent to 90 percent
	Increase the proportion of children who are treated (according to protocol) with ORS therapy and zinc for diarrhoea	The proportion of children who are treated with ORS therapy and zinc for diarrhoea will increase from 48 percent to 90 percent
	Increase the proportion of children treated (according to protocol) for SAM management	The proportion of children who are treated for SAM management will increase from 50 percent to 90 percent
	Increase the proportion of children 6-59 months with vitamin A supplementation	The proportion of children 6-59 months with vitamin A supplementation will be increased from 48 percent to 95 percent
Capacity building/health task force	Health facilities with trained manpower on IMNCI, ICMNCI, IIP, SAM and others	The proportion of HCs that have two health workers (HWs) trained on IMNCI will be increased from 90 percent to 99 percent for proper assessment, classification and treatment of children with common childhood illness The proportion of HPs that have two HEWs trained on ICMNCI will increase from 94 percent to 99 percent for proper assessment, classification and treatment of children with common childhood illness The proportion of HCs that have two HWs trained on immunisation in practice will increase from 90 percent to 99 percent The proportion of HPs that have two HWs trained on immunisation will increase from 90 percent to 99 percent

Strategic areas	Indicators	Targeted objective
		The proportion of HCs that have two health workers trained on SAM malnutrition will increase from 80 percent to 99 percent
Access to essential medicines and supply distribution:	90 percent of essential medicines and supplies will be accessed and correctly distributed	Number of local manufacturers of amoxicillin dispersible tablets (DT), gentamycin, ORS, zinc and antimalarials with certification 70 percent of health facilities with have pulse oximeters for pneumonia diagnostic procedures 70 percent of HCs will have medical oxygen for pneumonia treatment. 100 percent of regions will be engaged with private sector suppliers of clean fuel
Data and information systems	Pneumonia and diarrhoea relevant data collected by registers and Health Information Management System/District Health Information System (HMIS/DHIS2) to inform programmatic and budgeting decisions	Percentage of recommended pneumonia and diarrhoea -relevant indicators included in DHIS2 for decision making Percentage of states that identify areas with the highest pneumonia and or diarrhoea burden and allocate budget to them
Health system financing	Ministry of Health (MoH), all regions, and development partners will demonstrate planning for pneumonia and diarrhoea control strategies and have dedicated budget lines for integrated health activities (IMNCI, ICMNCI, routine immunisation and nutrition) that support pneumonia control	Percentage of regions with a budget line for ICMNCI and IMNCI Percentage of regions with a budget line for routine immunization programmes and evidence of release Percentage of regions with a budget line for nutrition Percentage of treasury budget earmarked for ICMNCI, IMNCI, EPI and nutrition by MoH Percentage of SDG budget earmarked for ICMNCI, IMNCI, EPI and nutrition by MoH Percentage of development partners with an earmarked budget for ICMNCI, IMNCI, EPI and nutrition
Coordination and partnerships	MoH, all regions and development partners working on pneumonia control have jointly	Accountability framework and dashboard will be created within 3 months of strategy launch.

Strategic areas	Indicators	Targeted objective
	completed all agreed-upon activities within the pneumonia control accountability framework	Strengthen national and regional new-born and child health technical working group Percentage of child health TWG meetings addressing pneumonia Percentage of regions with coordinating mechanisms with an explicit mandate for newborn and child health Percentage of federal and regional level coordinating mechanisms with appointed pneumonia champions Percentage of regions that have developed IEC materials disseminated to the community Percentage of regions with social and behaviour change (SBC) programmes that address pneumonia and diarrhoea prevention and control Percentage of regions using community structures to improve caregivers care seeking behaviour for common childhood illnesses

Appendix 04: Selected high-impact interventions for IMNCI implementation

	Key intervention	Baseline/current coverage status	Data source	Expected coverage (%) per year		
				1st 2022/23	2nd 2023/24	3rd 2024/25
1	Penta_3 (DPT-HepB-Hib)	69% in 2019 (b)	WHO Immunization Data portal, Ethiopia[22]	75	80	85
2	PCV	63% in 2019 (b)	WHO Immunization Data portal, Ethiopia[22]	75	80	85
3	Rotavirus vaccine	68% in 2019 (b)	WHO Immunization Data portal, Ethiopia[22]	75	80	85
4	MCV1	58% in 2019 (b)	WHO Immunization Data portal, Ethiopia[22]	65	75	80
5	MCV2	NA	NA	65	70	75
6	Antibiotics for pneumonia	35% in 2020	Ethiopia Demographic and Health Survey 2016[23]	40	50	60
7	Medical oxygen treatment for Pneumonia	47%	Consultation with a subject matter expert	50	60	70
8	ORS therapy and zinc	48% in 2020	Estimation to 2020	50	60	70
9	Antibiotics for dysentery	Unknown		50	60	70
10	SAM management	Unknown		50	60	70
11	Vitamin A supplementation	66% in 2020 (b)	UNICEF[24]	75	85	90
12	Deworming	81% in 2020/2021 (a)	MoH Annual Performance Report[25]	85	87	90
13	Early initiation of breastfeeding (within 1 hour of birth)	79% in 2020 (b)	Performance Monitoring for Action Ethiopia Six-week Postpartum Maternal and Newborn Health	82	84	86

