THE STATE OF ERITREA

MINISTRY OF HEALTH

THE THIRD HEALTH SECTOR STRATEGIC DEVELOPMENT PLAN III

2022 – 2026

October, 2021

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ABBREVIATIONS AND ACRONYMS

AEFI	Adverse Events Following Immunization
AIDS	Acquired Immune Deficiency Syndrome
AMR	Antimicrobial Resistance
ANC	Antenatal Care
ART	Anti-retroviral Therapy
BIDHO	Eritrea's Association for people living with HIV and AIDS
BMI	Body Mass Index
CEmoNC	Comprehensive Emergency Obstetric and Newborn Care
CHW	Community Health Worker
COMESA	Common Market for Eastern and Southern Africa
COVID-19	Corona Virus Diseases 2019
CPD	Continuous Personal Development
CRVS	Civil Registration and Vital Statistics
CT	Computerized Tomography
CVD	Cardio-vascular disease
DHIS2	District Health Information System 2
DHMT	District Health Management Team
DTP	Diphtheria, Tetanus and Pertussis Vaccine
EEHCP	Eritrea Essential Health Care Package
eLMIS	Electronic Logistical Management Information System
EMR	Electronic Medical Records
ENLM	Essential National List of Medicines
ENT	Ear, Nose and Throat
EOC	Emergency Operations Centre
EPI	Expanded Program on Immunization
ERN	Eritrean Nakfa
ESMG	Eritrean Social Marketing Group
FAO	Food and Agricultural Organization
FGM	Female Genital Mutilation

GBV	Gender-Based Violence
GDP	Gross Domestic Product
GoSE	Government of the State of Eritrea
GPCL	Good practices for pharmaceutical quality control laboratories
HHFA	Harmonized Health Facility Assessment
HIS	Health Information System
HIV	Human Immuno-Deficiency Virus
HMIS	Health Management Information System
HPV	Human Papilloma Virus
HRH	Human Resources for Health
HSSDP	Health Sector Strategic and Development Plan
HTC	HIV Testing and Counselling
HW	Health Worker
HWF	Health Workforce
ICD-11	11th Edition of the International Classification of Diseases
ICT	Information and Communication Technology
IFMIS	Integrated Financial Management Information System
IGAD	Inter-Governmental Authority on Development
IPC	Infection Prevention and Control
ISO	International Office of Standardization
IST	In-Service Training
ITN	Insecticide-Treated Nets
LIS	Logistics Information System
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MCCoD	Medical Certification of Cause of Death
MCV1	First Dose of Measles Containing Vaccine
mhGAP-IG	WHO mental health Global Action Program-Intervention Guide
MIHAP	Minimum Integrated Household Agricultural Package

MNCDs	Major Non-Communicable Diseases
MOA	Ministry of Agriculture
MOEM	Ministry of Energy and Mines
MOFND	Ministry of Finance and National Development
MOH	Ministry of Health
MOI	Ministry of Information
MOJ	Ministry of Justice
MOLG	MINISTRY OF Local Government
MOLSW	Ministry of Labour and Social Welfare
MOLWE	Ministry of Lands, Water and environment
MOMR	Ministry of Marine Resources
MOTI	Ministry of Trade and Industry
MRI	Magnetic Resonance Imaging
MTC	Medicines Therapeutic Committee
MTEF	Medium-Term Expenditure Framework
MTR	Mid-Term review
NAPHS	National Plan for Health Security
NCD	Non-Communicable Disease
NDQCL	National Drug Quality Control Laboratory
NHA	National Health Accounts
NHIS	National Health Information System
NHP	National Health Policy
NICU	Neonatal Intensive Care Unit
NIDP	National Indicative Development Plan
NMFA	National Medicines and Food Administration
NMSP	National Malaria Strategic Plan
NRS	Northern Red Sea
NSO	National Statistics Office
NTDs	Neglected Tropical Diseases

OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OCMHS	Orotta College of Medicine and Health Sciences
OPD	Out-Patient Department
PFDJ	People's Front for Democracy and Justice
PHARMECOR	Pharmaceutical and Medical Suppliers Corporation
PHC	Primary Health Care
PICU	Paediatric Intensive Care Unit
PMU	Program Management Unit
PV	Pharmaco-Vigilance
PWDs	Persons with Disabilities
RCO	Office of the UN Resident Coordinator
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
RTA	Road Traffic Accident
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
SORTIT	Specialized Operational Research Training Initiative
SRMNCAH	Sexual, Reproductive, Maternal, Newborn, Child and Adolescent Health
WHO STEPS	WHO STEP-wise Approach to NCD Risk Factor Surveillance
TB	Tuberculosis
TOT	Training of Trainers
TWG	Technical Working Group
UHC	Universal Health Coverage
UN	United Nations
UNAIDS	Joint United Nations Program on AIDS
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund

VHF	Viral Haemorrhagic Fever
VRAM	Vulnerability and Risk Assessment and Mapping
WASH	Water, Sanitation and Hygiene
WASH-BAT	Water, Sanitation and Hygiene bottleneck analysis tool
WHO	World Health Organization
WISN	Workload Indicators for Staffing Need

FOREWORD

The third Health Sector Strategic and Development Plan (HSSDP III) is designed to provide the overall strategic and implementation framework for the health sector priorities for a period of five years; 2022 – 2026 and to contribute towards sustainable economic growth with social equity and justice enshrined on the principles of self-reliance. It also aims at improved health status, wellbeing, productivity and quality of life in Eritrea. This is in line with the Sustainable Development Goals (SDGs) adopted by the UN General Assembly in September 2015 and which Eritrea formally ratified. The HSSDP-II comes to an end by 2021 and as such, the development of HSSDP-III comes at a critical time, with the COVID-19 pandemic and the new norms expected to last some time.

The MOH governance is set such that the National Health Policy provides the overall guidance to the 5-year health sector strategies. As such the HSSDP III addresses the objectives laid down in the National Health Policy (2020): (1) Reduce the burden of diseases and improve health status of all Eritreans, (2) Minimize the burden of health risk factors for all citizens, (3) Strengthen Emergency Preparedness and Response System and (4) Increase length and quality of healthy life.

The development of the new strategy wishes to maximize the country focus and efforts on SDGs and Universal Health Coverage (UHC) through provision of health services which are integrated, and people-centered without those accessing the services facing any form of financial barrier. More than ever, the importance of resilient health systems for maintaining essential health services delivery has been significantly witnessed across the globe.

Within Eritrea there has been significant efforts to move the sector towards UHC and during the period of the implementation of HSSDP II the country implemented a set of interventions including the definition of the Eritrea Essential Health Care Package (EHCP), which defines the promotion, prevention, clinical, rehabilitative and palliative interventions that the country will aim to provide to all its population by age group and at each level of care. The EHCP will guide introduction of new services for the population. Implementation of this will continue in the HSSDP III.

The targets set for achievement during and at the end of the plan period were set in close consultation with all programmers, policy makers and development partners. Strategic focus for each program area and key innovations for successful implementations were identified for inclusion in the document. The involvement of key stakeholders in the formulation of the HSSDP III lays down the necessary ground work for eventual success and we call to marching together to attain a common health goal.

The HSSDP III articulates universal health coverage, health security, and determinants of health as strategic outcome areas. The plan ensures that the health system is not only able to provide required essential health services but is resilient enough to absorb shocks due to health threats arising from disease epidemics or disasters. Achievement of SDGs requires a twin focus on improving health security and achieving Universal Health Coverage with required essential services as the country moves forward. Consistent with that, the plan has identified concrete steps to be undertaken in the coming five years, with a focus on SDGs.

A plan is only as good as its level of implementation. Hence, once again, I would like to call upon all stakeholders to maintain the commitment and enthusiasm they demonstrated in the development process of the plan, during the implementation period as well.

In conclusion I would like to call upon all Zonal medical officers, program managers, other MoH officials, and all stakeholders to make good use of this third cycle of HSSDP and ensure that their program specific strategic plans and annual operational plans are in alignment with this overarching document. Let us continue moving together to common end using one health plan.

Amina Nurhussien

Minister of Health

ACKNOWLEDGEMENTS

The development of HSSDP III followed a consultative process involving the key health sector stakeholders, under the guidance of the Steering Committee and the day-to-day supervision of the Department of Policy, Planning and Human Resource Development. Technical support was provided by WHO. At the Ministry of Health level, consultation was made with the Honourable Minister of Health and Senior Management of the Ministry of Health and Heads of programs and their program technical staff.

Further consultation was made with the line Ministries and Agencies (Finance; Agriculture; Labour and Social Welfare; Land, Water and Environment, National Statistical Office) and the UN Agencies (UNICEF, UNFPA, UNAIDS, UNDP, RCO); the Zoba Health Teams and Leadership of some health facilities. Visits were made to 2 Zobas (Debub and Northern Red Sea) and 3 sub-zoba health offices (Dubarwa, Foro, and Ghindae) where discussions were held with the Zoba and sub-Zoba Health offices. The health facilities visited and consulted include Orotta National Referral and Teaching hospital, Mendefera Regional Referral hospital, Ghindae Regional Referral hospital, Massawa hospital, Dubarwa health centre, and Foro health centre.

The planning steering committee not only provided the required leadership and oversight but was also engaged in continuously reviewing and improving the contents of the document at various stages of the development process. I could not find enough words to commend and appreciate the contributions made by each member of the steering committee.

I wish also to thank all the stakeholders who took part in the development of the HSSDP III. These included representatives from various line Ministries including the Ministry of Finance and National Development, National Statistics Office, Ministry of Land Water and Environment, Ministry of Agriculture and Ministry of Labor and Human Welfare; the UN partners, and Ministry of Health staff both at sub-zoba, zoba and headquarters level. All these partners' contributions were invaluable in enriching the document and ensuring that health is everybody's business and not just the Ministry of Health's.

The World Health Organization deserves special thanks for providing and coordinating the required technical support to the Ministry of Health throughout the process. Their support was pivotal in the successful completion of developing this third sector strategic and development plan. Special thanks should go to the WHO Representative, Dr. Martins Ovberedjo for his support towards this whole process.

Last but not least the Division of Policy and Planning as part of the Department of Policy, Planning and HRD should be commended for assuming the overall responsibility of coordination and spearheading the initiative of every action in the development process of this master plan document.

Dr. Berhane Debru

A/DG, PP and HRD

EXECUTIVE SUMMARY

Background

The third Health Sector Strategic and Development Plan (HSSDP III) follows two plans that covered the period 2010 – 2021. It has been informed by the Mid-term review and end-term evaluation of HSSDP II, as well as the developments towards the 2030 Sustainable Development Agenda, including the experience of the COVID-19 pandemic. A new National Health Policy 2020 was developed and is one of the important documents that have guided the development of the HSSDP III.

The evaluation of HSSDP II showed that Eritrea had made significant progress in the health sector with improvements in the impact health indicators. The neonatal, infant, under-five mortality declined to 17.82, 30 and 40 deaths per 1000 live births by 2021 respectively, while the maternal mortality ratio declined to 184/100,000 live births (MoH estimate, 2019). While the neonatal, infant and under-five mortality reductions are on course for achievement of the SDG targets, the maternal mortality ratio may need a sharper decline to be able to achieve its SDG target of 70 deaths per 100,000. The healthy life expectancy increased to 65 years by 2020.

However, there still remain challenges that Eritrea needs to surmount in order to expedite progress towards UHC, SDG 3 and other health-related SDGs. COVID-19 pandemic continues with its stress on the current health system. Despite the focus on UHC, gaps exist in services for adolescents, adults and elderly persons and health promotion, rehabilitative and palliative care services. Interventions focusing on the main NCD risk factors are not yet fully implemented, and there are sub-optimal access and utilization of services for hard-to reach populations.

Other challenges include the overstretched physical referral system, inadequate maintenance capacity for infrastructure, limited digitization of health services, sub-optimal quality assurance systems and lack of service accreditation systems. Eritrea is yet to develop an overall health financing strategy to provide strategic guidance for the evolution of an equitable health financing approach. In view of the health emergencies, including COVID-19, the country requires to enhance the inherent capacity of the health system and multi-sectoral response to improve its resilience to shocks. The HRH Strategic Plan ends in 2021 and a new one is needed, the country has not had an investment case for HWF in the country, and there is need to address the gap for specialists for the Zonal referral hospitals and super specialists at Orotta National Referral hospitals. Data and information are critical and there should be periodic population-based surveys or data generation mechanisms to monitor the impact on the health of the population.

HSSDP III

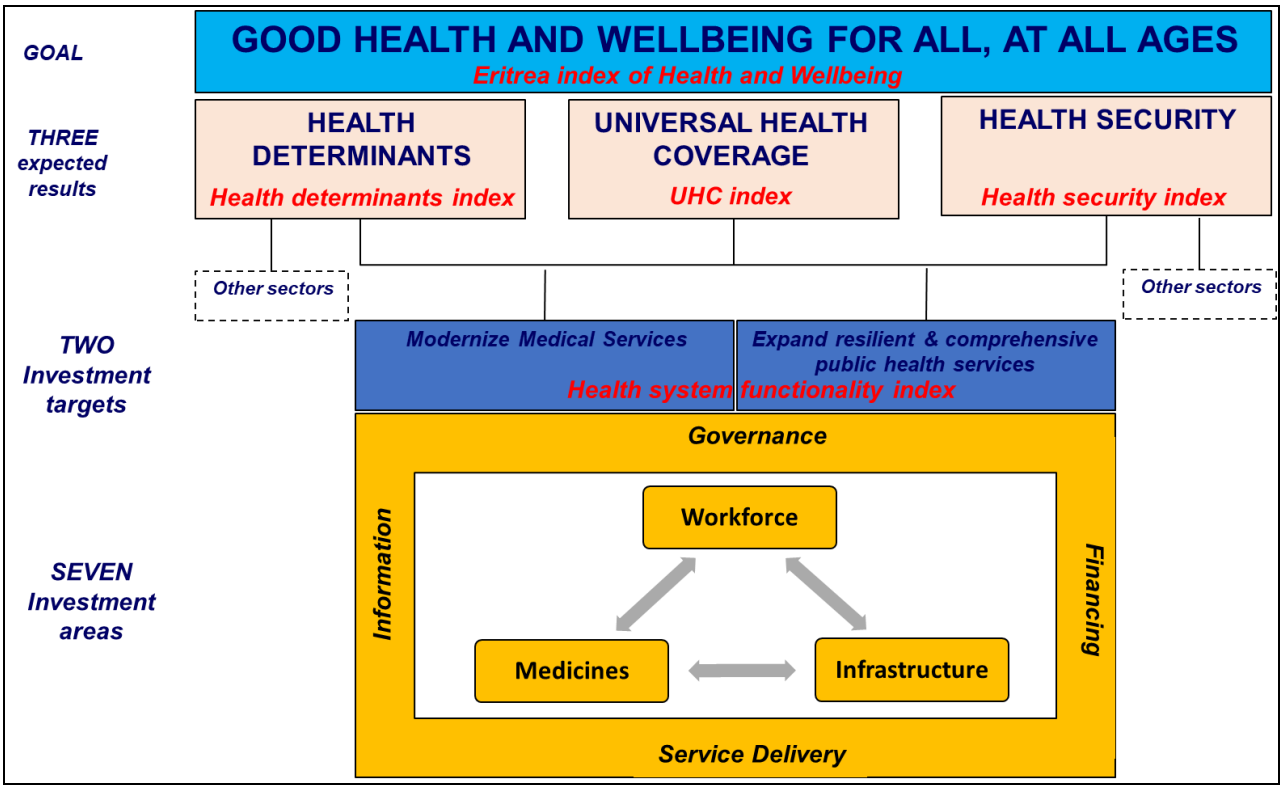
The National Health Policy (NHP-2020) renews the Government's commitment to Primary Health Care (PHC). Accordingly, the NHP commits the health sector to work towards the progressive attainment of Universal Health Coverage (UHC) and Sustainable Development Goal-3 (SDG3), through PHC. The fact that Eritrea has strong PHC base that begun before the liberation means it also has strong foundations to succeed with UHC and SDGs.

It is in the above context that the HSSDP III has been developed. The HSDPP III provides the medium-term strategic agenda for the State of Eritrea and covers the period 2022 – 2026. It represents the penultimate strategic period leading up the end of the SDGs – in 2030. It therefore presents the final opportunity to align the country focus and investments in health towards attainment of the SDGs relating to health.

It takes into account the new National Health Policy 2020 and therefore contributes to the NHP vision and aspirations, namely the vision "Improved health status, wellbeing, productivity and quality of life of the Eritrean people" and the 4 aspirations: Reduce the burden of diseases and improve health status of all Eritreans; minimize the burden of health risk factors for all citizens; Strengthen Emergency Preparedness and Response System; and increase length and quality of healthy life.

The design of HSSDP III has been based on a results framework that focuses on three outcomes, namely Universal Health Coverage, Health Security and harnessed determinants of health, all being supported by a base of a functional health system. It also introduces a particular focus on modernizing medical services and expanding resilient and comprehensive public health services, as shown in the figure 1.

Figure 1. HSSDP III results framework



The HSSDP III Indices:

The plan introduces 4 indices to track the progress on the three outcomes and the health system functionality.

Goal and Targets:

The goal of the plan is to attain good health and wellbeing for all Eritreans at all ages.
The targets for end of 2026 are shown in the table 1:

Table 1: HSSDP III Targets

Indicator	Baseline end 2021	Target for 2026
Neonatal mortality (deaths per 1000 live births)	16	14
Infant mortality (deaths per 1000 live births)	29	24
Under-five mortality (deaths per 1000 live births)	40	33
Maternal mortality ratio (deaths per 100,000 live births)	184	114
Healthy Life Expectancy (Years)	55.7 (2019)	63.5

Source: UN estimates (2019) except MMR.

Strategic Objectives:

The Strategic Objectives for the plan include[1]:

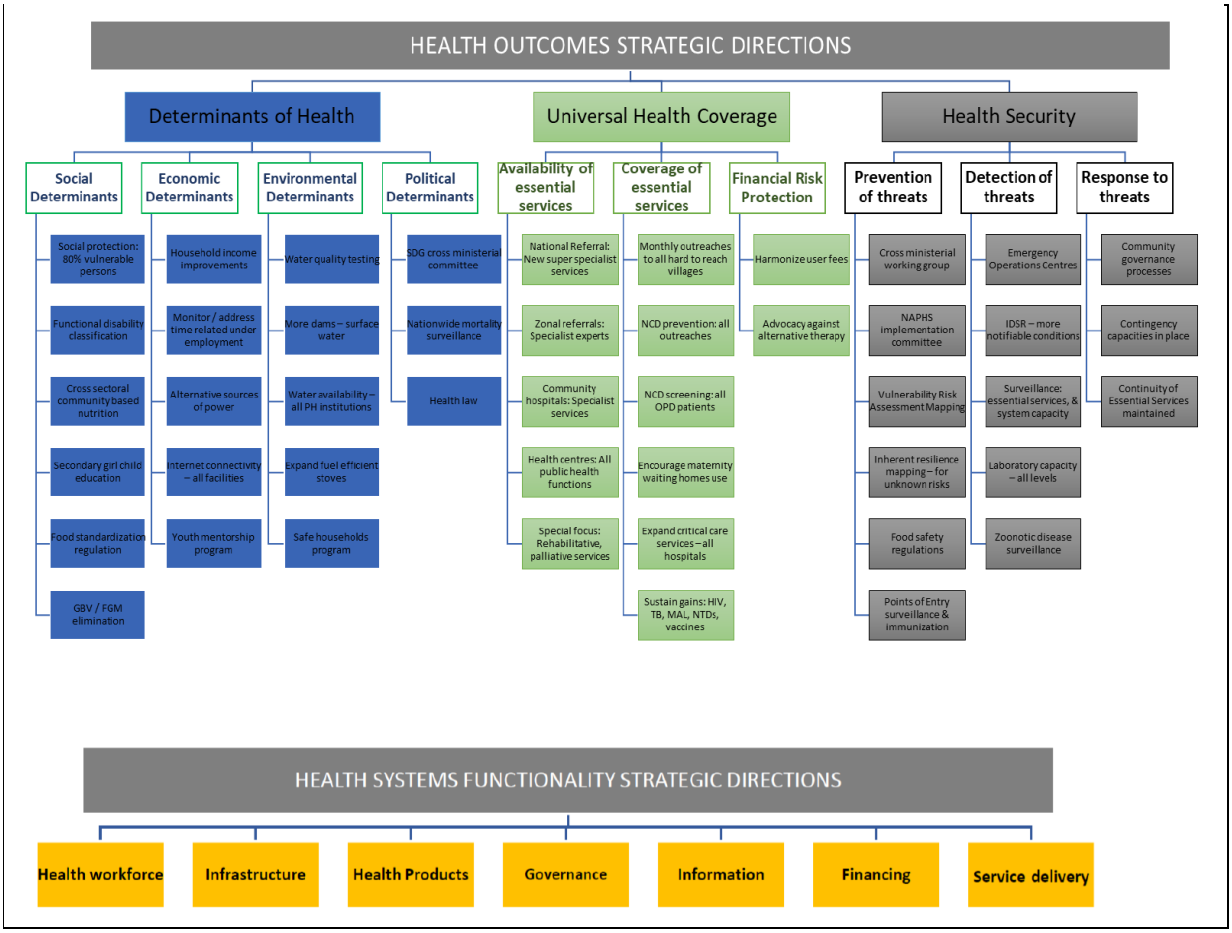
1. Increase achievement of Universal Health Coverage, leaving no one behind, from UHC index of 54.9% (2019) to 60.1% in 2026;
2. Enhance health security through strengthened prevention, detection and response, from IHR core capacity of 57% (2020) to 63.5% (2026);
3. Optimize synergy, coordination and leadership on the determinants of health for improved health and well-being (including access to water and sanitation from 54% (2019) to 76% (2026); and for improved nutrition and reduced prevalence of stunting and wasting from 45% and 15% in 2022, to 35% and 12% in 2026 respectively);
4. Enhance health systems functionality to modernize medical services and expand resilient and comprehensive public health services.