			Technical Report 2019-2021[26]			
14	Exclusive breastfeeding	59% in 2019	Ethiopia Mini-demographic and Health Survey 2019 [1]	65	72	75
15	Complementary feeding	71% in 2019	Ethiopia Mini-demographic and Health Survey 2019[1]	75	85	90
16	Household drinking water	76% in 2020	WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation and Hygiene 2021[27]	80	85	90
17	Household sanitation facilities	73% in 2019	Ethiopia mini-demographic and health survey 2019 [1]	80	85	90
18	Model households	18%	Health Sector Transformation Plan II 2022[3]	30	45	60
19	*Kebeles* declared open defecation-free (ODF)	40%	Health Sector Transformation Plan II 2022[3]	50	60	70
20	Households with hand washing facilities at the premises with soap and water	8%	Health Sector Transformation Plan II 2022 [3]	15	25	35

Appendix 05: Detailed cost by objectives of the Action Plan

Objectives	Item	Year 1 2022/23	Year 2 2023/24	Year 3 2024/25	Total
1. **Improving equitable access and utilisation of pneumonia and diarrhoea control services**	Provide RHB, ZHD and Technical and Vocational Education Training (TVET) trainers with the revised ICMNCI and IMNCI training materials	2,537,925	1,268,963	1,268,963	5,075,850
	Pre-deployment/gap filling training for new HEWs on the revised ICMNCI training	35,715,000	17,857,500	17,857,500	71,430,000
	A three-day training at HCs and for primary hospital HWs on the revised IMNCI and ICMNCI training	17,970,200	17,970,200		35,940,400
	Carry out regular revision of case management protocols for HPs, HCs and primary hospitals (at least twice)		659,500		659,500
	Revise and refine IMNCI and ICMNCI programme specific checklists to include issues related with pneumonia and diarrhoea	783,500			783,500
	Carry out capacity building for HCs that did not have IMNCI trained HWs and carry out attrition gap filling training	38,929,275	19,464,638	19,464,638	77,858,550
	Train HWs on IMNCI to address issues of attrition	7,645,800	3,822,900	3,822,900	15,291,600
	Train HWs on IIP	12,902,813	6,451,406	6,451,406	25,805,625
	Train HWs on SAM	12,675,000	6,337,500	6,337,500	25,350,000
	Conduct post training follow up at HCs	2,332,000	1,166,000	1,166,000	4,664,000
	Train HEWs on ICMNCI	70,483,500	35,241,750	35,241,750	234,945,000
	Train HEWs on ICMNCI to address issues of attrition	40,776,413	20,388,206	20,388,206	81,552,825
	Train HEWs on integrated refresher training		233,331,000		233,331,000

	Conduct post training follow up at HPs	4,640,000	2,320,000	2,320,000	9,280,000
	Orientation of HEWs on community dialogue on infection prevention and control, community mobilisation and effectively working with VHLs and PHCUs as a team	17,884,775	17,884,775		35,769,550
	Orientation for VHLs in community dialogue on pneumonia and diarrhoea message	17,071,975	17,071,975		34,143,950
	One day advocacy and sensitisation workshop on care seeking and availability of services (one per *kebele*)	17,071,975	17,071,975		34,143,950
	Half day community dialogues on pneumonia and diarrhoea control intervention within the *kebele* (three session per *kebele*)	18,214,975	18,214,975		36,429,950
	A one-day orientation of AEAs to integrate community mobilisation activities with their daily deliverance	17,592,675	17,592,675		35,185,350
	Support pregnant women forums and incorporate newborn and child health issues in the forums (danger signs in newborns)	17,541,875	8,770,938	8,770,938	35,083,750
	Bi-annual community-PHCU meeting to explore the quality-of-care issues and set up contextual quality improvement actions at PHCU level	15,735,300	7,867,650	7,867,650	31,470,600
	Identify and update relevant health promotion IEC materials	1,120,000		1,120,000	2,240,000
	Endorse the revised or updated pneumonia and diarrhoea control IEC	1,320,000			1,320,000
	Quantify and print IEC materials	560,000	560,000		1,120,000
	Identify appropriate messaging distribution channels to distribute IEC materials to regions for further tailoring and dissemination	710,000	710,000		1,420,000
	Map schools for school health programmes for the distribution of key messages	910,000	910,000		1,820,000
	Design and integrate newborn and child health programmes within identified school health programmes	560,000	280,000	280,000	1,120,000