Strategic Directions:

Each of the strategic objectives has a set of strategic directions, 4 for determinants of health, 3 for UHC, 3 for health security, and 7 for health systems functionality, as summarized in figure 2:

1 Estimates derived from Eritrea UHC Service Coverage country consultation process data

Figure 2: Health Outcome Strategic Directions



HSSDP III Monitoring and Evaluation

A monitoring and evaluation framework was developed for the plan. It tracks progress of the 4 strategic objectives through 4 indices, namely the Health Determinants index, the UHC index, the health security index and the health systems functionality index.

At Zoba and national levels, data and performance review reports will be produced outlining the performance against the strategic objectives in this plan. Annual health sector reports will be produced by all levels from sub-zoba to national and each year an Annual State of Health in Eritrea report will be produced.

A mid-term review of the HSSDP III is planned for 2024 and end-term review in 2026.

Estimated Cost of HSSDP III:

HSSDP III is estimated to cost approximately ERN5,5 billion over the five-year period with annual costs rising from ERN919million in Year 1 reaching ERN1.1 billion in Year 5. On average, the per capita expenditure will be approximately US$ 180 per annum. The breakdown by priority area is shown in the table below:

Table 2: Estimated HSDDP III Cost by Priorities

HSSDP Priorities	2022	2023	2024	2025	2026	Total
Universal Health Coverage	23,138,228	22,538,738	21,336,850	21,994,084	23,337,463	112,345,363
Other Health Determinants	38,832,754	18,201,252	18,885,731	16,969,251	18,224,622	111,113,610
Health Security	20,965,270	244,531,943	73,700,348	41,600,625	36,982,935	417,781,121
Health Products	271,494,508	301,255,355	339,416,240	356,863,121	381,977,837	1,651,007,062
Governance in the Health Sector	4112075	2067413	3055583	1739951	2832507	13,807,529
Human Resources for Health	435,367,752	487,277,762	519,257,901	546,500,857	550,035,696	2,538,439,968
Infrastructure and Support Services	119,738,334	243,830,727	149,350,563	71,402,650	71,652,650	655,974,924
HIS and Health Research	5,888,000	6,861,823	3,966,240	3,758,040	3,506,479	23,980,582
Health Financing	332675	513575	0	0	0	846,250
Total	919,869,596	1,327,078,588	1,128,969,456	1,060,828,579	1,088,550,189	5,525,296,409

Structure of HSSDP III

The plan is structured into 6 chapters as outlined below.

Chapter 1: provides the overall context highlighting the social, economic, political and environmental context in which the HSSDP III is situated.

Chapter 2: provides the situation analysis and looks at health status and impact for the period of HSSDP II (2017 – 2021), performance regarding the health outcomes of Universal Health Coverage, health security, and other health determinants, the status of the health system, and the key recommendations from the mid-term review.

Chapter 3: presents the health policy vision and aspirations and the strategic directions for HSSDP III. It articulates the strategic outcomes and the strategic priorities.

Chapter 4: focuses on monitoring and evaluation of the sector. It describes the data, indicators and statistics required to monitor the HSSDP III, describes the information architecture and management process, and provides the technical and social accountability milestones.

Chapter 5: provides the implementation arrangements for HSSDP III. It stipulates the organization and management of the health sector, provides the stewardship roles and responsibilities, and presents the partnership and coordination arrangements.

Chapter 6: outlines the financial implications of the HSSDP III. It provides the costs of HSSDP III, assesses the available financing and identifies the financial gaps. It outlines the resource mobilization strategy for effective implementation of the plan.

CHAPTER 1: BACKGROUND AND INTRODUCTION

Eritrea is located in the Horn of Africa and borders with the Red Sea to the east, the Republic of Djibouti to the South-East, Ethiopia to the South and the Republic of Sudan to the north and west. The country has a surface area of over 124,000 square kilometers and is administratively divided into six regions, known as Zobas, namely; Gash Barka (GB), Anseba, Debub, Debubawi Keih Bahri (DKB) also known as Southern Red Sea, Maekel (MA) and Semenawi Keih Bahri (SKB) also known as Northern Red Sea. The Zobas are further divided into 58 sub-zobas or districts, 699 (NMSP) administrative areas known as Memhdar Kebabi and 2,666 (NMSP) Adi (villages).

The country has a diverse topography, ranging from the central highlands who's central plateau varies from 1,800to 3,000 meters *above sea level* with temperate climatic conditions, to the coastal region and western lowlands at sea level with (semi) arid climate.

Demographic and Socio-economic context

No census was undertaken in Eritrea after the liberation. However, the Ministry of National Development and the United Nations Department of Economic and Social Affairs (UNDESA) estimate the population of Eritrea at 3,497,117, as of 1 July 2019.

As shown in the table below, according to the above stated WPP-2019 (UNDESA) and Government joint estimation, the total population of Eritrea is estimated at3,546,421 for 2020, which is projected to grow to 3,937,197 by 2026. Within the same period the number of women in the reproductive age is projected to grow from 841,597 in 2020 to 994,695 in 2026, while the number of births is estimated to decrease from 106,922 in 2020 to 100,798 in 2026.

Table 3: Projected number and percentage of total population, women in reproductive age, number of births and population estimates of various age groups, 2020-2026 (Based on Joint Government and WPP-2019 estimates)

Ppn/Age group # & %	2020	2021	2022	2023	2024	2025	2026
Total Population	3,546,421	3,601,467	3,662,244	3,727,660	3,795,986	3,865,963	3,937,197
Women, 15-49	841,597	861,541	885,757	912,781	940,196	966,682	994,695
%	23.7	23.9	24.2	24.5	24.8	25.0	25.3
# of births	106,922	106,717	105,040	102,634	100,637	99,935	100,798
%	3.0	3.0	2.9	2.8	2.7	2.6	2.6
0-17 yrs	1,696,943	1,717,303	1,732,550	1,743,405	1,751,968	1,758,380	1,758,357
%	47.8	47.7	47.3	46.8	46.2	45.5	44.7
>18 yrs	1,849,478	1,884,164	1,929,694	1,984,255	2,044,018	2,107,583	2,178,840
%	52.2	52.3	52.7	53.2	53.8	54.5	55.3
0-4 Yrs	495,068	504,506	506,098	502,571	499,490	500,682	501,331

Ppn/Age group # & %	2020	2021	2022	2023	2024	2025	2026
%	14.0	14.0	13.8	13.5	13.2	13.0	12.7
5-9 Yrs	476,700	471,339	471,684	477,119	484,575	489,857	492,820
%	13.4	13.1	12.9	12.8	12.8	12.7	12.5
10-14 Yrs	486,694	489,494	487,418	481,823	476,124	473,603	473,103
%	13.7	13.6	13.3	12.9	12.5	12.3	12.0
15-19 Yrs	373,933	393,500	417,104	441,698	462,321	475,950	482,200
%	10.5	10.9	11.4	11.8	12.2	12.3	12.2
20-24 Yrs	285,246	290,616	301,524	317,007	335,429	355,683	379,108
%	8.0	8.1	8.2	8.5	8.8	9.2	9.6
25-29 Yrs	286,987	281,036	274,422	268,626	265,900	267,813	275,695
%	8.1	7.8	7.5	7.2	7.0	6.9	7.0
30-34 Yrs	269,281	274,426	277,213	277,678	275,994	272,572	268,697
%	7.6	7.6	7.6	7.4	7.3	7.1	6.8
35-39 Yrs	191,483	204,221	219,204	234,720	248,084	257,624	264,384
%	5.4	5.7	6.0	6.3	6.5	6.7	6.7
40-44 Yrs	141,244	144,360	150,680	159,733	170,611	182,634	196,281
%	4.0	4.0	4.1	4.3	4.5	4.7	5.0
45-49 Yrs	139,594	140,874	138,820	135,250	133,071	134,134	137,978
%	3.9	3.9	3.8	3.6	3.5	3.5	3.5
50-54 Yrs	88,100	94,241	104,385	116,201	125,999	131,651	133,520
%	2.5	2.6	2.9	3.1	3.3	3.4	3.4
55-59 Yrs	83,849	82,406	79,896	77,650	77,701	81,169	87,555
%	2.4	2.3	2.2	2.1	2.0	2.1	2.2
65-69 Yrs	59,906	59,069	58,327	57,854	57,890	58,553	59,507
%	1.7	1.6	1.6	1.6	1.5	1.5	1.5
70-74 Yrs	47,220	47,325	47,465	47,621	47,708	47,704	47,378
%	1.3	1.3	1.3	1.3	1.3	1.2	1.2
75-79 Yrs	29,859	30,674	31,558	32,433	33,150	33,658	34,078
%	0.84	0.85	0.86	0.87	0.87	0.87	0.87
80+ Yrs	22,836	24,318	22,836	24,318	27,274	27,614	29,427
%	0.64	0.68	0.62	0.65	0.72	0.71	0.75

According to the 2010 Eritrea Population and Health Survey, the population of Eritrea is essentially rural with about 65 percent of the people living in the countryside. The population of Eritrea is not uniformly distributed throughout the country. About 50 to 60 percent of the population lives in the highlands. As of 2020, about 41.1 percent of the total population is under the age of 15 years, while 47.8 percent of the total population is under the age of 18 of which, an estimated 14.0 percent is under the age of 5 years. The population 65 years and above is estimated at around 4.5

percent. Life expectancy at birth is estimated to be 67 years for 2020 (UNFPA 2020). The population is composed of almost equal number of males and females. Eritrea is a multi-ethnic society with nine different ethnic groups speaking nine main languages and professing two major religions; namely, Christianity and Islam.

The population living in rural areas (65% of total population) depends on rain-fed agriculture and improving agricultural productivity in a sustainable manner is a challenge that Eritrea needs to address. Climate action, improved food production and nutrition security, and sustainable development must be tackled to facilitate Eritrea's growth.

The achievement of food and nutrition security, both at the national and household levels, through promotion and development of the agricultural programs and support services, influence the health sector agenda on nutrition. For example, the Ministry of Agriculture has developed a Minimum Integrated Household Agricultural Package (MIHAP) that will enhance household nutrition. Eritrea has significant and untapped marine resources including fish and other high-value species such as lobster, shrimp and crab and this has a great potential contribution to food and nutrition security.

The major areas of investment that affect health, among others, are; (i) improving and sustaining social progress, (ii) environmental stability, (iii) capacity development, (iv) accelerated inclusive growth and food security, (v) gender and youth empowerment and (vi) human welfare and social protection. Within the National Indicative Development Plan (NIDP), GoSE has proposed to implement a series of people centered policy initiatives to mitigate the issues noted above and are to be implemented across the different sectors.

Eritrea's economy is agriculture-based with 70% of the Eritrean workforce employed in agriculture, accounting for about one-third of the economy. However, there is broad potential in sectors such as mining, tourism, fisheries, port services and industries. Arable agriculture and pastoralism provide the main sources of livelihood for the majority of the population.

Environmental context

Eritrea has a surface area of over 124,000 square kilometers with four distinct topographic regions: central highlands (2,000 meters above sea level), western lowlands (1,000 meters above sea level), eastern lowlands (500 meters above sea level) and coastal lands (up to 500 meters above sea level). The coastline with the Red Sea is approximately 1,000 kilometers and there are over 350 islands scattered off the coast in the Dahlak archipelago.

The mean annual temperature ranges from 15°C in the Moist and Arid Highlands to 32°C in the Semi-Desert areas. Annual precipitation varies from less than 200 mm in Semi-Desert to 1,100 mm in the Sub-Humid Zobas. In the coastal lowlands, the main rainy season runs from October to March, with scant rainfall averaging about 200 mm and temperature of 30°C. In the highlands and lowlands, the main rainy season runs from June to September with an annual rainfall of about 500mm and ambient temperatures ranging from 16°C to 30°C. In the highlands, winter falls between December and February with low temperatures near freezing at night. Temperatures in the lowlands are hot, ranging from 40.6°C to 48.9°C, sometimes more, in August. Along the coast, including in the port cities of Massawa and Assab, high humidity often accompanies the heat. Winter highs here are around 32°C, with evening temperatures in the 20s.

Eritrea is party to various environmental international agreements, including for the Convention on Biological diversity, UN Framework for Control of Climate Change and its Kyoto Protocol, UN Convention to combat desertification, Convention on control of trans-boundary movement of hazardous waste, Protocol on Ozone Layer Protection. However, the country remains vulnerable to droughts, on average, every three to five years, and to natural hazards such as floods, volcanic activity, earthquakes, desert locust infestation.

CHAPTER 2: SITUATION ANALYSIS

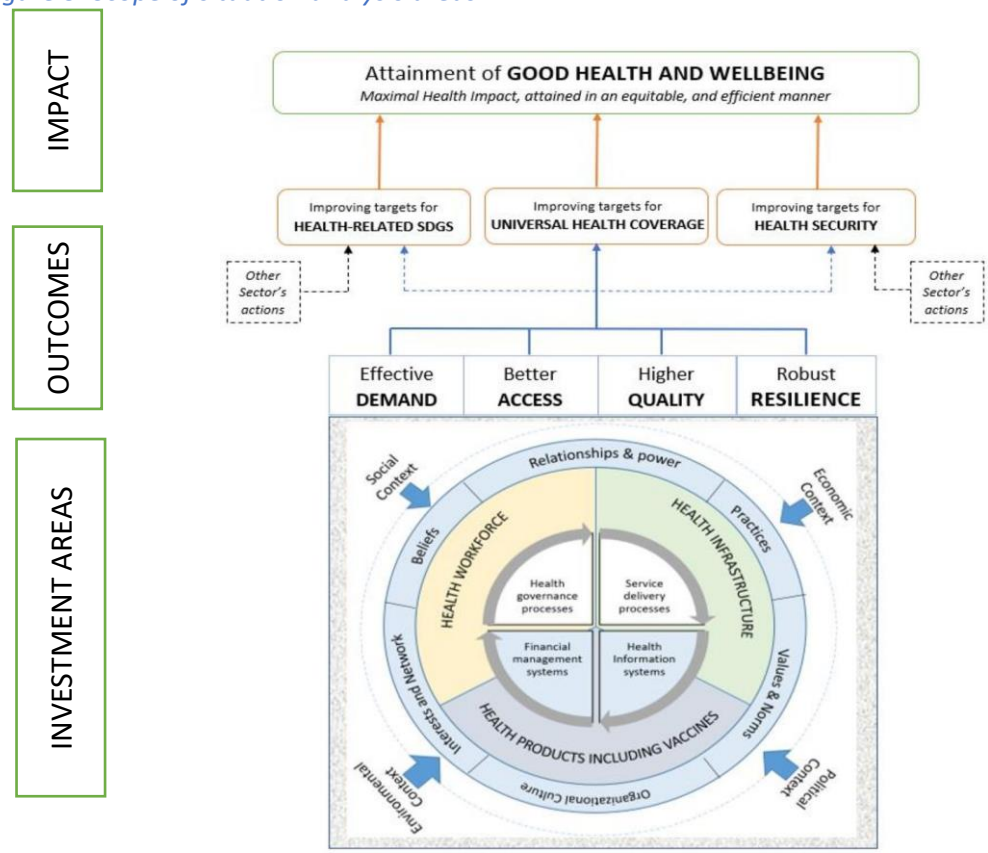
2.1 Introduction

This chapter consolidates the performance of the sector leading up to the HSSDP III goals. It is an analysis of the performance of the HSSDP II, based on its stated objectives and priorities.

The analysis builds on the findings from the midterm review of the HSSDP III, updating the status and evidence of achievement during 2017-2021, the gaps which continued to exist/ unfinished business and identification of the new strategic direction and orientation based on the health policy and the need to accelerate progress towards the attainment of the SDG health and health related targets. The progress was influenced by major external factors, specifically the emergence of the COVID-19 pandemic that influenced the health and other sectors. Additionally, the health sector new Health Policy consensus building was completed, providing the longer-term vision and focus for health in the country.

The situation analysis covers the full breadth of the health sector, basing on a logical link across the impact on health of the population, contributed to by the attainment of health and related outcomes, arising from the investments made across the health sector (refer to figure 3).

Figure 3: Scope of situation analysis areas



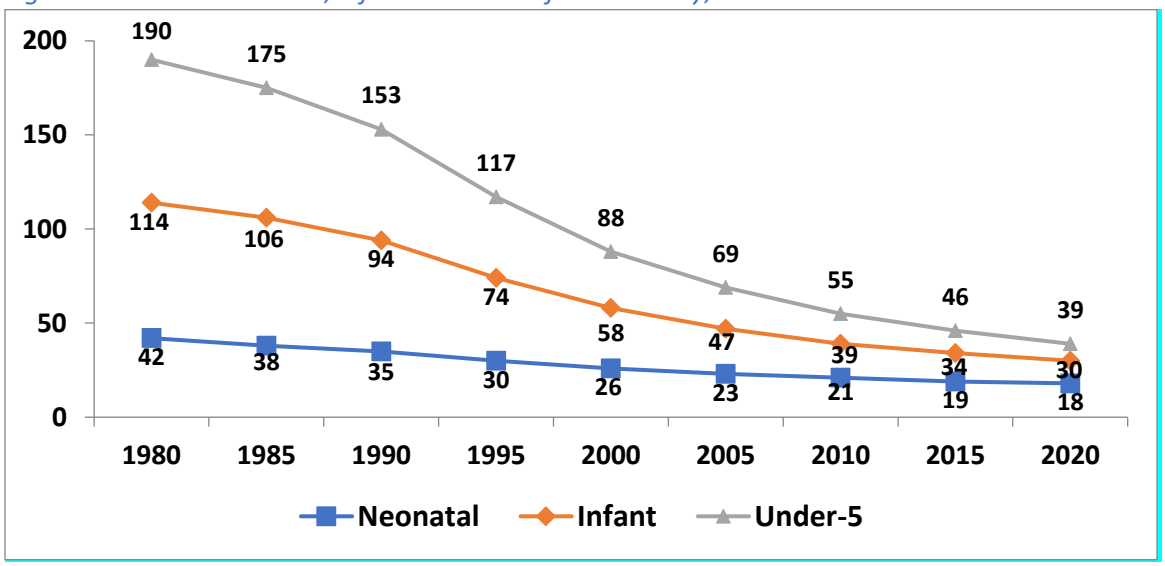
Adapted from: https://gh.bmj.com/content/6/3/e004618

2.2 Health Impact Trends

By the end of HSSDP II (2017-2021), the country was showing improvements in overall health of the population, as seen in the continued and significant improvements in age-specific impact indicators – specifically infant, under five and maternal mortality.

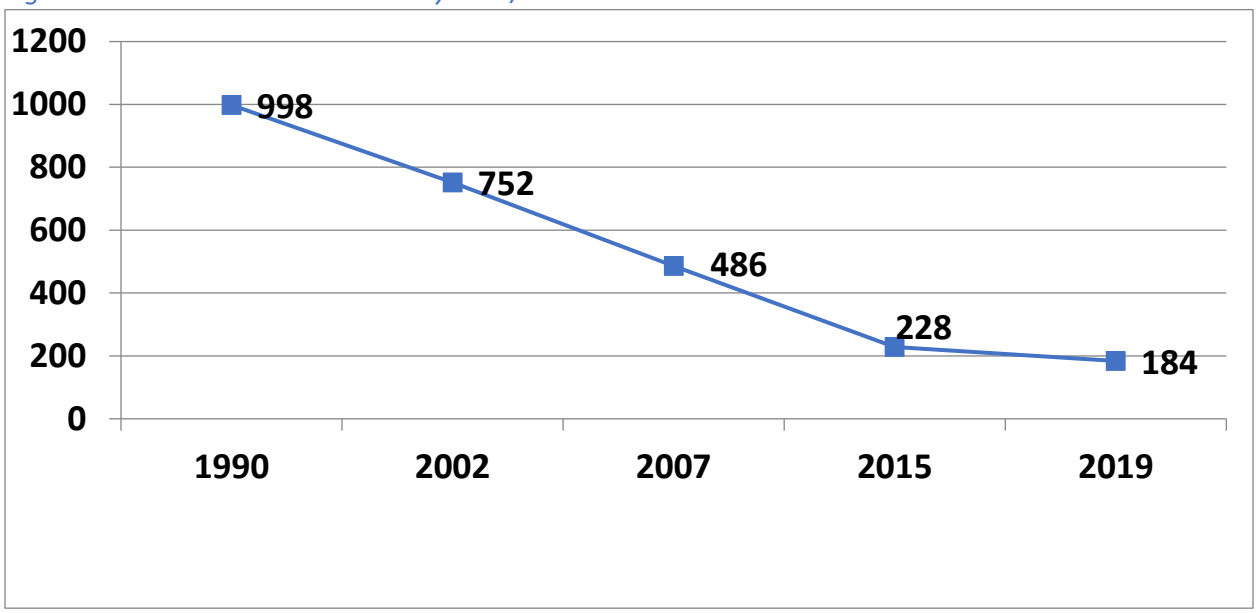
The mortality indicators continued through the HSSDP II, as indicated in figure 4 with neonatal, infant and under 5 mortalities per 1000 live births estimated at 18, 30 and 39 by 2020 respectively. As shown in figure5, the maternal mortality ratio has been estimated at 184/100,000 live births in 2019.

Figure 4: Trend in neonatal, infant and under-five mortality,



Source: UN IGME, 2021 (and previous UN IGM estimates)

Figure 5: Trend in Maternal Mortality ratio/100k live births



Data Sources: 1990 (EDHS 1995); 2002 (Mismay Ghebrehiwet et al, 2003): 2007 (EPHS 2010); 2015 (MOH estimate): 2019 (MOH estimate).

It is projected that if the country continues with the current set of interventions with the assumption of the current estimates, the country is likely to achieve the SDG target of 70/100,000. However, there is need to accelerate maternal health interventions that improve the health and well-being of mothers during and after pregnancy.

According to IHME, 2020 data shown in figure 6 below, the leading causes of death are Tuberculosis, lower respiratory infection, and diarrheal diseases. It is worth noting that most of the deaths related to communicable diseases have been on a sharp decline over the last 10 years and the deaths due to non-communicable diseases have been on the rise.

This is corroborated by HMIS Report, 2020 which indicated that the country is dealing with a dual disease burden of NCDs and communicable diseases although the non-communicable diseases are outstripping the communicable diseases. The annual health service report activity 2020 of the MOH also indicated that non-communicable diseases were the leading causes of morbidity and mortality in the hospital and health center inpatients of the country[2] [See tables 4&5 below]. A major consideration related to the data would be the need to standardize the recording and reporting using the International Classification for Diseases version 11 (ICD 11) to facilitate ease of comparability. According to the world health statistics 2020 report, it is estimated that the

2Annual health service report activity 2020, HMIS, MOH

probability of dying from any of the four major NCDs between the ages 30-70 years stood at 24.2%[3]. This ranks Eritrea fifth in the list of countries with the highest rate in the African region.

Figure 6: Top 10 leading Causes of Mortality

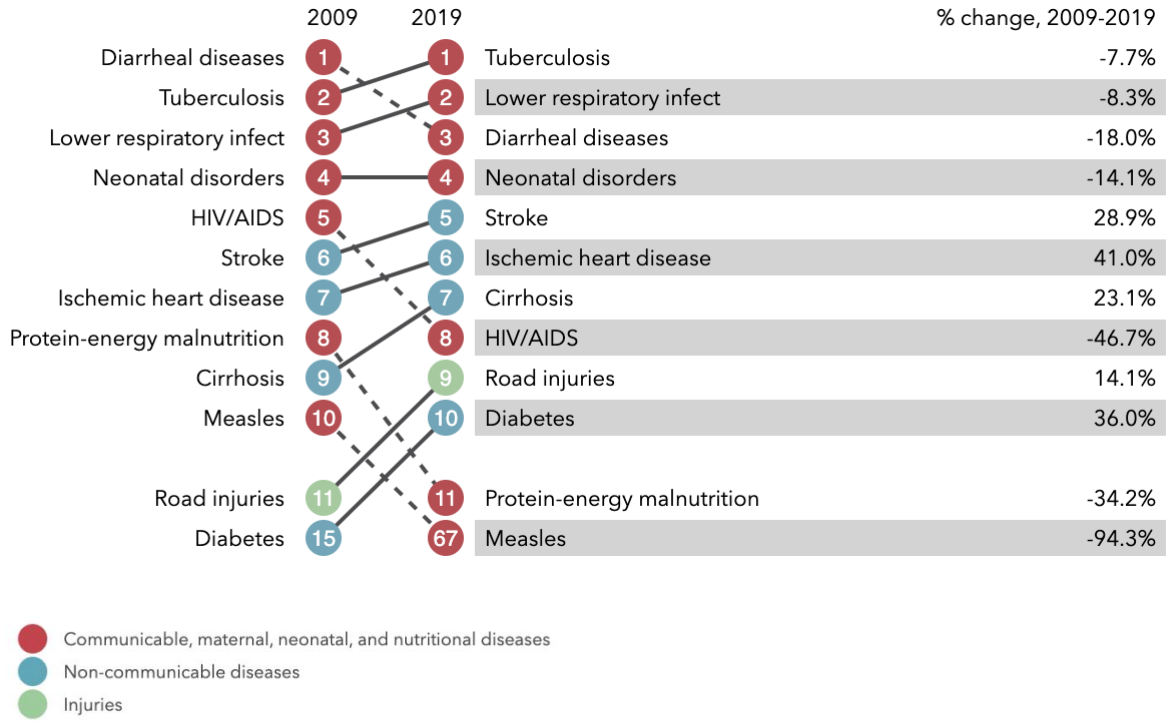


Table 4: Leading causes of IPD morbidity in Hospitals and Health Centers, National, 2020

Under Five age group			Five and Above age group		
Leading Cause	**Cases**	**%**	**Leading Cause**	**Cases**	**%**
Sever Pneumonia	3742	18.6	Pneumonia	2879	2.7
Diarrhoea with sever dehydration	1540	7.6	Fracture of other limb bones	2822	2.7
Low birth weight 1.5 -2.5k.g.	1510	7.5	Soft tissue injury, no nerve/blood vessel inv	2634	2.5
Pneumonia	1442	7.2	Gastritis/duodenitis	2609	2.5
Malnutrition	1139	5.7	Cataracts, other lens disorders	2424	2.3
Pending neonatal sepsis	797	4.0	Diabetes mellitus	2106	2.0
Burns	601	3.0	Asthma	2025	1.9
Diarrhoea with out dehydration	588	2.9	Spont. Compl. abortion with (infection...)	1880	1.8
Acute pharyngitis/tonsillitis	571	2.8	Other urinary system diseases	1870	1.8
Diarrhoea with some dehydration	509	2.5	Other causes of Ceaseran Section	1836	1.7
Top ten leading causes	**12439**	**61.8**	**Top ten leading causes**	**23085**	**21.8**

3World health statistics 2020: monitoring health for the SDGs, sustainable development goals, WHO 2020

Table 5: Ten Leading causes of IPD mortality in Hospitals and Health Centers, National, 2020

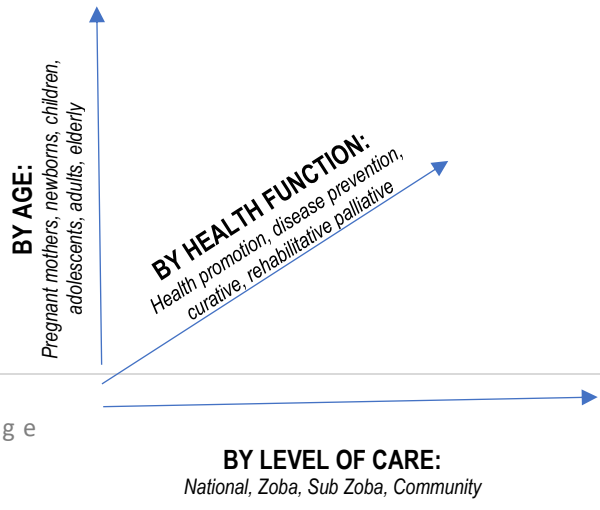
Under Five age group			Five and Above age group		
Leading Cause	**Cases**	**%**	**Leading Cause**	**Cases**	**%**
Intrauterine hypoxia/birth asphyxia	19	19.2	Heart failure	104	14.4
Neonatal respiratory distress syndrome	16	16.2	Septicemia	57	7.9
Other heart diseases	6	6.1	Diabetes mellitus	41	5.7
Hemolytic disease of fetus and newborn	5	5.1	Acute myocardial infarction	37	5.1
Other digestive system congenital malformations	5	5.1	Sever Pneumonia	30	4.1
Extremely low birth weight <1 Kg.	4	4.0	Stroke, not spec. as hemorrhage/infa.	30	4.1
Other nervous system congenital malformations	4	4.0	Pneumonia	29	4.0
Hepatitis A (infectious)	3	3.0	Other heart diseases	26	3.6
Neonatal meconium aspiration syndrome	3	3.0	Other liver disease	24	3.3
Other conditions originating in perinatal per.	3	3.0	HIV Disease/AIDS	20	2.8
Top ten leading causes	**68**	**68.7**	**Top ten leading causes**	**398**	**55.0**

2.3 Health Outcomes: The state of Universal Health Coverage Services

Universal Health Coverage (UHC) has been defined by WHO as means that all individuals and communities receive the health services, they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course.

Within Eritrea there has been significant efforts to move the sector towards UHC and during the period of the implementation of HSSDP II the country implemented a set of interventions including the definition of the Eritrea Essential Health Care Package (EHCP), which defines the promotion, prevention, clinical, rehabilitative and palliative interventions that the country will aim to provide to all its population, by age group and at each level of care. The EHCP will guide introduction of new services for the population.

Figure 7: Essential services defined in the EHCP



The sector was able to introduce critical care services at Zoba level for all age groups largely in response to the preparation for the COVID-19 pandemic. Additionally, all Zobas introduced neonatal and pediatric intensive care services.

Costs associated with accessing and using essential health services remain a key barrier to utilization of available services. Currently, the health system has structured charges it imposes, with no fees paid at primary care facilities (health stations, health centres), and for most common services. At hospital level, a fee for service is maintained for non-exempt services, which is lower for referred patients. Poverty certificates are issued where someone is not able to pay.

No fees are charged in the first 24 hours, to ensure people can access emergency services. These user fees do not represent a major financial barrier to accessing services, as a result. The collections are consolidated as part of Government revenue.

The Country is making progress towards the achievement of UHC with the UHC service coverage index increasing from 47.6% to 54.9% between 2016 and 2019 as shown in figure 8. The UHC Service coverage index is contributed by SRMNCAH, infectious disease, non-communicable and service capacity indices which are generated based on a set of indicators.

Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population). The indicator is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage, listed below.

The tracer indicators are as follows, organized by four broad categories of service coverage:

I. Reproductive, Maternal, Newborn and Child Health

1. Family planning: Percentage of women of reproductive age (15–49 years) who are married or in-union who have their need for family planning satisfied with modern methods.
2. Pregnancy and delivery care: Percentage of women aged 15-49 years with a live birth in a given time period who received antenatal care four or more times.
3. Child immunization: Percentage of infants receiving three doses of diphtheria-tetanus-pertussis containing vaccine.
4. Child treatment: Percentage of children under 5 years of age with suspected pneumonia (cough and difficult breathing NOT due to a problem in the chest and a blocked nose) in the two weeks preceding the survey taken to an appropriate health facility or provider.

II. Infectious diseases

5. Tuberculosis: Percentage of incident TB cases that are detected and successfully treated
6. HIV/AIDS: Percentage of people living with HIV currently receiving antiretroviral therapy
7. Malaria: Percentage of population in malaria-endemic areas who slept under an insecticide-treated net the previous night [only for countries with high malaria burden]
8. Water and sanitation: Percentage of households using at least basic sanitation facilities

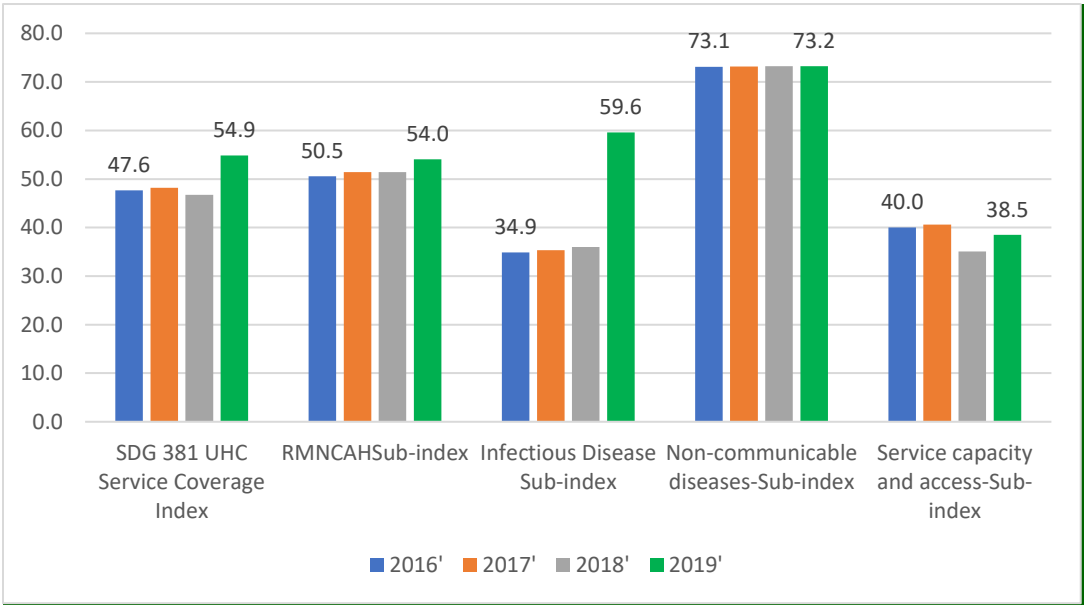
III. Non-communicable diseases

9. Hypertension: Age-standardized prevalence of non-raised blood pressure (systolic blood pressure <140 mm Hg or diastolic blood pressure <90 mm Hg) among adults aged 18 years and older
10. Diabetes: Age-standardized mean fasting plasma glucose (mmol/L) for adults aged 18 years and older
11. Tobacco: Age-standardized prevalence of adults ≥15 years not using tobacco in last 30 days

IV. Service capacity and access

12. Hospital access: Hospital beds per capita, relative to a maximum threshold of 18 per 10,000 population
13. Health workforce: Health professionals (physicians, psychiatrists, and surgeons) per capita, relative to maximum thresholds for each cadre
14. Health security: International Health Regulations (IHR) core capacity index, which is the average percentage of attributes of 13 core capacities that have been attained.

Figure 8: Trends in progress towards UHC

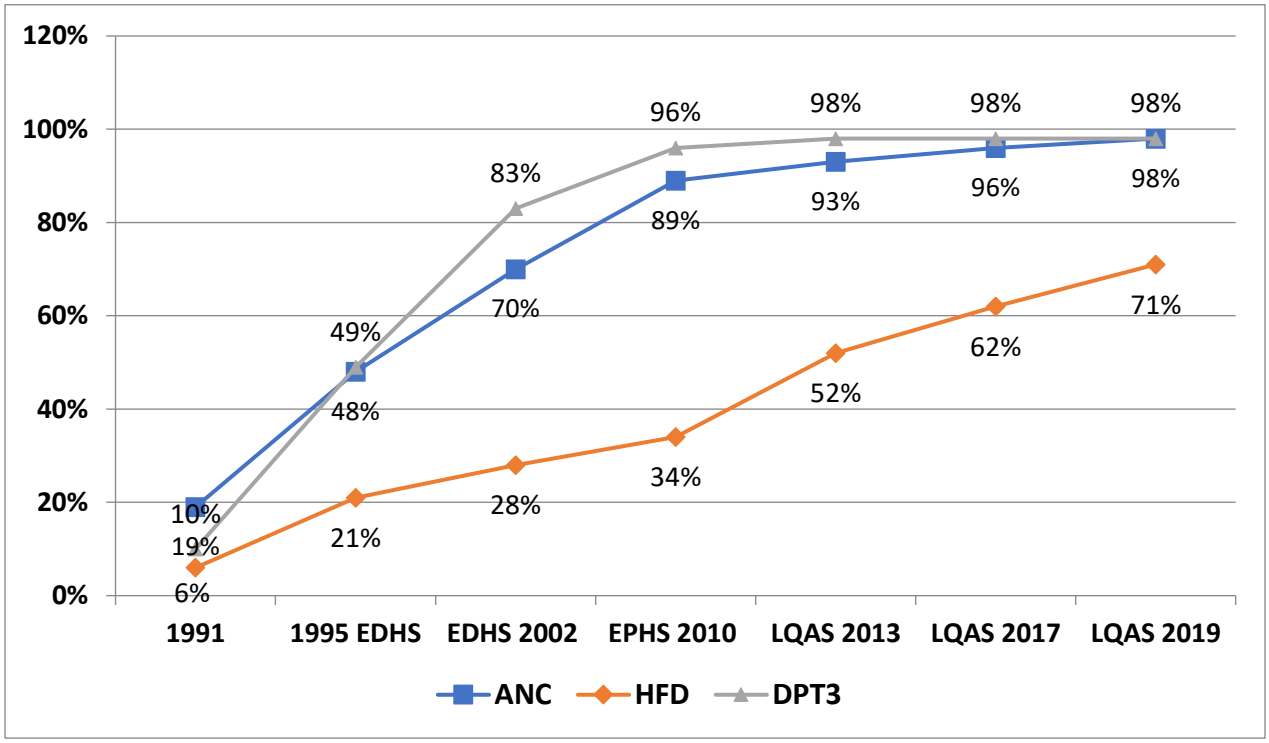


2.2.1 State of Maternal, Neonatal, Child Health and Nutrition

Both the mid-term and end-term review of the HSSDP II 2017-2021 carried out in 2019 and 2021 revealed a significant increase in access and utilization of health services. This was attributed in part to improved access through expansion of health infrastructure, reduction of financial barriers through provision of free PHC services. The number of health facilities, staff and equipment has significantly improved access at all levels. Most Zobas focused on expansion of maternity waiting homes, including staffing of midwives and availability of staff and services 24/7 (MOH – MTR report, 2019).

As shown in figure 9, the proportion of deliveries attended by a skilled health worker has continued to increase from 62% in 2017 to 71% by 2019, with wide disparities seen across the Zobas. The proportion of women attending 1st ANC was sustained at **96% - 98%** during the period of the implementation of the strategy while the ANC 4th visit, increased marginally from 61% in 2017 to 64% in 2020 (LQAS, 2017 and 2019; EPI coverage 2017 and 2020). Meanwhile, the immunization coverage for Measles Containing Vaccine first dose (MCVI) was sustained at **97% - 98%** between 2017 and 2020 (HMIS/MOH).

Figure 9: Coverage of Immunization (DPT3), Antenatal Care Attendance (ANC), and Delivery at Health Facility (HFD), 1991-2019



As shown in the table 6 below, using the WPP-2019 estimation for number of women in reproductive age (15-49) and the number of family planning users in the HMIS data, the contraceptive prevalence rate, among all women aged 15–49 is estimated at 13.5 percent for modern method in 2019.

Table 6: Contraceptive Prevalence Rate, 2013-2019

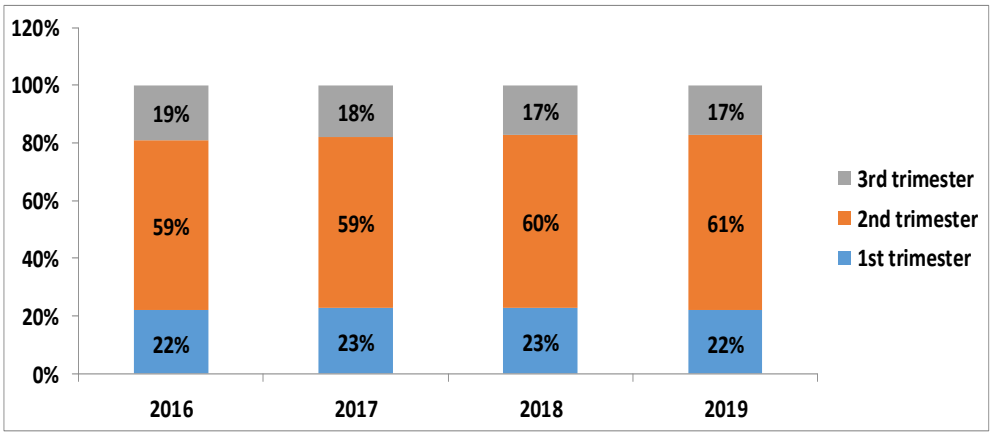
Year	2013	2014	2015	2016	2017	2018	2019	2020
Update HMIS FP clients	76,477	70,171	58,072	67,646	89,525	97,695	110,204	122,620
WPP-2019 estimated number of women in reproductive age (15-49)	775,505	773,194	772,815	784,682	796,108	808,523	823,546	841,597
CPR (%)	9.9	9.1	7.5	8.6	11.2	12.1	13.4	14.9

Source: HMIS: Recalculated HMIS data for 2013-2019, using the WPP-2019 estimation for number of women in reproductive age (15-49 years)

The State of the World Population Report (UNFPA, 2020) estimates the unmet need for family planning, among all women aged 15–49 years at 18%, while among married or in union it is estimated at 29% for 2020. The report further estimates the proportion of demand satisfied with modern methods, among all women aged 15–49 years at 31% in 2020. The potential for rapid update and a large impact is therefore large.

Overall, there was progress in the implementation of maternal newborn, child and adolescent health over the period of the implementation of the strategic plan. There was, however, marginal increase in four or more ANC visits and overall high drop-out between ANC1 and ANC4, which could be attributed to late presentation of the mothers for the ANC visits, with at least 77% presenting for their ANC1 in the second or third trimester (see figure 10).

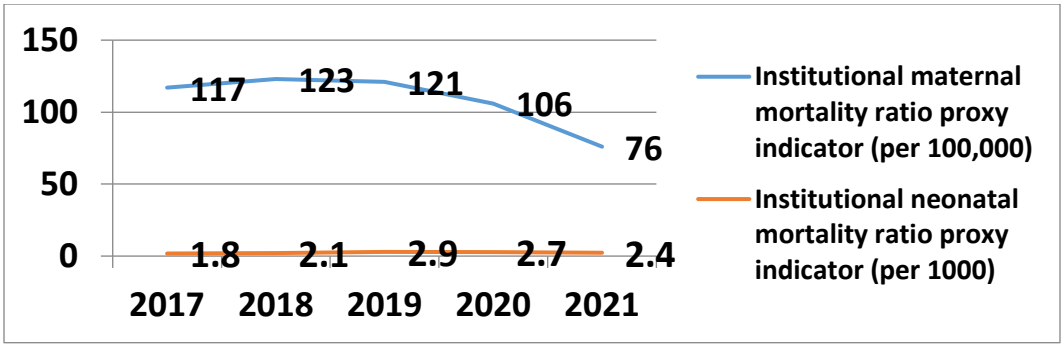
Figure 10: ANC Percent of pregnant women 1st contact by trimester. 2016-2019



Source: HMIS/DHIS2 Data

It is however notable that from figure 11 below the institutional maternal mortality rate has been on the decline while the number of neonatal deaths has been on the increase. The latter may also be a reflection of the increasing number of pediatric and neonatal intensive cate units in health facilities and the resulting increase in seeking medical care for neonates, rather than letting them die at home.