	Distribute IEC materials (key messages) to primary schools (at least one primary school per *kebele*)	18,394,000	9,197,000	4,598,500	4,598,500
	Conduct advocacy and social mobilisation at national level	981,700			981,700
	Conduct advocacy and social mobilisation at regional level	9,842,300	9,842,300		19,684,600
	Conduct advocacy and social mobilisation at zonal level	17,850,000	17,850,000		35,700,000
	Conduct advocacy and social mobilisation at *woreda* level	35,300,000	35,300,000		70,600,000
	Conduct advocacy and social mobilisation at PHCU level	38,000,000	38,000,000		76,000,000
	Disseminate the Action Plan and other pneumonia and diarrhoea related policies to regions and stakeholders	4,450,000			4,450,000
	Conduct workshops on programme ownership for RHB, ZHD and *woreda* health offices	26,175,000	13,087,500	13,087,500	52,350,000
	Conduct workshops with professional associations on the Action Plan and disseminate the Action Plan	512,500	256,250	256,250	1,025,000
	Hire technical assistants at national and regional level for at least one year to help implement the strategy, track progress and work with partners to integrate and amplify pneumonia control within their work	60,030,000	60,030,000	60,030,000	180,090,000
2. Improving quality of pneumonia and diarrhoea control services	Quantify, print and distribute ICMNCI training materials for training	5,000,000	2,500,000	2,500,000	10,000,000
	Print updated IMNCI and ICMNCI chart booklets and distribute to HCs and HPs	3,000,000	1,500,000	1,500,000	6,000,000
	Print updated IMNCI and ICMNCI registration books and distribute to HCs and HPs, including the portable version	4,800,000	2,400,000	2,400,000	9,600,000
	Quantify, print and distribute speaking books	8,500,000	4,250,000	4,250,000	17,000,000
	Develop HEW-guide and job aid to facilitate community dialogue and meetings	850,000	425,000	425,000	1,700,000

	Budget support for *woredas* to strengthen PHCU level PRCMM	100,000,000	50,000,000	50,000,000	200,000,000
	Develop referral cards with brief patient information to improve referrals among health facilities and print and distribute referral sheets (one pad per HPs)	510,000	255,000	255,000	1,020,000
	Introduce pulse oximeters to all HCs and comprehensive HPs	8,809,500	4,404,750	4,404,750	17,619,000
	Prepare different quality improvement projects for 10 percent to 40 percent of HCs for child health service improvement and provide budget support	5,000,000	2,500,000	2,500,000	10,000,000
3. Ensuring continues availability of essential child health commodities	Quantify and cost IMNCI/ICMNCI supplies using updated estimates	800,000	400,000	400,000	1,600,000
	Purchase amoxicillin DT, ORS and zinc via pooling orders from all health facilities in catchment areas and stock them in WoHO stores	257,758,605	128,879,303	128,879,303	515,517,210
	Train new HEW-graduates on IPLS and supply chain management	18,065,000	9,032,500	9,032,500	36,130,000
	Orientate existing HEWs on IPLS and supply chain management	18,995,000	18,995,000		37,990,000
	Mobilise financial resources across multiple sectors to support pneumonia control efforts	500,000	250,000	250,000	1,000,000
	Support local manufacturing of amoxicillin DT, zinc and ORS and increase availability across all public points of care	500,000	250,000	250,000	1,000,000
	Strengthen the distribution of drugs and vaccines to last-mile communities	500,000	250,000	250,000	1,000,000
	Train PHCU and WoHO personnel on IPLS, supply chain management and supportive supervision skills	41,825,000	20,912,500	20,912,500	83,650,000
4. Improve regular monitoring and evaluation of child health programmes	Provide programme specific supportive supervision to PHCUs	620,000	310,000	310,000	1,240,000
	Provide programme specific supportive supervision to HPs	620,000	310,000	310,000	1,240,000
	Carry out zonal/regional quarterly joint monitoring visits (JMV)	620,000	310,000	310,000	1,240,000
	Carry out national bi-annual JMV	1,810,000	905,000	905,000	3,620,000

	Carry out *Woreda* JMV	1,010,400	505,200	505,200	2,020,800
	Carry out zonal/regional quarterly JMV	620,000	310,000	310,000	1,240,000
	Carry out national bi-annual JMV (a team of eight supervisors will visit four regions bi-annually)	1,810,000	905,000	905,000	3,620,000
	Carry out w*oreda* level quarterly IPRM	115,758,500	57,879,250	57,879,250	231,517,000
	Carry out zonal/regional level bi-annual programme review	2,209,800	1,104,900	1,104,900	4,419,600
	Carry out national level annual programme review	588,000	294,000	294,000	1,176,000
	Strengthen aspects of data collection, analysis and use most critical for pneumonia and diarrhoea relevant indicators at service delivery level to have accurate data	1,000,000	500,000	500,000	2,000,000
	Carry out midterm programme evaluation	10,000,000	5,000,000	5,000,000	20,000,000
	Conduct operations research	2,300,000	1,150,000	1,150,000	4,600,000
Total cost in Birr		1,199,600,280	973,464,978	508,022,103	2,747,474,360
Total cost in USD		23,069,236	18,720,480	9,769,656	52,836,045

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