Figure 11: Institutional maternal mortality rate per 100,000 and Number of neonatal deaths



Data Source: HMIS, 2020

The country continued to make significant strides in expanding the utilization of essential services. Clear efforts are in place to reach hard-to-reach populations. These include:

- Expanded outreach activities to populations who cannot access health services. For instance, up to 15% of the population in Mendefera Sub-Zoba live more than 10km from a health facility, leading to 110 outreaches conducted monthly. Of these, 35 are to populations classified as hard to reach.
- Maternity waiting homes for pregnant mothers that travel more than an hour to reach their nearest health facility. For instance, Northern Red Sea Zoba has established 17 maternity waiting homes in its facilities – 14 in health stations and 3 in community hospitals – with plans to add 5 more.
- Some form of e-consultation is taking place within the country, with some of the Zoba hospitals conducting peer consultations on phone.

All these interventions have led to the sustained increases in utilization of essential services by the population, and specifically the hard-to-reach persons.

RMNCAH services uptake has improved, with Antenatal Care Coverage and Skilled Birth Attendance continuing to improve even without additional health facilities. Communicable disease control services have also witnessed increased coverage of services, particularly for malaria, tuberculosis and HIV.

Nutrition

Nutrition is inextricably linked to the health and well-being of populations and focusing on its underlying factors will contribute substantially to improving outcomes for the people of Eritrea. These factors include sustainable food security, food safety, and diet quality/micronutrient composition. Nutrition is a key area for collaboration between the Ministry of Health (MOH) and Ministry of Agriculture (MOA), whose areas of intersecting interests also include antimicrobial resistance (AMR) and the management of disease outbreaks (e.g. zoonotic diseases and others).

During the period covered by the HSSDP II, the National Action Plan for Antimicrobial Resistance (AMR) was finalized. The Food, Nutrition and Security Group was also created; this is being done in collaboration with MOH, MOA, the Ministry of Trade and Industry (MOTI), and the Ministry of Marine Resource (MOMR). At the Zoba level, there is ongoing collaboration with other sectors, especially the Local Government, Agriculture, and the Ministry of Labour and Social Welfare (MOLSW).

Working with communities at village and household level, the Minimum Integrated Household Agricultural package (MIHAP) programme has increased people's access to more varied and nutritious options, and physical changes have already been observed in the settings where activities are ongoing. In operation since 2013, MIHAP is communal and integrated, and has even helped to shift the strategic objectives of development partners based on lessons from the programme.

2.2.2 State of Prevention and Control of Communicable Diseases

Eritrea continues to face a large burden of communicable disease from malaria, HIV, TB, neglected tropical diseases (NTDs), and hepatitis.

HIV Prevention and Control:

In 2010, the estimated overall national HIV prevalence rate in adults (15-49 years) was 0.93%. The prevalence was 2.3 times higher among women with 1.13%, compared to 0.5% among men. According to SPECTRUM 2021 modeling, the estimated overall HIV prevalence in adults has declined from a peak of 2.0% [95% CI; 1.4% - 2.6%] in 1996 to 0.70% [95% CI; 0.50% - 0.90%] in 2020.

The above estimates are corroborated by the findings as indicated in figure 12 below, which shows the significant decline in the number of HIV positive clients amongst those attending HIV testing and Counseling. There has also been an increase in the uptake of HIV ART in the Country reaching 73% of those estimated to be eligible (refer figure 13). There remain efforts to be made to ensure universal uptake of HIV ART.

Figure 12: Trend in HIV positivity amongst HTC Clients

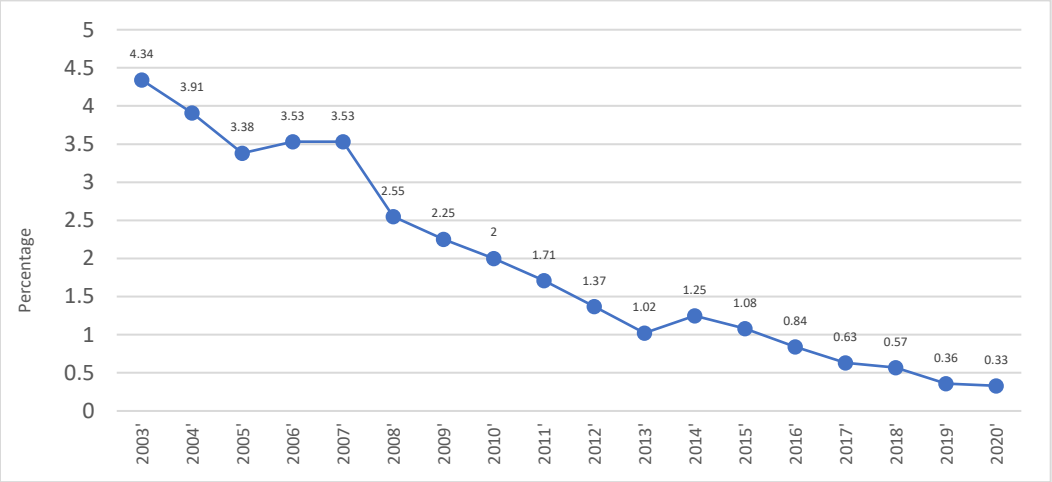
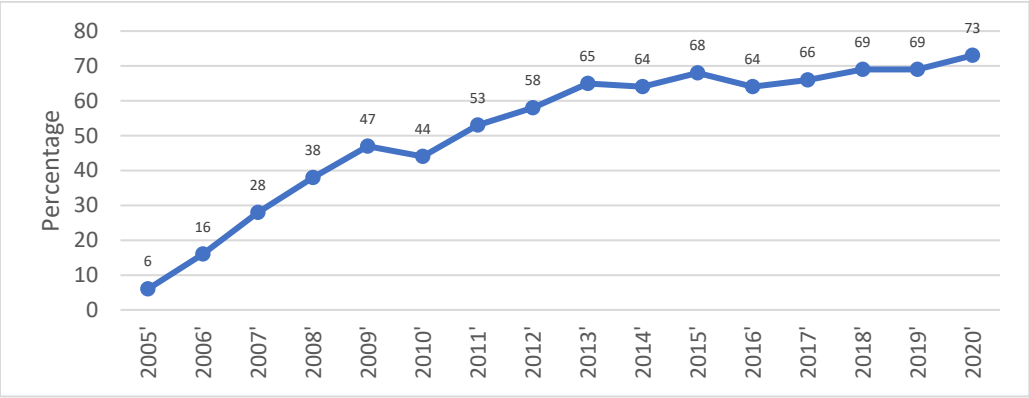


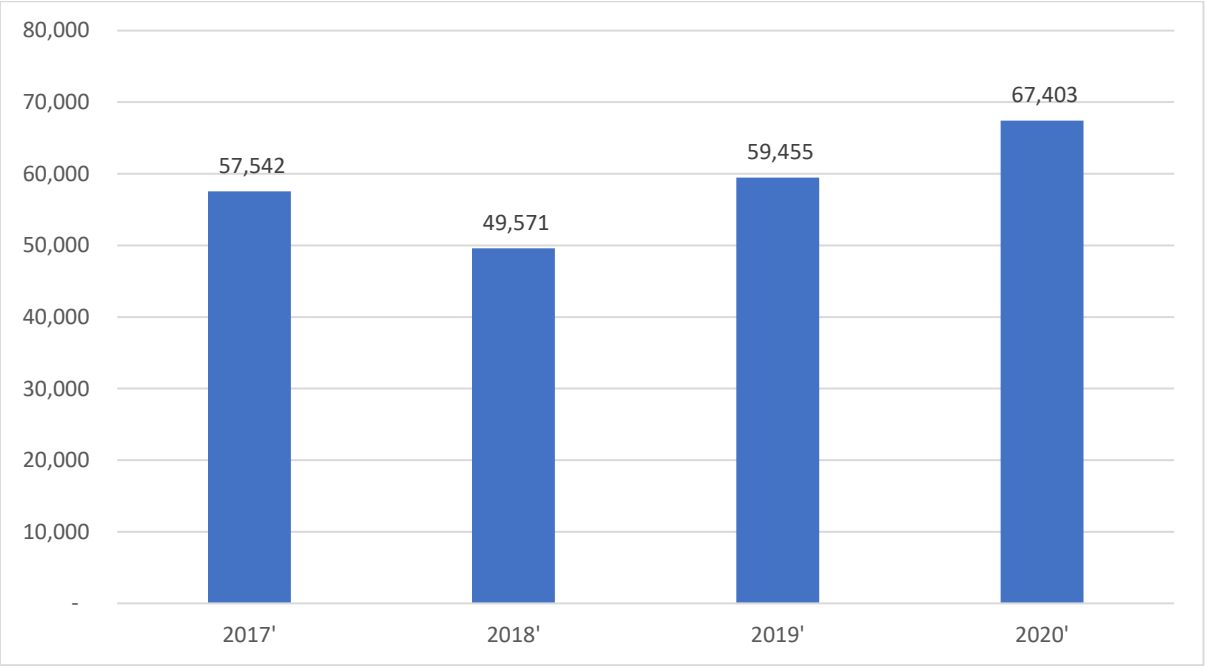
Figure 13: Percentage uptake of HIV ART



Malaria Prevention and Control:

The current stratification shows malaria is highly heterogenous, ranging from incidence of 3.0 to 142.0 cases per 1000-people per year. Of the total 58 sub-Zobas of the country, 41 sub-zobas (70%) are malaria endemic localities with Gash Barka, Debub and Semenawi Keih Bahri Zobas bearing over 90% of the national burden. Gash Barka has the highest malaria burden in Eritrea, recording around 55,000 cases (80%) of the total 68,756 cases reported in 2019 (WHO Annual Report 2020). This translates to percent incidence of 58: range 13.4–142.0 cases per 1000 people per year. Overall, there has been a 13.4% increase in the total number of malaria cases treated in health facilities, community levels, and national referral hospitals rising from 59,455 in 2019 to 67,403 by the end of 2020 (see figure 14).

Figure 14: Total Malaria cases reported

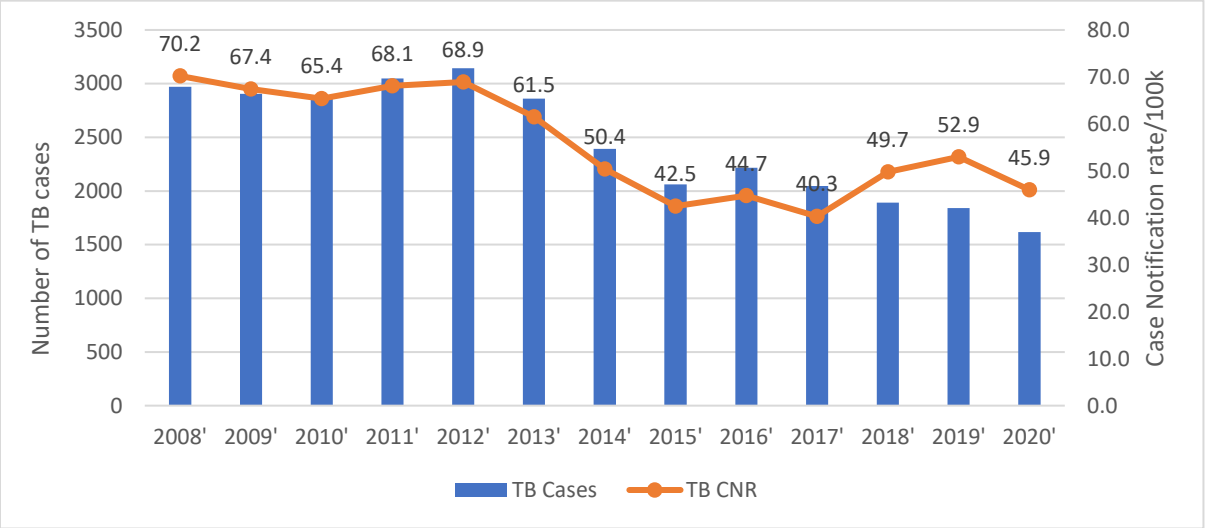


The Malaria program has undertaken a malaria end term review of its strategic plan, developed a new one for the period 2021 –2025, and conducted an anti-malaria drug resistance monitoring.

Tuberculosis Prevention and Control:

Since 2008, there has been a steady and continuing decline in overall TB notification in Eritrea. As depicted in figure 15, the number of notified new and relapse TB cases in Eritrea decreased from 2,970 (equivalent to 70.2 per 100,000 population) in 2008 to 2,045 (40.3/100,000) in 2017, with an average rate of decrease of 6.1% per year.

Figure 15: Trend on national TB notifications, 2008-2020



It is important to note that, although the case notification rate per 100,000 population has started to decline, the rate is still higher than the 2017 rate when the implementation of the strategy started.

It is however notable that as shown in figure16 below, the case holding for TB treatment has consistently remained high in the country at above 90% over the last five years. HIV Control program seems to have made progress against the set targets while TB, although the intention was to increase the case notification through active case search, did not reach the target.

Figure 16: TB treatment success rate: 2003-2020

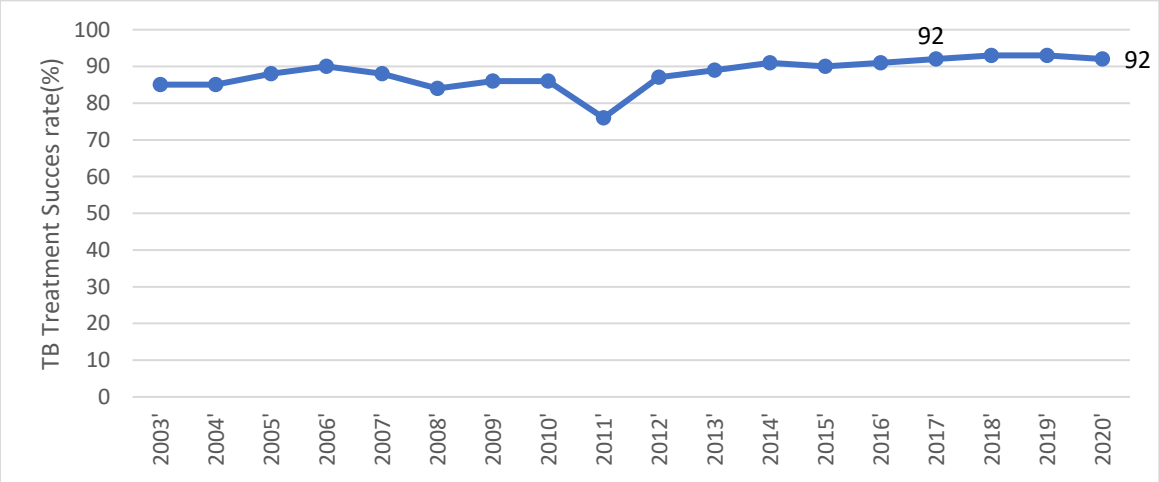
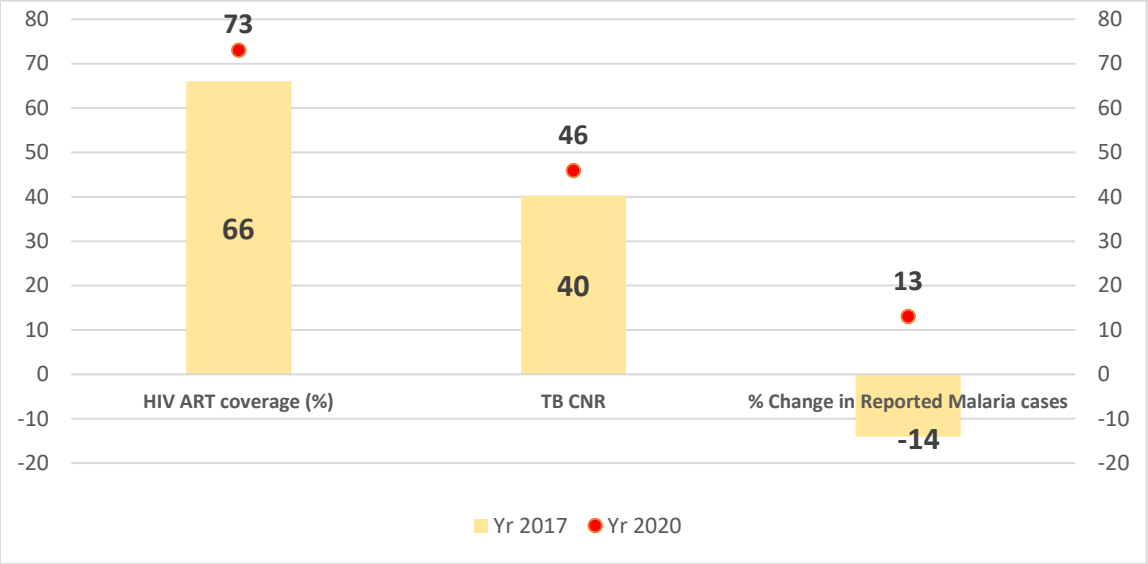


Figure 17: Performance across Key indicators in Communicable Disease Control



2.2.3 State of prevention and control of non-communicable conditions

As Eritrea's health sector progresses, the country is facing a dual burden of both communicable and non-communicable diseases (NCDs). To combat the increasing prevalence of NCDs, the HSSDP II's programmatic scope included initiatives in major chronic diseases, oro-dental health, dental and ear, nose, throat (ENT) eye diseases, mental health, and injuries and violence.

The HSSDP II aimed to promote healthy lifestyles and provide adequate human resources, equipment, and supplies to address the growing burden of NCDs. To accomplish this, it had two focus areas: risk factor reduction through lifestyle and behavior change, and early diagnosis and treatment of NCDs. HSSDP II's planned interventions include linking health promotion and NCD prevention, integrating NCD programs in primary health care and developing NCD programming for schools.

The HSSDP II included 5 priority targets to measure progress on prevention and control of non-communicable diseases:

1. Increase Cataract surgical rate/year
2. Tobacco use among persons aged > 18 years (%)
3. Probability of dying from any of (CVDs), cancer, diabetes, chronic rheumatoid diseases (CRDs) between age 30 and age 70 (%)
4. Increase percentage of health seeking behavior of community members for NCDs by 10% every year
5. Reduce road traffic mortality rate (per 100 000 population)

From the analysis of the performance over the last four years, the country made progress and met the target on the cataract surgical rate/million and the 10% every year of health seeking behavior of community members for NCDs has been achieved. It is notable that no data were available to measure the four indicators above and the country should make efforts to develop data systems to be able to collect the data.

Major Chronic Diseases:

To combat major non-communicable diseases (MNCDs), which consist of cardiovascular diseases, Diabetes, Cancer and chronic respiratory diseases, Eritrea developed an MNCD Five Year Strategic Plan and policy. In part, the plan aims to reduce the risk factors for chronic diseases among the population. Though the Eritrean population has a relatively strong risk factor base already, including healthy diets, physical activity and limited tobacco and alcohol usage, the country undertook many promotional activities to reinforce these healthy lifestyle choices. These included airing radio and TV spots, conducting community sensitization and education campaigns in all Zobas, and distributing various health promotional brochures on diabetes, hypertension, cancer, asthma, alcohol, physical activity and tobacco.

Beyond MNCD prevention activities, the country also emphasized interventions to diagnose and treat chronic diseases. By 2020, Eritrea had established 351 NCD corners, exceeding its end-term target of 130 and ensuring that health facilities in every Zoba could provide chronic disease screening and support services. Additionally, the country conducted trainings to increase healthcare provider knowledge of NCD management focusing on WHO-PEN for about 1,137 health care workers. Moreover, rheumatic heart disease (RHD) screening in school children is done in small scale with the support of Italian experts (UNCORE UNMONDE MASSA). The prevalence of RHD in the schools is very high at 5.3%. Among the five-major chronic non-communicable diseases; Asthma, and HTN have higher incidences.

National Blindness Prevention Program:

Eritrea's National Blindness Prevention and Control Program works to reduce or eliminate the main causes of avoidable blindness (mainly cataract and trachoma) among the population. The country has made tremendous progress towards preventing cataract blindness. There has been a steady increase in number of cataract surgeries performed over the years; from 4,923 surgeries in 2015 to 8,018 surgeries in 2019 but with fluctuations across the years. For a population of 3.5 million, this equates to a Cataract Surgical Rate (CSR) of just under 2,000. Whereas this CSR is higher than many African countries, it's still far below what is required to prevent avoidable blindness due to cataract. To reduce the cataract backlog, it is necessary to have a cataract surgical rate which is at least greater than the incidence of 'operable' cataract. Considering the percentage of elderly people in Eritrea, the cataract surgical rate target for the next 5 years is 2500 operations/million population /year. While there is need to increase the cataract surgical coverage and surgical rate to keep ahead of cataract incidence, strong emphasis is placed on initiatives to improve cataract surgical outcomes to ensure that the cataract surgeries result in good visual outcomes at a level recommended by WHO.

Eritrea started mapping for trachoma in 2006 surveying 36 sub-zobas in Debub, Gash-Barka and Northern Red Sea zobas. In 2014, further population-based surveys were conducted in 15 sub-zobas with support from the Global Trachoma Mapping Project (GTMP). During HSSDP II (in 2019), additional 16 sub-zobas were mapped to complete trachoma baseline mapping for all the 58 districts in the country. These surveys identified 22 sub-zobas had active trachoma, with a Trachoma Folliculitis (TF) prevalence above 5%. The surveys also identified 31 sub-zobas with a trichiasis (TT) prevalence above 0.2%, necessitating a trichiasis surgical intervention program. Trachoma interventions have been implemented in all 42 endemic sub-zones. While the Eritrea's targeted elimination of trachoma by 2020 was not met, there is evidence to the significant progress that has been made especially in the reduction of sub-zobas with Trachomatous Folliculitis (TF)

and a significant reduction in the Trachomatous Trichiasis (TT) backlog. The key remaining actions to eliminating and sustaining trachoma elimination in Eritrea include clearing the remaining TT backlog, completing Mass Drug Administration (MDA) in areas that had recrudescence, completing impact/surveillance surveys, and scaling up implementation of Facial cleanliness and environmental sanitation (F&E) components.

Since the beginning of HSSDP II, the program has promoted primary eye care in health facilities and expanded the SAFE[4] strategy implementation to Anseba, Gash Barka, and Northern Red Sea.

Oro-dental and Ear, Nose and Throat (ENT):

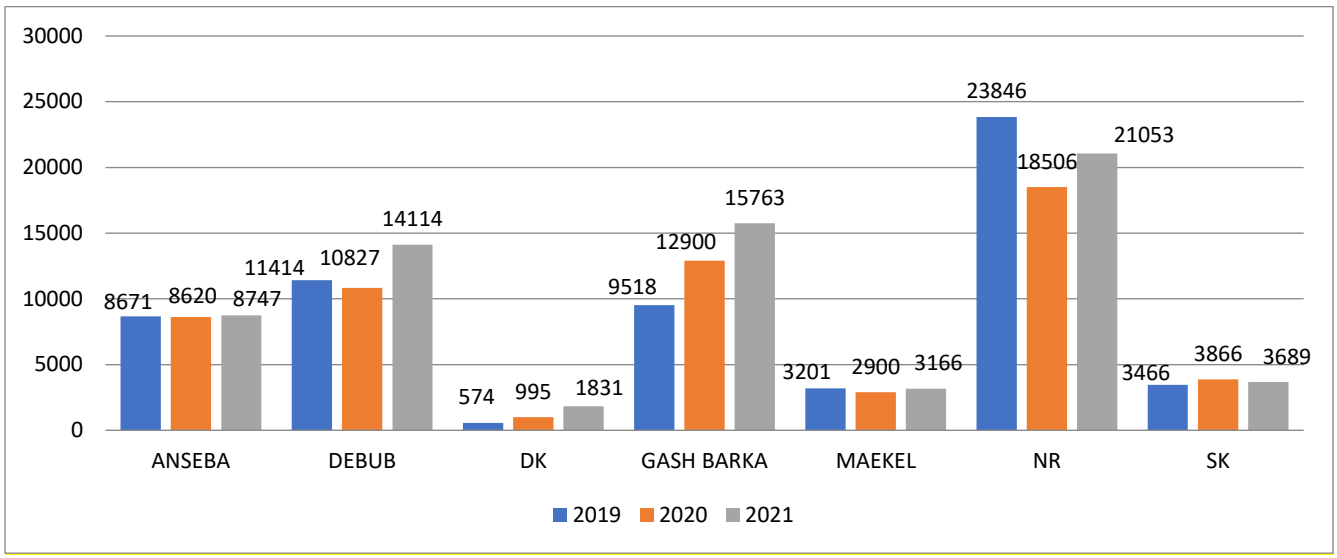
Oro-dental and ENT diseases are among the most common non- communicable diseases (NCDs) and affect people throughout their lifetime, causing pain, disfigurement, social isolation, distress and even death. They share risk factors with the leading NCDs, including tobacco use, harmful alcohol consumption and unhealthy diets high in sugar. They have a negative social impact and adverse consequences on the quality of life of affected people, while their treatment places a considerable economic burden on individuals, communities and countries. During HSSDP II, Eritrea developed an Oro-dental & ENT 5 Year Strategic Plan. The country sensitized communities on oro-dental health, by providing education at schools and health facilities and developing radio spot messages. It also provided training for hundreds of health workers to better understand and treat oro-dental and ENT diseases. The country created various training modules, conduced TOT sessions for 220 health workers, and produced training manuals on oral health and ENT. To increase the accessibility and utility of these manuals, Eritrea translated them both into Tigrigna. During HSSDP II, it is observed that the number of cases of this group is increasing significantly.

Injuries and Violence:

Though Eritrea's injury rates have been relatively low in recent years, the country developed and implemented an Injury & Violence Strategic Plan at the beginning of HSSDP II. To improve knowledge about the nature and number of injuries within its borders, Eritrea developed an Injury Surveillance System (ISS), trained 305 health workers on ISS data entry and analysis software, and trained 292 health workers on ISS usage.

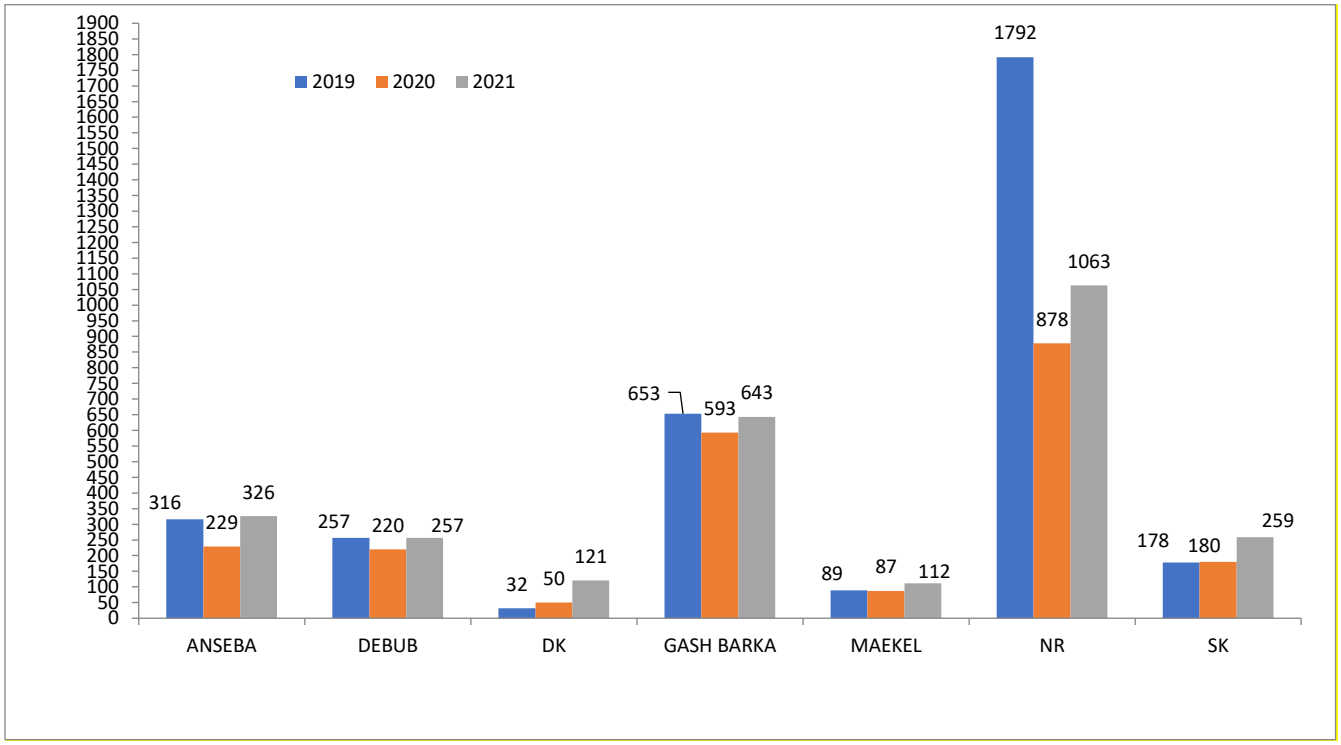
Epidemiology of major injuries

Figure 1. All Types of Injuries



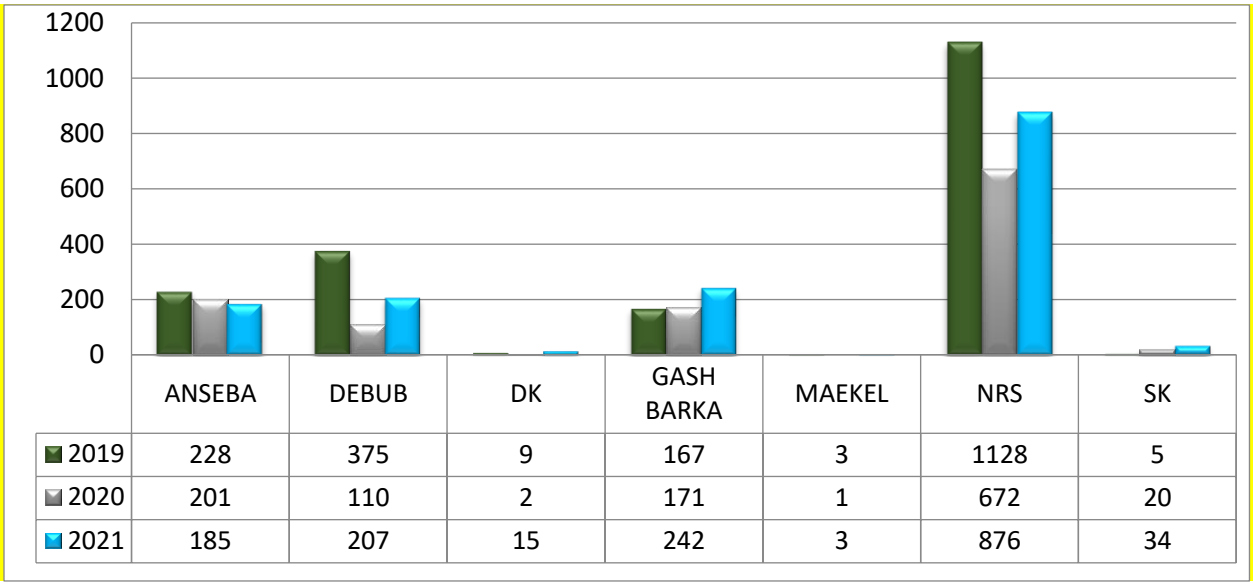
As shown in Figure 1, the highest number of all types of injuries in 11 months of 2021 occurred in National referral hospitals followed by Gash Barka and Debub zones.

Figure 2. Burn Injury



As shown in Figure 2, the highest number of burn injury in 11 months of 2021 occurred in National referral hospitals followed by Gash Barka and Anseba zones.

Figure 3. Car and other Vehicle Injury



	ANSEBA	DEBUB	DK	GASH BARKA	MAEKEL	NRS	SK
2019	228	375	9	167	3	1128	5
2020	201	110	2	171	1	672	20
2021	185	207	15	242	3	876	34

As shown in Figure 3, the highest number of car and other vehicle injury in 11 months of 2021 occurred in National referral hospitals followed by Gash Barka and Debub zones.

Traffic Police 2019 – 2021 Traffic Accidents Report

Year	No. of Accidents	No. Injuries		No. Deaths
		Minor	Severe	
2019	3914	1409	578	101
2020	1848	756	337	67
2021	2367	898	364	100

Mental Health:

During HSSDP II, Eritrea finalized its Mental Health Policy and Strategic Plan of Action for 2019-2023. The country also focused on improving health worker capacity with regards to mental health. It printed 900 copies of the 2nd WHO mental health Global Action Program-Intervention Guide (mhGAP-IG), conducted a TOT for 180 health workers on mhGAP-IG, and trained 260 health workers on mhGAP-IG. Beyond working with health workers, the country also held mental health awareness trainings and sensitization sessions for school teachers and students. In addition, there is Mai-temenai residential rehabilitation center for people with chronic mental health

disorders. However, the program observed that health facilities focus more on physical health problems but less on mental health problems where during the next years this behavior should be changed and give equal priority to mental health problems.

2.2.4 State of Cross Cutting Health Interventions

To mitigate the public health impact of poor sanitation and hygiene, occupational hazards, consumption of unsafe food, climate change effects, epidemics and disasters, HSSDP II outlined a number of key cross cutting interventions and innovations. These included developments of guidelines and regulations to promote clean and safe environments, utilizing climate data to predict the emergence of climate-related public health events, and building health system resilience in the face of emergencies and disasters.

The HSSDP II includes 5 priority targets to measure progress on cross cutting health interventions:

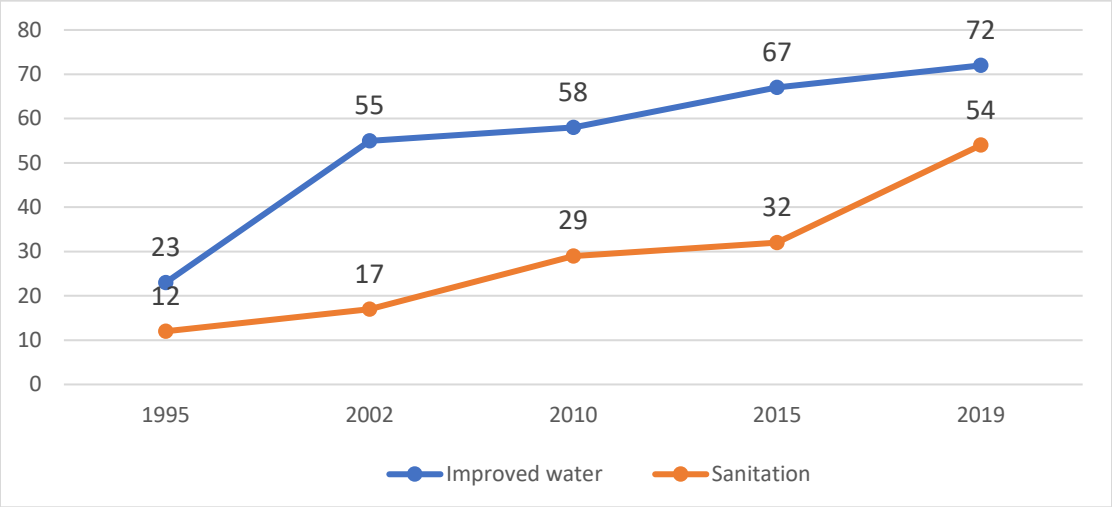
1. Proportion of population using improved water and sanitation
2. Reduction of food borne diseases
3. Annual mean concentrations of fine particulate matter (PM23) in urban areas (µg/m3)
4. Proportion of population with primary reliance on clean fuels (%)
5. International health regulation core capacity index

Water, Sanitation and Hygiene:

Throughout HSSDP II, Eritrea has made significant progress in improving sanitation and hygiene. To evaluate the state of this service area, the country conducted a Water, Sanitation and Hygiene Bottleneck Analysis (WASH-BAT). With this analysis informing the development of a One WASH Strategy and One WASH Investment Plan for 2019-2030, Eritrea implemented a number of reforms. The Ministry of Health took on an increasing important oversight role, ensuring national hygiene standards were met, testing water quality and inspecting food and drink establishments. The country also procured and distributed WASH items, such as aqua-tabs, water filters, and water test kits. To promote community involvement with hygiene and sanitation initiatives, Eritrea provided menstrual hygiene education and conducted sensitization programs on hand and face washing.

The proportion of the population using improved sanitation increased significantly over the period of the HSSDP II, which increased to 54%, while access to improved water source increased to 72% by the end of 2019 (refer to figure 18).

Figure 18: Population access to at least improved source of water and basic sanitation (%)



Source EDHS 1995, EDHS 2002; EPHS 2010; MDG report 2015; MOH estimate 2019.

Health Promotion:

Health promotion, as a cross-cutting program, has been more active during the HSSDP II period. Many promotional activities like airing radio and TV spots, conducting community sensitization, social mobilization and education campaigns in all Zobas have been conducted. On top of that designing, producing, pre-testing &distributing various health promotional materials like, brochures, flipcharts, booklets& posters production activities were also conducted.

Moreover, to create a deeper understanding and increase the capacity and skills of individuals to openly discuss health and health related issues, the behavioral change communication (BCC) strategy has been systematic and focused on the most at risk groups for HIV/AIDS, TB, Malaria and Adolescence and Maternal health in coordination and collaboration with different stakeholders. These target groups were able to bring the desired behavior on all topics mentioned and enabled the community for early health seeking behavior and managing the probable epidemics.

In addition, among the promotional activities, several handbooks were developed like the training package for enhancing Interpersonal Communication (IPC) skills for health care providers in which various trainings and training of trainers (TOT) and refreshment courses were provided. This was helpful for enriching health provider and client relationships with overall IPC skills improvement, health service delivery and increased demand and utilization of services at health facilities. Moreover, the Communication for development (C4D) strategy has been developed and disseminated.

The health promotion program in collaboration with other programs has been sensitizing communities during commemoration of different national and international events like world AIDS day, national malaria week, world tobacco control day etc.

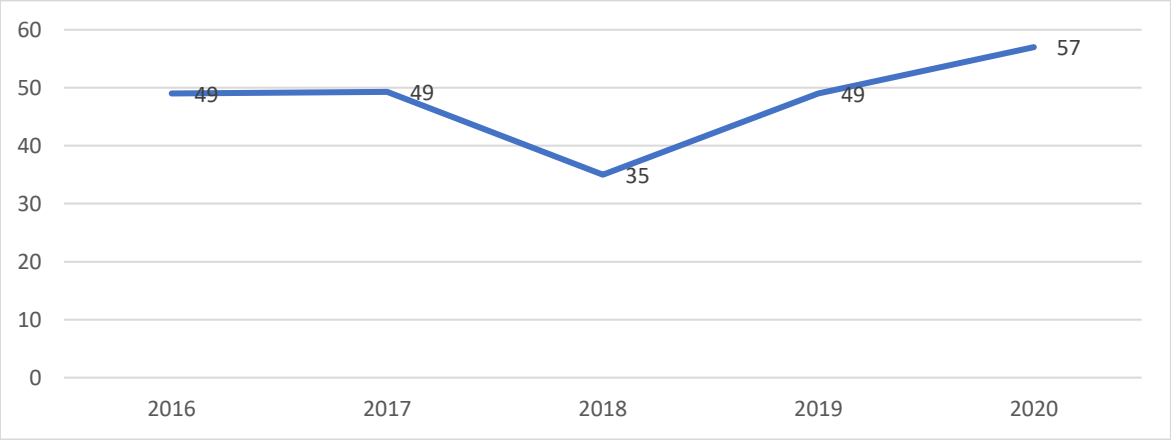
2.4 Health Security

The country-initiated Vulnerability, Risk Assessment & Mapping (VRAM) which helped identify the vulnerabilities and capacities available in country at low (district) levels. Ten hazards were prioritized as the most significant for the health sector in Eritrea: Cholera, pandemic influenza, Chikungunya, Dengue fever, migratory pests (Army worm, American Army Worm and Desert Locust), Brucellosis, drought, VHFs (Rift Valley Fever, Ebola Virus Disease and Yellow Fever), Zika and Road Traffic Accidents (RTAs).

The country also completed its National Action Plan for Health Security, based on the Joint External Evaluation (JEE) for the International Health Regulations (IHR 2005). This highlighted the key investments needed to build overall health security to an appropriate level in the country.

The country has conducted its IHR core capacity assessments annually since 2017. This has shown that the overall IHR core capacity index has improved from 49.3 (2017) to 57 (2020), with improvements noted across the capacities. Specifically, the country has enhanced its laboratory and surveillance capacities significantly.

Figure 19: Eritrea trends with Overall International Health Regulations Core capacity index, 2016-2020



The government has a strong ability to enforce public health policy measures needed to respond to shocks. As seen with the COVID-19 response, the Government was able to institute and effectively enforce more stringent public health measures, which have been fully positively responded by the community.

Specific multi-sectoral initiatives have been established. For instance, the coordination of antimicrobial resistance (with Ministry of Agriculture, marine resources, land water and environment) is functional and the AMR national action plan 2021-25 is in place. Additionally, zoonotic surveillance exists through collaboration between Ministries of Health and Agriculture. Nutrition, food safety and security initiatives are ongoing together with Ministry of Agriculture.

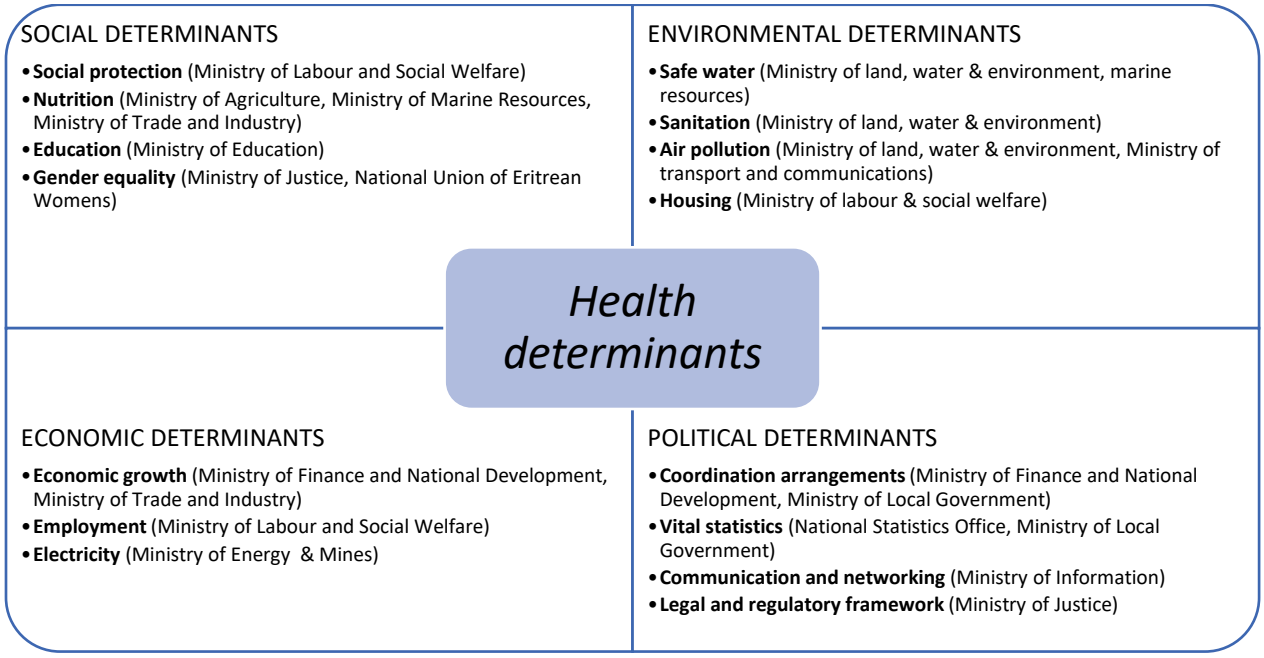
The health sector has finalized the national IPC guidelines, and IPC committees are established in all hospitals – though functioning at different levels.

The country has maintained a good notifiable disease surveillance system, that functions effectively.

2.5 Determinants of Health

The health determinants pillar represents the need to work with other sectors whose activities influence the attainment of health and wellbeing. Several sectors implement activities which have a direct influence on health and wellbeing. The expected functions are shown below.

Figure 20: Determinants of Health and related Ministries



Multisectoral collaborations are needed between the Ministry of Health and the related Ministries, in order to ensure related targets are being supported and making progress. These collaborations need to be coordinated through the Ministry of National Development at the National Level, and the Ministry of Local Government at the Zoba / sub zoba level.

2.5.1 Social determinants of health

The Ministries of Labour and Social Welfare (MOLSW), Agriculture (MOA), Marine Resources (MOMR), Education (MOE), Trade & Industry (MOTI), Justice (MOJ) and the National Union of Eritrean Women (NUEW) all contribute to social determinant targets.

Social protection interventions are coordinated through the MOLSW. These target a broad range of vulnerable persons, including unemployed persons, the elderly, orphans, high-risk groups, persons with disabilities (PWDs), disaster victims, and war veterans. There are in addition independent non-governmental associations for vulnerable persons, specifically: war veterans, visually impaired persons, hearing impaired persons, and intellectually impaired persons.

Nutrition interventions implementation is coordinated by the MOA, and include sustainable food security, food safety, and diet quality/micronutrient composition. A Food and Nutrition Security Group has been set up, as a collaboration between MOH, MOA, MOTI and MOMR. A Minimum

Integrated Household Agricultural Package (MIHAP) is being rolled out since 2015 as a means to ensure each household has basic nutrition and food needs.

Education is prioritizing both primary and secondary education for all persons in Eritrea. In addition to the education received, school health programs are implemented, focusing on screening for common conditions, vaccinations and other preventive interventions and health promotion messaging.

Gender initiatives are also in place in the country, particularly focused on enhancing the empowerment of women. An initiative in Maekel to promote access of women-headed households to land, including for agricultural use, was implemented. Additionally, efforts are present to address harmful traditional practices (e.g., FGM), underage marriage and others.

2.5.2 Economic determinants of health

The Ministries of Finance & National Development (MOFND), Energy and Mines (MOEM), together with MOTI and MOLSW all contribute to improvement in the economic determinants influencing health.

Health inexorably linked to economic development, as progression on economic development means a household can improve its conditions and actions that improve health, while at the same time a healthy population increases time spent on economically productive actions. The potential for significant economic growth is high, on account of the potential sources of income from mining, fisheries and port activities, plus the population resilience. The effects of the COVID-19 pandemic on the economy are yet to be fully realized.

Regarding employment, a recent (2015/16) National labour force survey was conducted to understand the overall labour market. Unemployment is officially at 3.5%, with most rural people classified in agriculture employment. Health and safety insurance for employers is being implemented, and employers have to cater for medical costs of staff, with worker compensation initiatives.

Electricity supply is still however low particularly in rural areas. Populations tend to cluster in villages making it more cost effective to make available grid power. Efforts to expand the electricity grid are therefore being accelerated.

2.5.3 Environmental determinants of health

The Ministries of Land, Water & Environment (MOLWE), Ministry of Transport (MOT), MOMR, and MOLWS contribute to the environmental determinants of health.

Access to water provision infrastructure is at 85% nationwide, with 70-75% for rural areas and 90% for urban areas. In rural areas, fountains and hand pumps have been established, with an estimate of 1 fountain used for 300 people. Two studies: national hydro-census and a rural ground water supply coverage have been conducted. Dams with capacities of up to 200 million cubic

metres have been established. A Water Resource Action Plan exists, and an associated Strategic Plan is under development. MOLWE developed water quality standards and now created a water quality laboratory.

Air quality assessments were undertaken in 10 sites in Asmara (2019/2020). Household pollution (e.g. wood burning) is one of the biggest impacts on health; accordingly, respiratory challenges and ambient air quality have also been assessed. In the past five years, communication on climate change was developed and household air quality/pollution was targeted for action through the distribution of 170,000 efficient stoves.

2.5.4 Political determinants of health

The Ministries of Finance and National Development (MPFND), Ministry of Local Government (MOLG), Ministry of Information (MOI), Ministry of Justice (MOJ) and the National Statistics Office (NSO) contribute to the political determinants influencing health.

Discussions have been held about establishing cross Ministerial National Coordination Mechanisms particularly for SDG coordination at the national level. The MOFND is in the process of establishing such mechanisms. At the Zoba level, the MOLG is facilitating engagements across sectors that have common results.

There is a functional system to register births and persons at the village level, which is functioning relatively well in most Zoba's.

The health sector works closely with the MOI in terms of sharing health messages and information to the public. To complement the efforts, the MOH is planning to set up a modern recording and production studio, which will function with support from the MOI.

The health proclamations in place include: (1) a proclamation to control drugs, medical supplies, cosmetics and sanitary items (36/1993); (2) proclamation to control health services in the private sector (74/1995); (3) tobacco control (143/2004) and (4) proclamation to ban Female Genital Mutilation (FGM) and early marriage. There are some health specific articles in different codes. The sector functions are primarily executed through policy instruments.

2.6 Investments in the health sector

2.6.1 Human Resources for Health

The country maintains a comprehensive data for HRH where the numbers of health workforce are known by cadre and by place of deployment. As of end of 2020, the staff strength under MOH rose by 18.5% from 9,338 in 2017 to 11,068 in 2020. The figures are available by cadre for the period 2016 to 2020. Out of the 11,068, the 4,566(41.3%) are technical staff.

Licensing and certification policy and guidelines for HRH have been developed (Registration and Licensing health professionals, Philanthropy health professionals' policy, Continued Professional Development (CPD) policy, and Continued Professional Development (CPD) policy guideline) but

implementation needs to be expedited as regulation of health care providers, health facilities and health training institutions is key in ensuring safety and quality standards.

The HRH training plan is in place and envisages an average enrolment of 390 students annually from 2017 to 2021, the majority (250 annually) being for nursing and midwifery. The MTR of HSSDP II showed that the health workforce stock had been increasing by 3% - 4% annually. The Orotta Medical School produces 30 – 40 doctors annually. A total number of 649 diploma and degree cadres including Doctors and Dentists graduated in 2019, and 310 associate nurses graduated in 2019/2020 while 420 enrolled in 2020/21. Eighty-one nurses are enrolled in Orotta school. In addition, 3 students for master's training in Infection prevention, Human Resources Development, and Epidemiology, and 3 fellows have been enrolled on a long-distance course and 6 fellows abroad, respectively.

As an effort to producing specialists, residency programs were started at Orotta National Referral and Teaching hospital, including Internal Medicine, Surgery and Gynaecology-obstetrics. The recruitment of health personnel is done by the MOH and all the health professionals that graduate are absorbed into the service. Forty-nine expatriate professionals have been deployed to various hospitals country-wide. In 2020, a total of 709 health workers were deployed to the 6 zobas and the national referral hospitals.

Government has increased remuneration for health workers as a contribution to improve retention. However, retention is influenced not only by the pay but other factors like social amenities, availability of upgrading and continuing education opportunities.

2.6.2 Health Products

The MOH bases quantification of supplies on information collated using Logistics management information system (LMIS) Tools (paper-based/electronic-based). Electronic versions are used primarily in hospitals and warehouses. Technical corrections were made to the LMIS, to further enhance the application.

Procurement of medicines is guided by National Drug Policy and Eritrea National List of Medicines (ENLM), which is regularly revised. The current version of ENLM (7th Edition) was produced in 2019. Adherence to this list is a legal obligation in procurement, manufacturing, prescribing, and dispensing of medicines. However, the MOH considers application for permission to obtain non-listed products in exceptional cases, where it is supported by National Medicine Therapeutic Committee (MTC). During HSSDPII, MTCs have been revitalized in all Zonal Referral Hospitals, but not yet at Orrota Referral Hospital.

Drugs and medical supplies are subject to approval from the National Medicine and Food Administration (NMFA) in the country. The country also imports WHO pre-qualified supplies, as a reliable source. Additionally, samples are tested by accredited institutions/laboratories abroad or the local Quality Control Laboratory, followed by post-market surveillance.

- 100% of products from incoming dossier applications have been registered. The NMFA is working to introduce an automated electronic registration software to make the registration process more efficient.

- Between 2017 and 2021, twenty safety signals were detected. The Eritrean Pharmacovigilance center has been rated among the top reporting countries in Africa and achieved Maturity Level 3 during the WHO global benchmarking. It has also integrated the pharmacovigilance (PV) system into public health programs and has been working to expand the integration into academia and decentralize the PV system to zonal levels.

- The National Drug Quality Control Laboratory has completely renovated the lab facility, procured key analytical equipment, developed quality manual and SOPs. The capability of the laboratory to run essential tests of medicines in the Eritrean National List of Medicines has increased from 10% to 45%. The ability to conduct tests on products listed increased to 38% for 2020, compared to 25% in 2017. The proportion of fully or partially completed test samples (out of total samples submitted for testing) has been increasing annually, standing at 98% in 2020.

- Regarding regulatory inspection, post market surveillance activities that include collection of test samples from new consignments and subjecting them to quality testing, detection of infiltration of illegal (contraband) products, use of Mini lab test kits to detect substandard and falsified products were accomplished.

- The traditional medicine unit developed the National Policy on Traditional Medicines in 2017 and established Traditional Medicine Advisory Committee. A survey to assess the knowledge, attitude, and practice of traditional medicine among the community, healthcare professionals, and traditional health practitioners was conducted in two zobas between 2018 and 2019.

The only production plant in Eritrea is Azel Pharmaceutical share company. It manufactures several liquids (syrups and suspensions) and solid dosage forms (tablets, capsules and suppositories). It is estimated that up to 40% of the market is met by the local plant. Inspection was conducted several times, and corrective and preventive actions were taken during the HSSDPII.

Storage and warehouse management is another critical area that affects quality of health commodities. Some places, such as Massawa, suffer from harsh weather and there is a strong need to put logistical arrangements for maintaining appropriate temperature. Other storage conditions (humidity, lighting, ventilation etc.) should be regulated. All Zobas have Zonal Warehouses, whereby health commodities are stored in, and distributed to health facilities on quarterly bases.

Medicines and health commodities are procured and stored at PHARMECOR warehouses initially. These are then transported to Zonal warehouses and distributed to health facilities quarterly upon request. The country uses push and pull approaches. Mechanisms exist for swapping health commodities between facilities, so as to use them efficiently within the life span. There are pharmacy satellites within health facilities, which allow easy access for distribution to end-users. All pharmacies are subject to regulation by NMFA and regular monitoring is conducted.

PHARMECOR (the sole procurement agency) is meant to use LMIS data but this is not functional at the moment. The software currently used at PHARMECOR include the Peachtree used mainly for accounting purposes (but provides some logistics data) and the Stock Control System used in tracking stock availability at the three PHARMECOR warehouses.

In relation to disposal at present, open incineration is used as the major method, with alternatives of burying in pits, and closed incineration. The annual disposal value of medical products for 2020 is 2.7 million (USD).

To monitor the rational use of medicines in the country, the rational use of medicines survey was conducted in 2017. It indicated that, when compared to both the 1995 and the 2005 studies, on average, availability of key medicines in public facilities showed reduction, 91% in 1995, 95% in 2005 and 81.5% in 2017. The median stock-out duration of the key medicines in public health facilities and regional warehouses was found to be 17.7 days and 12.5 days respectively. More than 75% of the patients knew how to take their medicines in the health facilities, although excessive level of antibiotics was prescribed. During HSSDPII, treatment guideline and formulary, ENLM (7th Edition) and the 5-year National Action Plan for Antimicrobial Resistance 2021-2026 were produced.

2.6.3 Infrastructure and Support Services

The national health infrastructure is comprised of 30 hospitals, 54 health centres and 263 health stations and clinics. The total number of health facilities increased from 93 in 1991 (16 hospitals, 5 health centers and 72 health stations) to 347 in December 2020, which is a 273 percent or 3.7-fold increase in the thirty years between 1991-2020 (NHP). Though the country developed norms and standards for infrastructure, it has yet to draft a national infrastructure development plan, which hinders long-term health facility investment and development.
Oxygen capacities have been significantly improved across the country. Currently, all hospitals receive regular cylinders, and three sites are producing Oxygen, namely Mendefera Zonal Referral Hospital, Halibet National Referral Hospital and Orotta National Referral Hospital. There is also a private oxygen-producing plant supplementing availability of oxygen.

The country has been constructing maternity waiting homes in health facilities to cater for the pregnant women who live far from the health facilities where they can get skilled birth attendance. This maternity waiting homes are contributing to improving the health of pregnant mothers and there have been efforts to increase their numbers. In Debub maternity homes have increased from 8 to 18. Two of these were built in 2021. Likewise, the neonatal centres increased from 2 to 5 (One added in 2020 and two in 2021).

Efforts have been made to equip the hospitals with imaging and laboratory equipment to improve the functionality of these hospitals. For example, the GeneXpert machines are available for TB diagnosis. Mendefera Referral Hospital has good diagnostic imaging (new imaging machines procured -digital and laser X-rays and ultrasound diagnostic machine) and up-to-date functional laboratory equipment (GenXpert, coulter machine, etc.). There is also a stable water supply (own dam and pumping water to tank daily and electric power, a generator and separate solar supply for each ward. Ghindae Referral Hospital was noted to have a large backup generator (capacity to supply power beyond the hospital; could supply half of the city; has high fuel consumption), and solar power for vaccines.

2.6.4 Services Delivery Systems

The MOH in 2020 developed the Eritrea Essential Health Care Package (EEHCP) that responds to the needs of the age cohorts along the age continuum. The EEHCP defines the services that should be available at each level of care, services required for each age cohort and interventions needed across each public health function for a given service. The scope of services is comprehensive, covering promotion, prevention, curative and rehabilitation services. To guarantee a continuum of services, the country will need to have a functional referral system, with each level of service delivery getting the necessary capacity to deliver their requisite services. It will be important to identify the most appropriate service delivery model for given populations.

The range of services provided in Zobas has been increasing annually due to improvements in capacity. For example, Mendefera hospital currently has 300-400 OPD patients daily, with 200 beds and 4 operation theatres and neonatology services have been expanded, with Neonatal Intensive Care Units (NICUs) and Paediatric Intensive Care Units (PICUs) integrated into hospital services.

There is a national orthopaedic workshop under Ministry of Labour and Social Welfare for physical rehabilitation. This may, however, not be accessible to most population in need at lower levels.

Referral Systems

The health delivery systems have been streamlined (NHP 2020), constituting the 3-tier system, namely primary level services, consisting of community-based health services, health centres and community hospitals; secondary level services consisting of zonal referral hospitals and 2nd contact hospitals; and tertiary level services consisting of national referral hospitals. Health services referral policy, guidelines and protocols have been developed to guide the referral services to ensure continuum of care. Administratively, the structure comprises the Ministry Headquarters, 6 Zobas each headed by a Zonal Medical Director and sub-zobas that have been introduced in the last 2 years. Twenty-two Sub-zoba health offices have been established and are very useful in facilitating implementation of health activities. Specialized national referral services exist for pediatrics, psychiatry, Orthopedics, Dentistry, ENT, ophthalmic services, internal medicine, surgery and obstetrics/gynecology.

The MOH will improve gatekeeping and referral so that hospitals at regional/ zonal, specialist and national level can focus on provision of specialist and super-specialist services not available at PHC level. In some referral hospitals, where inevitable, special units or departments may be designated to provide some element of lower levels of care within their premises. These will be equipped, staffed and funded appropriately.

Diagnostic Services

Laboratory, medical imaging, and blood transfusion services are important determinants of health service delivery. Effective and up-to-date diagnostic services, with equipment, supplies and consumables, are essential to support a functional referral system for health services. All health facilities should have the diagnostic capacity appropriate to their level of care (for laboratory, radiology, and medical imaging) to enable provision of services according to the requirements of the essential package per level. They play a critical role in supporting decision making in diagnosis and patient management, disease prevention, disease surveillance, outbreak investigation, research,

and quality assurance. Use of new mobile technology, ICT and Ultrasound will be promoted to increase access to quality diagnostic services whereby patients attending health facilities.

Imaging Services

Medical imaging is essential not only for initial diagnosis, but also for monitoring disease response to treatment and deciding when to stop or adjust a treatment plan. The demand for medical imaging services has increased as a result of changes in the disease profile, with communicable diseases such as HIV/AIDS and TB and non-communicable diseases such as cancer, diabetes, and cardiac conditions becoming more prominent. To this effect, the MOH has prioritized strengthening of medical imaging services. Medical imaging services such as film x-ray, contrast-aided imaging, ultrasound, magnetic resonance imaging and CT imaging are currently available at national referral hospital level. This is complemented by mobile facilities that offer x-ray and ultrasound.

In this regard, the following gaps have been identified:

- Critical shortage of radiologists, radiographers, and medical physicists
- Lack of national medical imaging quality assurance system
- Training of end users in health facilities
- Maintenance of imaging equipment

In view of the above, it is critical that the modern equipment is procured, and the proper structures are put in place.

Public Health Laboratories

Public health laboratories (PHL) focus on diseases and the health status of population groups. Eritrea has created a national network of public health laboratories. At the national level is the National Health Laboratory (NHL) as a center of Excellence for research, quality assurance and training. The core functions of PHL include disease prevention, control and surveillance, reference and specialized testing, environmental health and protection testing, food safety testing, laboratory regulations and policy development. The national referral hospitals as well as the subordinate zoba and lower laboratory levels provide clinical laboratory services. They perform limited diagnostic testing, reference testing, and disease surveillance. They also provide emergency response support, perform applied research, and provide training for laboratory personnel at their levels.

Blood Transfusion Services

The MOH will continue to encourage voluntary non-remunerated blood donation through active engagement of the community. Effective and sustainable systems for the collection, processing, and distribution of safe blood in the country will be strengthened in order to ensure uninterrupted supply of safe blood nationwide. The MOH will continue to strengthen infrastructure for blood transfusion safety throughout the country and increase resources for collection, testing, processing, storage, distribution and utilization of safe blood. The MOH will establish a legal framework to

protect the rights and safety of blood donors, health care providers, and blood recipients through creation of a Blood Safety Act.

The key planning issues for blood transfusion services are:

- Donor sensitization, social mobilization, and marketing
- Donor retention, which can help in reducing the discard rate
- Inadequate transport and inadequate equipment for transportation of blood

Nursing and Midwifery Services

Nurses and midwives are the largest workforce in the health sector in Eritrea. They provide a 24-hour critical continuum of care, which includes health promotion, prevention, curative, rehabilitative, and palliative services, in line with what is contained in the Nurses and Midwives strategic plan. The developments in nursing and midwifery are changing rapidly, with increasing client or patient expectations and service needs. The strategic interventions for nursing and midwifery services in the next five years will focus in the following areas: nursing and specialized services; midwifery; nursing and midwifery education; strong and effective partnership; nursing research and development. The health sector will continue to build the capacity of nurses and midwives in the management and operation of health care facilities.

Rehabilitative Care

The health sector will better identify people with disabilities, their needs, and the types of physical, social and mental rehabilitation interventions that can be provided at various levels. The health sector will put in place various social care interventions tailored to specific needs. The MOH will strengthen medical and counselling services for people with severe pain due to disability and chronic disease. Access to specialists, medications, and equipment will increasingly be made available according to needs.

Palliative Care

Access to quality palliative care services at PHC facilities and through home-based care is important in caring for terminally ill patients or people with severe pain due to disability and chronic disease. MOH will develop expertise in palliative care, expand outpatient care and outreach services for home-based care, and ensure access to all palliative care needs including pain relief medicines (especially oral morphine), counselling, and psychosocial support for home-based care. The MOH will build capacity for community and home-based caregivers to be able to provide relevant home-based care for older people and to link patients needing palliative care to health facilities.

Community Level Services

Community level services relate to those services provided in the community and at district/sub-zoba and even at village or household level as part of community participation in co-production of needed services closer to the families or households. The focus of the HSSP III is improved health of the population through community empowerment and engagement through responsive

community health systems. The MOH has developed the Policy Guideline and strategic plan of action for Community-Based Health Services (CBHS) to guide their implementation. The guidelines emphasize community-based management and participation of groups within communities in the prevention and control of communicable and non-communicable diseases and promotion of environmental health.

Quality of Care

The quality of services delivered has improved. The hospital clinical policy, guidelines and protocols were revised in 2016. In 2020, health facility protocols and procedures were finalized and disseminated to all zoba medical offices. The EEHCP has been developed giving guidance on the services to be provided for the different age cohorts. There are existing clinical guidelines but will require to be revised in line with the EEHCP.

Infection Prevention and Control (IPC) is being rolled out nationally, with IPC and Medicines Therapeutic Committees (MTCs) committees established in each hospital, though they need to be more functional. Internal quality of care assessments is conducted, but not according to fixed standards.

Care Standards and Clinical Guidelines

The hospital clinical policy, guidelines and protocols were revised in 2016. In 2020, health facility protocols and procedures were finalized and disseminated to all zoba medical offices. There are existing clinical guidelines but will require to be revised in line with the EEHCP.

E-care Services

Piloting of the Electronic Medical Record System (EMR) is currently ongoing at Orotta Hospital, the Pharmacy division is implementing a Logistics Management Information System (eLMIS) at the national level as well as at Zoba level, and the sub-zobas, the Zobas and the MOH are operating the DHIS-2 platform, although internet connection is a challenge. To some extent, some health facilities are using Laboratory Information System (LIS) after introducing digital equipment. Efforts have been made to initiate e-consultations at Mendefera hospital. However, medical services are yet to be digitized.

The introduction of EMR has been piloted in Orotta national referral hospital and teaching hospital. However, progress of implementation has been slow due to the COVID-19 pandemic even though the intention is to revive it starting the first quarter of 2021. The long-term plan is to expand across all hospitals once the Orotta initiative is successfully completed.

Readiness

The country has a total of 347 health facilities out of which 30 are hospitals, 54 are health centres and 263 are health stations and clinics. By end of 2020, was 3,378 out of which national referral hospitals accounts to 874(Orotta, Halibet, St Mary's, BerhanAyni), and they offered imaging

services (MRI, CT scans, Ultrasound, and X-ray) to over 78,000 patients, surgery to about 10,000 patients and laboratory services to 66,000 patients. Six new dental units were installed in Keren, Barentu, Adi Quala, Orotta and Teseney Hospitals, while 7 new anesthesia machines were installed in Massawa, Mendefera, Orotta, Glass Military and Afabet Hospitals and 2 used anesthesia machines were installed in Mendefera and Tio Hospitals. Six New digital film processors (CR, Desk top computer, UPS and Laser printer) were installed in Massawa, Halibet, Mendefera, Barentu, Asseb and Orotta Hospitals and 5 new digital Ultrasound machines were installed in Orotta and Assab Hospitals, while 1 new Digital mobile x-ray was installed in Halibet Hospital.

The blood collected and tested (blood grouping and Rh typing as well as screened for HIV, hepatitis B, hepatitis C and Syphilis) reached 10,129 units of blood by 2020, which was 92.08% of the target planned to be collected for 2020. The blood transfusion services satisfactorily met the demand from the hospitals by 71%.

There has been progress in enhancing the diagnostic capacity at health facilities, especially at hospitals with procurement and installation of standard laboratory and imaging equipment, with training of health personnel.

The community has contributed to improving service readiness, specifically construction of placenta pits, water for health stations, fencing for health stations, etc. Maternity waiting homes have been built in the Zobas, some with help of the communities, and are observed to be key contributors to the decline in maternal deaths through increase of skilled birth attendance. For example, in Debub, they increased from 6 to 18 in 2020 and more are planned.

2.6.5 Governance of the Health Sector

During the HSSDPII lifespan (2017- 2021), the MOH has finalized the NHP 2020, that is developed in line with SDGs and multi-sectorial approach to health. Moreover, the policy is anchored on the principles of primary health care, integration of services and Essential Health Care Package.

There are strong technical accountability processes. The Honorable Minister of Health and key Managerial team conduct annual Zonal review meetings in each Zoba. These 2-3 days' events allow detailed reflection and interaction with key implementers on the ground. Each Zoba receives annual reports from its constituent sub Zoba's, which are then compiled to generate the Zoba reports on progress.

Looking at stakeholder engagement, there is a good collaboration with health-related sectors such as Ministry of Education, Local Government, Information, Agriculture, Labor and Social Welfare at Zoba level. Inter-sectorial collaboration and coordination at the national level is less prominent. Engagements exist with partners, largely on a bilateral basis. The coordination structures are largely program specific and are conditional. The main partners in country are the UN agencies.

2.6.6 Data and Information

The country has a well-established health information system and monitoring and evaluation divisions within the Ministry of health.

The NHIS is under the Minister's office consisting of three units, namely, HMIS, ICT and System development. Currently the National Health Observatory is also under the NHIS division. The HMIS is the major source of information in the MOH and the other two are supporting structures that facilitate the use and flow of information at different levels of the Ministry. Similar structures are also available at Zoba level.

In terms of data/information flow, all health facilities report to their respective sub region/region within 1-5 days of every month in hard copy. The respective region makes data entry and within15-20 days of every month submits to National head office in electronic copy. Health facilities receive feedback from regional and national HMIS offices.

Currently, data are collected from all health facilities. These facilities report on weekly, monthly and quarterly basis depending on the type of information assigned. The data are submitted to NHIS by email and electronic devices on the scheduled time of reporting stated above. The electronic data are imported to the DHIS2 server and distributed to different program managers who are connected to the server by intranet. For those who are not connected offline DHIS2 is installed in their offices.

Annual health services activity report is prepared annually and shared for stakeholder and program managers for their information and use. At national level the data quality (completeness and timeliness is 98%) which has shown very good improvement compared with the previous year's achievement.

At present DHIS is rolled to about 40% of the secondary and above level health facilities and Sub-Zoba HMIS office is under development. Currently, information is available in the Health Management Information System (HMIS) from 2010-2021 and accessible to program managers and stakeholders. More than 30 data sets and 17,761 data elements (ANC, EPI, Delivery, HIV etc..) are captured in the system.

The implementation of the National Health Observatory has been initiated and collection of data from Ministry of Health and other line ministries is ongoing and the process of validation prior to dissemination is on progress.

Networking

Public National and Zonal referral hospitals, till now, are using paper-based information system which is difficult to sharing and exchange of information. The MOH has taken initiative to replace the manual system with computer-based information system. Consequently, since 2018, the MoH is developing Electronic Medical Record (EMR) system and it is in the process of development.

At national level there is limited capacity of skilled expertise that can configure the backend of the server. The capacity is limited to the front end of the server configuration and trouble shooting. At zoba level there is also lack of skilled professionals to manage the DHIS2 performance. The skill is limited to data entry, submitting reports, performing analysis and providing feedback to lower health facilities. Further, at the national level there is inadequate capacities to deliver on sector M&E functions.

Community based information management system has to be strengthened and this will hopefully be realized during the lifetime of this strategic plan with the introduction of CRVS and advanced ICT infrastructure.

Major challenges include: slow internet connectivity at all levels; the lack of skilled experts, particularly at Zoba level; the shortage of computers with high-speed capacity to run DHIS2 activities; limited budget; and, the COVID-19 pandemic.

2.6.7 Financing

The health sector is a priority for Government so most of the budget to the sector is from domestic resources. It is, however, noted in the National Health Policy that health financing and out of pocket expenses, is another area that needs focus as mechanisms available may not guarantee the financial barrier to accessing health services, including indirect costs (e.g. cost of transportation) and opportunity costs (e.g. cost of absence from work). The country does not use Medium-term expenditure framework (MTEF). Annual budgets are prepared based on information from the Ministry of Health. There is a strong community contribution (in kind or financial) to the implementation of the health sector plans including for immunization and maternity services.

The Treasury department disburses funds according to the approved budgets from the Budget and Fiscal Planning Department. The Treasury department monitors the budget expenditures from the line Ministries and expects monthly reports from them for both the domestic funds and the funds from development partners. The line Ministries spend most of the funds. The challenge is on the procurement process which may take some time and result in slow utilization of the funds tied to the procurement of various items.

External auditors audit every line Ministry every year. In addition, the Ministry of Finance has inspectors who help monitor that the funds are utilized according to the guidelines and regulations. The budgets are annual, and they use a manual system. However, there are plans to introduce MTEF and to initiate the use of Integrated financial management information systems (IFMIS) if it is concluded that the country is ready for IFMIS. IFMIS will be rolled out in a modular way starting with the departments in the Ministry of Finance itself. The Ministry of Finance conducts regular capacity building for its staff as well as for the line Ministries and the Zobas.

The MOH has four sources for its budget: government, user fees, community contribution and international organizations. Additionally, there are three different entities that are responsible for financial management: PMU, Budgeting unit at Policy and Planning Division, and Admin & finance. The coordination among these units is poor. Each of the administrative levels (Zoba and sub-zoba) get their respective recurrent budgets. The hospitals also get their allocated budgets (100%).

Payment for services are minimal at health center and health station, and they are mainly for registration purposes and there are free 24-hour emergency services at all levels, Annual cost recovery caters for less than 10%; 50% discount for health facility referral; poverty certificates for waiver of registration fee and for all major NCDs, medication and services are provided free of charge.

2.7 Issues and Unfinished Business

The issues and unfinished business consist of the Mid-Term Review recommendations for HSSDP III and the issues and gaps from the final review by the HSSDP III drafting Team. They are shown in the table below:

Table 7: Issues and Unfinished Business

Area	MTR Recommendations	End-term Issues and Unfinished Business
UHC	• Integrate RMNCAH service delivery with other healthcare services to link and increase demand. • Consider multi-sectoral approaches to implement community nutritional interventions. • Plan post-elimination interventions for communicable diseases targeted for elimination. • Evaluate whether to continue TB and diabetes screenings among prisoners. Though these are high risk populations, very few positive cases are found in screenings. • Expand the capacity of the system to respond to growing NCD incidence, including diagnosis, treatment, and palliative management.	• Gap in services for adolescents, adults and elderly persons and health promotion, rehabilitative and palliative care services. • Sub-optimal access and utilization of services due to poor health seeking behavior, low demand for services, high indirect costs of health care, and hard-to reach populations • The non-communicable disease interventions – specifically focusing on the four NCD risk factors of tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets – are not effectively implemented. • No overall health financing strategy to provide strategic guidance for the evolution of an equitable health financing approach
Health Security	• Institutionalize the engagement with cross-border collaboration mechanism for health security.	• The implementation of the NAPHS has not been comprehensive, with several activities not initiated. • Surveillance is limited to the notifiable conditions. The surveillance of impacts on essential services, and any changes in the health system capacity are not integrated into the system. • More efforts need to be done to enhance the inherent capacity of the health system to improve its resilience to shocks, namely better awareness, service diversity, system versatility, self-regulation and transformation capacity.

Area	MTR Recommendations	End-term Issues and Unfinished Business
		• Critical interventions needed for enhancing response capacity, like the Emergency Operations Centre (EOC) and multi-sectoral response to health threats.
Determinants of Health		• There is no single entity responsible for food standardization. • Interventions to further strengthen activities against gender-based violence (GBV) are still needed, as well as those countering harmful traditional practices, such as early/child marriage and female genital mutilation (FGM). • Lack of categorization of functionality of people with disabilities (PWDs), which has impacts on school registration and employment. • Occupational health has not been well reflected in essential services. • There are weaknesses in the maintenance of safe water resources, and the water available is under-utilized with currently, only 15 – 20% being used. • Multi-sectoral collaborative efforts need to be extended to assessing water quality of water sources in the communities. • Data on drinking water, sanitation, and hygiene are limited. • COVID-19 and other emergencies call for a whole-government approach, where shocks arising from such outbreaks go beyond health to enhance political engagement and action.
Health Workforce	• Integrate the HRH database into the National Health Observatory. • Integrate community health workers (CHW) into HRH systems.	• A comprehensive health workforce information system is yet to be established and the quantification of the health workforce needs has not been carried out in context of the new Health Policy and the EEHCP. • New HRH Strategic Plan to be developed for 2022-2026 • Professional councils are yet to be strengthened to develop and enforce health professional policies and code of conduct to ensure quality of expertise in the country.

Area	MTR Recommendations	End-term Issues and Unfinished Business
		• Gaps in HRH production include specialists for the Zonal referral hospitals, super specialists at Orotta National Referral hospitals. • Need for a transfer policy with clear criteria linked to competence and productivity to optimize distribution of talent. • Attrition rates remain high, estimated at 3.7% annually • Performance management and appraisal across the country is not consistent and there is need to standardize it.
Data and Information Use	• Institutionalize data quality assessments, analysis and use. • Develop a comprehensive M&E framework. • Implement electronic data collection. • Conduct a Harmonized Health Facility Assessment • Implement a data improvement plan.	
Infrastructure and Support	• Consider drafting and putting in place a national infrastructure improvement plan • Develop a National Essential Medical Devices List.	• No policies, strategic guidance, standards equipment, including for imaging and laboratory equipment. • Maintenance of infrastructure is a challenge due to resource constraints and due to few biomedical engineering personnel. • There is need for infrastructure to establish District Health Offices (DHO) and upgrade Primary Care facilities, as well as to establish new ones. • There are old and outdated surgical instruments in some hospitals (NRS). • Establish a food quality control laboratory and harmonize the MOH and Ministry of Agriculture laboratories to ensure food safety.

Area	MTR Recommendations	End-term Issues and Unfinished Business
		• There is inadequate transportation and ICT infrastructure for improvement of health service delivery, including for new sub-zoba offices. • Apart from pilot digital health in the National Referral hospital, health services have not been digitized.
Pharmaceutical Products	• Develop a regulatory framework for traditional medicines.	• LMIS still has technical limitations; health facilities continue to run parallel systems (paper and electronic). • There is exposure to risk of expiry following bulk (18months) procurements in view of the minimum order quantities demanded by suppliers • The country lacks a standardized formula for calculating quantity required at zoba/referral hospitals. • NDQCL is yet to finalize its accreditation to the level of ISO 17025/WHO – GPCL • More needs to be done for registration of all products circulating in the market, onsite GMP inspection of foreign manufacturing plants, enhancing capacity of the regulatory staff and establishment of the traditional medicine registry and antimicrobial surveillance/susceptibility testing. • High-level political decision is required for regulatory harmonization in areas of medical products registration, regulatory inspection, and pharmacovigilance. • Need to standardize Health Equipment and to develop a health commodities/devices policy. • Local manufacturing is hampered by shortage of supplies. • Need to define warehouse norms and standards and re-locate Zonal warehouses to suitable location/cities, as well as ensuring maintenance of appropriate storage conditions to minimize damage to equipment and medicines.

Area	MTR Recommendations	End-term Issues and Unfinished Business
		• Maintenance systems to include spare part supply, installation and maintenance in contracts of suppliers.
Services Delivery	• Develop a concept for an Eritrean district health system. • Establish a quality improvement program and team • Develop a single, integrated health promotion program.	• Operationalize the EEHCP. • Physical referral system is overstretched, a situation made worse by lack of investment. At Zoba level, most health facilities do not meet the standards expected of their level of care and on the other hand the Zonal referral hospitals do not have adequate capacity to provide some of the specialized services. • Some specialized national referral services, among which are geriatrics, palliative care and oncology, including radiotherapy, are not yet fully established. • The roll out of the Zobas has encountered challenges that include inadequate budget for establishing and running the offices, office space, computers and office furniture, transportation facilities, as well as shortage of health workers. • There are hard-to-reach populations including those in hard-to-reach areas and nomadic populations with trans-border population movements and seasonal migration that require outreach and mobile services. • The clinical guidelines need to be revised to respond to the requirements of the services in the EEHCP. • There is no quality assurance program established in the Ministry. • A service accreditation system has not yet been established for the health facilities providing the services. • Some health facilities (e.g. 2 hospitals in NRS) did not have a blood bank while others had inadequate diagnostic capacity, like for Hepatitis B and Dengue fever. • Most health facilities still use paper-based systems to capture client/patient data and service transactions.

Area	MTR Recommendations	End-term Issues and Unfinished Business
		• The logistical management information system in some places was not fully functional. Although there has been introduction of digital diagnostic equipment, the services in health facilities need to gradually be digitized.
Health Sector Governance		• The MOH Organogram need to be updated to make it more effective, to avoid redundancies and to reflect current realities. • Some activities of the MOH are conducted without a legal backing – such as the IHR, regulations of health commodities, health profession regulations and others; Need for appropriate legal and regulatory frameworks. • The technical accountability structures exist, but the content is not always uniform. • While all the levels of the sector are aware of the health policy and strategy, its translation for the frontline health workers as a guide to their operations is not systematically done. • There are minimal national level coordination mechanisms in place. This limits the benefits of harmonization and minimizing duplications amongst the partners working for the country.
Financing		• Conduct and institutionalize NHAs • There is also inadequate harmonization in tracking domestic resources and development partner resources that are made available to the MOH. • The resources that go to the zobas are usually ear-marked for certain activities, that may not necessarily be top priority for the Zoba and there is no flexibility for the funds to be used for other key priority areas.

CHAPTER 3: STRATEGIC AGENDA FOR THE THIRD HEALTH SECTOR STRATEGIC AND DEVELOPMENT PLAN (HSSDP III)

3.1 Policy Vision and Aspirations

In the endeavor to respond to the Eritrean National Vision "to become a nation that is economically, politically, socially, culturally and psychologically well developed", the health sector has developed a new National Health Policy (2020) whose vision is "Improved health status, wellbeing, productivity and quality of life of the Eritrean people".

The National Health Policy has 4aspirations/objectives, namely:

Policy Objective 1: Reduce the burden of diseases and improve health status of all Eritreans

This aims at ensuring universal access to essential health services for all citizens at all ages; improving Reproductive, Maternal, Neonatal, Child, Adolescent Health and Nutrition; healthy Ageing: Older people shall be supported to maintain their intrinsic capacity and functional ability to live healthy and remain productive in the society; and reducing the incidence, prevalence, morbidity and mortality

Policy Objective 2: Minimize the burden of health risk factors for all citizens

This focuses on addressing social determinants and measure their impact by minimizing exposure to health risk factors including behavioral risk factors such as risky sexual behavior, physical (in)activity, dietary habits, substance abuse including tobacco and alcohol uses; environmental risk factors including environmental pollution, food insecurity, unsafety of roads, negative cultural practices, sound pollution; unsafe sanitation and hygiene, inadequate food safety, climate change; metabolic risk factors such as high blood pressure, high blood sugar; high blood cholesterol; risks from biological, chemicals and radiations; and work place risk factors such as occupational health hazards and unsafe working conditions.

Policy Objective 3: Strengthen Emergency Preparedness and Response System

This aims at building resilient health system and capacity for emergency preparedness and response including COVID-19; using "One Health Approach" that captures human, animal and environmental health; building community and health system resilience; establishing Emergency Operations Center (EOC); developing a national health emergency workforce; and compliance and adherence to IHR.

Policy Objective 4: Increase length and quality of healthy life

This objective shall harness the achievement of the health systems performance to enable the realization of the above three objectives in order to attain the policy goal of "Maximize Health and Wellbeing".

3.2 Primary Health Care Oriented HSSDP III

As clearly stated in the NHP-2020 the Eritrean health system is Primary Health Care (PHC) oriented. The new approach to primary health care is central to achieving the SDGs and UHC.

Primary Health Care shall include the three inter-related and synergistic PHC components, namely: -primary care and essential public health functions, multisectoral policy and action; empowered people and communities, which shall be the key strategies in the health sector. Primary Health Care shall use the 14 PHC levers, which include the four core strategic levers (political commitment and leadership; governance and policy frameworks; funding and allocation of resources; engagement of community and other stakeholders) and the ten operational levers (models of care; primary health care workforce; physical infrastructure; medicines and other health products; engagement with private sector providers; purchasing and payment systems; digital technologies for health; systems for improving the quality of care; primary health care-oriented research; monitoring and evaluation).

The core strategic levers shall pave the way for actions around the operational levers. The strategic levers shall provide a strong grounding for the sustainable improvement in the operational levers. The 14 PHC levers shall translate the health aspirations and commitments into actions and interventions. Such actions and interventions shall be used to accelerate progress in strengthening primary health care-oriented systems and ultimately shall lead to a demonstrable improvement in "health for all" without distinction of any kind.

Accordingly, the HSSDP III and all forthcoming strategic and operational plans shall be based on the following renewed vision, concepts and principles of PHC: -

- Individuals and communities shall be the central focus of all efforts to move towards PHC for achieving UHC and SDGs. People's fundamental right to the best achievable state of health and well-being, and the commitment to social justice, shall be expressed through adequate social protection and concerted efforts to address the needs of those who are most disadvantaged.

- The broad determinants of health shall be addressed through actions that involve multiple sectors of government, civil society, and the private sector, and that sustain societies and environments that foster health and well-being. Close collaboration among sectors such as social protection, housing, education, agriculture, finance, environment, transport, energy, and urban planning, and industry allows people to live in health-promoting neighborhoods that combine clean air, walkability and accessibility, green spaces, road safety and effective public transport. Priority consideration shall be given to those most in need, to ensure equitable access for all to healthy food choices, quality education, water and sanitation, waste management, adequate and affordable housing, and safe and meaningful work with appropriate remuneration.

- Efforts to advance health and well-being shall be anchored in and informed by the community. People shall have access to the knowledge, skills and resources needed to care for themselves and their loved ones, making use of the full potential of information and communications technologies. Self-care and informal care shall be directly and explicitly linked to the formal service delivery sector through mechanisms that are effective and appropriate for the particular setting. The community shall effectively advocate for policies that respond to its specific health needs. Its members, including the most disadvantaged,

shall be engaged as co-developers of the services they need to achieve health and well-being. The community's needs and its social and cultural identity shall be reflected at all levels of policy and action and in the delivery of population and individual services.

- People shall be protected from adverse health outcomes through population-based measures, planned and delivered in consultation with those served. The measures shall include prevention and control of locally endemic diseases and disease outbreaks, prevention of non-communicable diseases, and information and education on prevailing health problems, including major risks, and the methods to prevent and control them. At the community level, population-based and individual services shall be well integrated and coordinated and shall be explicitly accountable to the people, enabled by purposefully designed health information systems.

- People shall not experience financial hardship because of spending on the health services they need. They shall benefit from interventions that shall be delivered at the right point along a continuum, where effectiveness and equity are maximized, and cost is minimized. In practical terms, this implies prioritizing the delivery of interventions upstream, earlier in the pathophysiological pathway and, where possible, outside the health care setting. When clinical care is needed, it shall be delivered to combine the best outcome with optimal use of resources and patient satisfaction (the triple aim), addressing the integrality of people's health needs.

- The interventions needed to attain the highest standard of health shall be delivered along the continuum of care, taking into consideration a life-course approach. Whereas previously the notion of levels of care has been useful in shaping health systems, in the renewed PHC the notion of a continuum of care is more consistent with the coordinating centers and care pathways, and with a system centered on people rather than on services. This continuum ranges from actions delivered exclusively through a multisectoral approach, to public health services delivered to the population, to individual primary care, to coordination with highly specialized consultation services for rare and complex health problems people expect the health system to lead to the best possible standard of health through optimally coordinated and streamlined quality services. This shall be achieved through: early action along the continuum of health actions of proven effectiveness (i.e. promotion and prevention over treatment and rehabilitation when possible), proximity to people's everyday life (i.e. community-oriented and locally delivered services oriented to supporting self-management over care delivered in highly centralized centers), and efficiency in the use of resources (i.e. appropriate referral and integration of services along evidence based pathways of care to reduce duplication of services, improve communication to facilitate early diagnosis, and improve safety).

- In the context of primary care, people shall be supported to express their needs, preferences, and values. A multidisciplinary primary care team shall support patients in prioritizing and identifying care goals. In individual patient care, the team shall take into consideration the patient's cultural preferences and stage of life, across a wide range of problems (mental and physical, chronic and acute, communicable and non- communicable, from immunization and prevention to treatment, rehabilitation and palliative care). The teams shall be responsible for assessing the medical needs of the patient, providing safe evidence-based, cost-efficient management through extensive use of health technologies and information technology, and coordinating additional or specialized services for patients

who need them through wider PHC networks. They facilitate the provision of care at the right level along the pathway of care and across diseases, and act as the focal point for all medical services delivered to the patient, thereby leading the response to multi-morbidity through a whole-person approach and a life-course perspective. People shall be familiar with the members of their primary care team and know how to access them. There shall be no significant financial barriers to access. In return, members of the primary care team not only shall but feel accountable to those in their care, demonstrating this through access, compassion, and responsiveness. The teams may vary in size and composition depending on the local context and availability of expertise, and may include physicians, nurses, midwifes, social workers, nutritionists, community health workers, health promoters, registered or regulated traditional medicine practitioners, dentists, pharmacists, rehabilitation workers, counsellors and opticians. There are many other potential members, including some taking on new roles in evolving systems, such as patient navigators and life coaches.

- As health systems evolve, in line with the country's technical and financial resources, packages of services aimed at dealing with specific health problems shall be progressively replaced by fully integrated, comprehensive, people-centered primary care. Primary care shall become the natural place of delivery for most health care processes (diagnosis, treatment, rehabilitation, and palliative care) with the highest levels of quality and safety. This transition permits the delivery of health services that are required to maintain or restore health and not those selected primarily by third parties on the basis of cost savings or other objectives.

- The performance of the health system shall be measured and publicly reported in terms of quality of life, functioning, longevity, and incidence of disease, as well as patient experience.

- In weaving together multisectoral policy and action, empowered people and communities, and health services at both the population-based and individual levels, the renewed PHC ensures healthy lives and well-being for all at all ages.

3.3 HSSDP III Goal, Targets and Strategic Objectives

Goal:

The ultimate goal is to have healthy lives and well-being for all Eritreans at all ages.

Targets:

By end of 2026, it is expected that progress will have been made to provide the impact as shown in the table below:

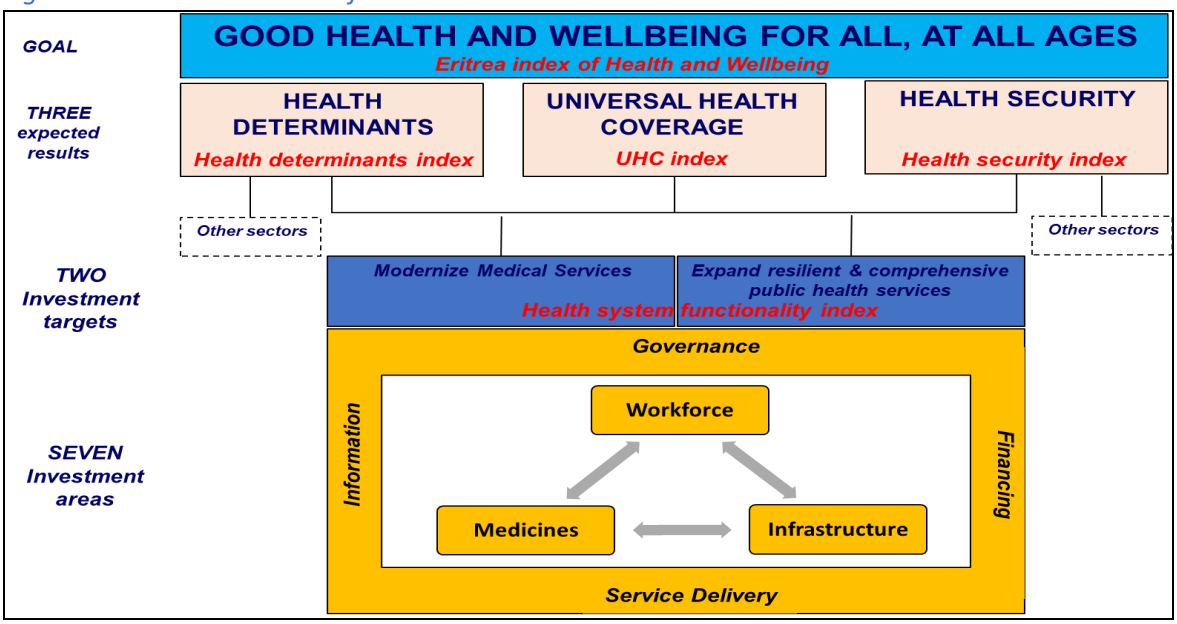
Table 8: Health Impact Targets

Indicator	Baseline end 2021	Target for 2026
Crude Death Rate (deaths per 1000 population)	6	6
Neonatal mortality (deaths per 1000 live births)	16	14
Infant mortality (deaths per 1000 live births)	29	24
Under-five mortality (deaths per 1000 live births)	40	33
Probability of dying among children aged 5–14 years (per 1,000 children aged 5)	7	6
Probability of dying among youth aged 15–24 years (per 1,000 adolescents aged 15)	22	17
Maternal mortality rate (deaths per 100,000 live births)	184	114
Healthy Life Expectancy (Years)	55.7 (2019)	63.7

Strategic Objectives:

Efforts to be made towards achieving this goal by the health sector will focus on achieving three major results. Consequently, a framework has been developed for HSSDP III to guarantee achievement of the three outcomes. These include Universal Health Coverage, health security, and harnessing contribution of the other health determinants. While maximizing the existing opportunities for collaboration with other sector whose efforts contribute to the health of Eritreans, the health sector will, during the HSSDP III, focus on modernizing medical services on one hand and expanding resilient and comprehensive public health services. A set of critical investments will be needed to build a functional health system that will support the latter two areas of focus. The investments are in the core health system pillars, including health workforce, infrastructure, medicines and health supplies, governance, information, financing and service delivery (refer to figure 21).

Figure 21: Result Framework for HSSDP III



Hence, HSSDP III aims to:

1. Increase achievement of Universal Health Coverage, leaving no one behind, from UHC index of 54.9% (2019) to 60.1% in 2026;
2. Enhance health security through strengthened prevention, detection and response, from IHR core capacity of 57% (2020) to 63.5% (2026);
3. Optimize synergy, coordination and leadership on the determinants of health for improved health and well-being (including access to water and sanitation from 54% (2019) to 76% (2026); and for improved nutrition and reduced prevalence of stunting and wasting from 45% and 15% in 2022, to 35% and 12% in 2026 respectively);
4. Enhance health systems functionality to modernize medical services and expand resilient and comprehensive public health services.

3.2.1 Health Impact Strategic Focus

At the impact level, the HSSDP III will focus on accelerating the improvements in overall good health and wellbeing for all Eritreans. This shall be determined through the Eritrea Index of Health and Wellbeing. The Index shall be the value of the Healthy Life Expectancy for Eritrea at birth, and at 60 years.

The Healthy Life Expectancy combines all health impact information into a single indicator. It adds up expectation of life for different health states, adjusted for severity distribution making it sensitive to changes over time or differences within the country in the severity distribution of health states. It combines information on incidence, prevalence and mortality impact indicators plus risk factor burden. Its value at birth and at 60 years will be used as indicators of progress made during HSSDP III.

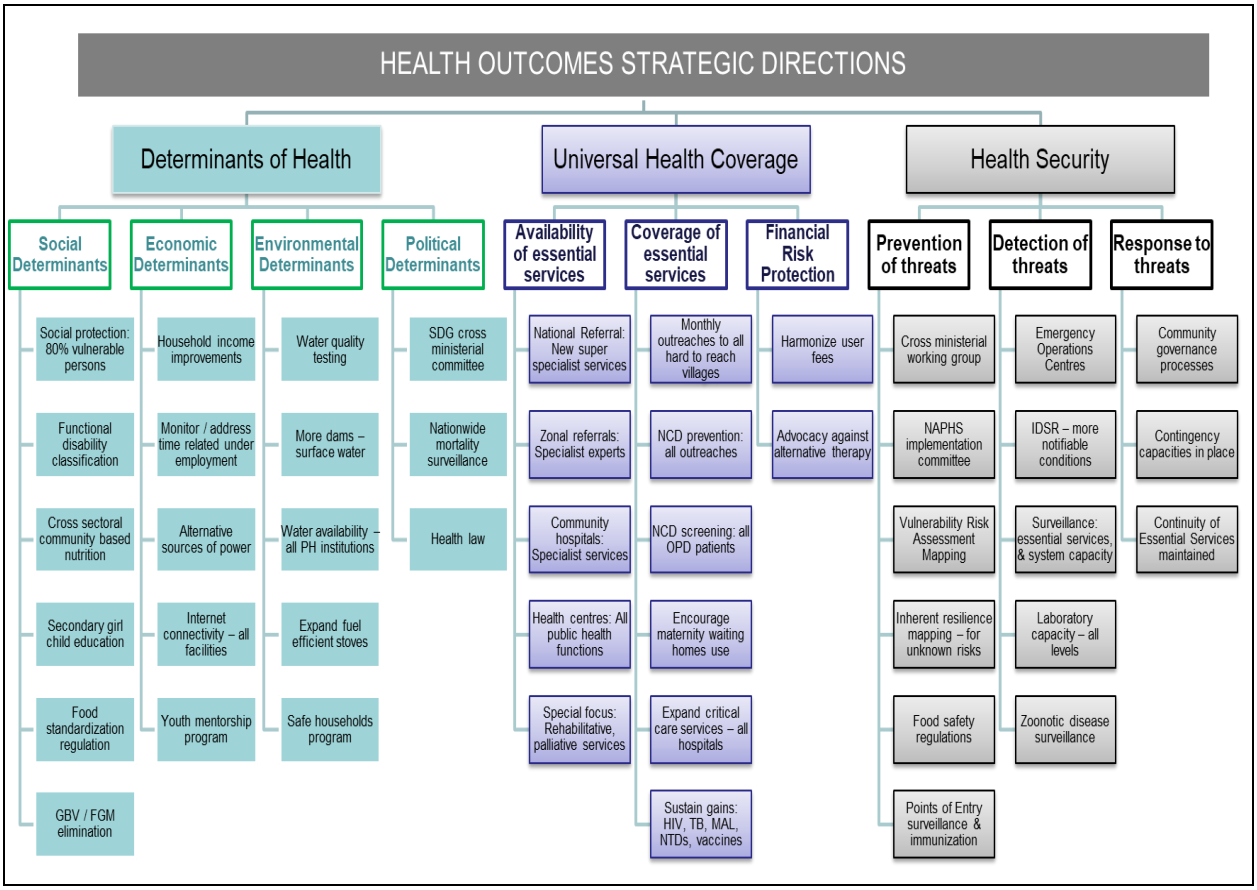
Eritrea Index of Health and Wellbeing (Healthy Life Expectancy), 2019: 55.7 years (M/F = 53.9/57.7)

The Health Sector will aim to move towards the global average for Healthy Life Expectancy, which is estimated in 2019 at 63.7 years (M/F = 62.5/64.9)

3.2.2 Health Outcomes Strategic Directions

In order to attain the Eritrea index of health and wellbeing needed, the health sector shall seek to maximize outcomes across three areas: attainment of universal health coverage, health security, and outcomes across the determinants of health. These three represent the areas around which strategic outcomes are needed for attainment of the Eritrea Index of Health and Wellbeing target. Within each of these three areas, are specific strategic directions that the sector will work towards attaining. These are all shown in the figure below.

Figure 22: HSSDP III Health Outcome Strategic Directions



3.2.2.1 Universal Health Coverage

Universal Health Coverage (UHC) is one of the three results from the investments made in the health sector. It represents the main result of investments made by the health sector, as the other two results (health security, and determinants of health) are largely driven by actions of other sectors.

Progress towards UHC means the health sector investments are (1) expanding the range of services available for Eritreans, (2) Taking these services to all Eritreans even those in hard-to-reach areas, and (3) this is happening without imposing financial hardships to the people.

The indicators used to derive the respective indices relating to UHC are shown in the table below, together with their values and targets.

Table 9: Universal Health Coverage Tracer Indicators:

2	**Universal Health Coverage Index**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
2.1	***Availability of essential services sub index***								
2.1.1	**Maternal & newborn health services**								
2.1.1.1	% of facilities providing CEmONC	60	70	85	90	95	100	100	100
2.1.1.2	% of facilities providing post-natal care	100	100	100	100	100	100	100	100
2.1.2	**Child health services**								
2.1.2.1	% health facilities with IMNCI	100	100	100	100	100	100	100	100
2.1.2.2	% health facilities managing AEFI	100	100	100	100	100	100	100	100
2.1.3	**Nutrition service**								
2.1.3.1	% of health facilities managing severe acute malnutrition	100	100	100	100	100	100	100	100
2.1.4	**Adolescent health services**								
2.1.4.1	% of health facilities providing adolescent friendly health services	-	-	4.6	4.6	5.4	6.2	6.9	7.7
2.1.5	**Adult health services**								
2.1.5.1	% of health facilities providing screening for major NCDs (Hypertension, Diabetes, Cancer, CVDs)	81	81	81	86	89	93	97	100
2.1.5.2	% of health facilities providing mental health services	5	5	5	10	16	22	27	31
2.1.6	**Elderly health services**								
2.1.6.1	% health facilities providing Integrated Care of People of Grace Age (ICPOGA)	0	0	0	20	40	60	80	100
2.1.6.2	% health facilities providing Palliative care	0	0	0	20	40	60	80	100
2.2	***Coverage of essential services sub index***								
2.2.1	Need for family planning satisfied with modern methods in women aged 15-49 who are married or in a union (%)	4.6	4.6	6	8	10	12	14	16
2.2.2	Antenatal care coverage, +4 visits (%)	40.1	39.7	42	46	51	58	65	72
2.2.3	Skilled birth attendance (%)	51.4	57.8	62	66	72	77	82	88
2.2.4	% coverage of Penta3 (DPT-Hep B-Hib)	97	97.8	98	98	98	98	99	100
2.2.5	Care seeking for children <5 with suspected pneumonia (%)	100	100	100	100	100	100	100	100

2	Universal Health Coverage Index	2019	2020	2021	2022	2023	2024	2025	2026
2.2.6	TB treatment coverage (%)	61%	61%	67%	70%	74%	78%	81%	84%
2.2.7	TB treatment success rate for new TB cases (%)	93%	92%	94%	94%	94%	95%	95%	95%
2.2.8	HIV ART coverage (%)	66	73	77	81	84	86	88	89
2.2.9	ITN use among people living in malaria endemic areas (%)	49	-	-	59	-	-	-	95
2.2.10	Prevalence of raised blood pressure in adults aged 18+ (%)	5	-	-	5	4	3	2	2
2.2.11	Mean fasting blood glucose in adults aged 18+ (mmol/dl)	71	-	-	71	71	71	71	71
2.2.12	Tobacco use in the last 30 days in adults aged 15+ (%)	2	-	-	<2	<2	<2	<2	<2
2.2.13	Prevalence of raised BMI in adults aged 18+ (%)	3	-	-	3	3	3	3	3
2.2.14	Proportion of new OPD attendance with Mental health diagnosis	0	0	0	1	1	1	1	1
2.2.15	Availability of tracer medicines for mental health care	-	-	-	95%	100%	100%	100%	100%
2.2.16	Percent of Hospitals with dedicated beds for mentally ill patients	-	-	-	95%	100%	100%	100%	100%
2.2.17	Proportion of road traffic mortality per 100 000 population	2.8	1.8	2.8	1.8	<1	<1	<1	<1
2.2.18	Cataract surgical rate/million	<2000	<2000	<2000	2300	2500	2500	2500	2500
2.2.19	% reduction in overall mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory disease (civil registration, survey)	-	-	-		25	27	28	29
2.2.20	% of women between ages 30-49 screened for cervical cancer at least once	No data	No data	No data	60	65	70	75	80
2.2.21	Coverage of Hepatitis B treatment	-	-	5	25	40	50	60	70

3.2.2.1.1 Expanding the Range of Services

Priorities for HSSDP III

The strategic agenda will focus on introduction of new interventions focusing on those that can be introduced with the existing capacity, and those who's availability is critical for the country.

Basing on the Eritrea Essential Health Package, the critical intervention gaps relate to clinical, rehabilitative and palliative services particularly for Non-Communicable conditions. Some critical interventions to be introduced during HSSDP III are shown below.

Crucial interventions for introduction during HSSDP III have been worked out in great detail by age cohort and public health function (promotive, preventive, curative, rehabilitative and palliative) as well as by level of service delivery (community, primary, secondary and tertiary) in the Eritrean Health Care Package (EHCP) document.

3.2.2.1.2 Reaching Every Person

Priorities for HSSDP III

The strategic focus during HSSDP III will be to expand innovations that will accelerate efforts to improve access to available services by vulnerable, and hard to reach populations.

It remains crucial that the progress being made towards reaching everyone with essential services be maintained during HSSDP III. Specifically, the sector needs to focus on:

- Ensuring all hard-to-reach villages are receiving at least one outreach session per month;
- Expanding the outreach sessions to include, as a routine, promotion/prevention interventions for tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets plus screening services for cardiovascular diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), diabetes and mental health;
- Instituting a more comprehensive and robust e-consultation network across the Zobas, to make available the specialist services that are currently not present in all the Zobas;
- Revamping health promotion services to ensure a broader range of promotion services covering both communicable and non-communicable conditions plus RMNCAH are provided in a sustainable manner to populations in hard-to-reach villages;
- Establishing specific outreach activities to encourage higher use of maternity waiting homes for populations living more than 10km from the nearest health facility.

3.2.2.1.3 Ensuring Financial Risk Protection

Priorities for HSSDP III

The strategic focus during HSSDP III will be to build the evidence base, and so target specific drivers of barriers to financial access to essential services in the sector.

To strengthen the financial risk protection, the health sector needs to focus on:

- Increased advocacy and support to communities to minimize use of alternative therapies and improve health seeking behaviors;
- Harmonizing the user fees under a coherent policy direction, to eliminate inequities arising from different services having different fees;
- Exploring additional means of supporting transport and social costs particularly for the indigent populations through engagements with Ministry of Labour and Social Welfare.

3.2.2.2 Heath Security

Health security is meant to ensure that the people of Eritrea can enjoy health and wellbeing without the threat of shock events disrupting this. It encompasses the presence of appropriate ability to prevent, detect and respond to known and/or unknown shock events that may affect the health and wellbeing of the people.

The country has, during the period of the HSSDP II, faced disease outbreaks due to COVID-19, Dengue, together with environmentally related stocks such as drought and locust invasions. These shock events are disruptive to the continued provision of essential services, in addition to their impact on morbidity and mortality.

The indicators that will be used to construct the Health Security Index and its targets are shown below.

Table 10: Tracer Indicators

3	Health Security Index	2019	2020	2021	2022	2023	2024	2025	2026
3.1	**Preparedness sub index**								
3.1.1	% of IHR core capacities that are at least at level 3 (developing capacity) based on the IHR annual reporting (Party Self-Assessment Annual Reporting)	-	61.6%	-	66%	70%	73%	77%	80%
3.1.2	% of bloodstream infections due to selected antimicrobial-resistant organisms	-	-	-	0	0	0	0	0
3.1.3	% points of entry monitoring and enforcing Immunization according to IHR regulations	75	75	75	75	75	80	80	100
3.1.4	% food outlets inspected annually in line with food safety regulation	-	-	40	60	70	80	90	100
3.2	**Detection sub index**								
3.2.1	% Sub-Zobas submitting complete IDSR reports (Both indicator and event- based surveillance)	100	100	100	100	100	100	100	100
3.2.2	% Zobas with established laboratory system with capacity to detect priority diseases and public health threats according to norms	100	100	100	100	100	100	100	100
3.2.3	% Sub-Zobas conducting one health activities for detection, control and reporting of Zoonotic diseases	100	100	100	100	100	100	100	100
3.2.4	% Sub-Zobas reporting suspected threats to health and the health system within 48 hours	100	100	100	100	100	100	100	100
3.3	**Response sub index**								
3.3.1	% Sub-Zobas with risk profiles for high threat pathogen	0	0	0	5	10	15	20	25
3.3.2	% of Sub-Zobas with multi-hazard response plans that have been tested through an after-action review (AAR) or simulation exercise (SIMEX)	0	0	0	5	10	15	20	25
3.3.3	% hospitals with established capacity to effectively isolate a health threat	No Data	No Data	No Data	70	75	80	85	90
3.3.4	% districts with contingency mechanisms that allow continued provision of essential services during a response to a threat	No Data	No Data	No Data	60	65	70	75	80
3.3.5	% Sub-Zobas with documented plans to engage non-public health partners and the population during response to a health threat	100	100	100	100	100	100	100	100
3.3.6	% Sub-Zobas reporting on the resilience of their health system as part of annual health sector monitoring	No Data	No Data	No Data	5	10	15	20	25
3.3.7	% of public health events rapidly contained within Sub-Zoba area boundary	No data	No data	No data	100	100	100	100	100

Priorities for HSSDP III

The health sector needs to prioritize the following actions

- Establishment of emergency operations centers at national and zoba levels to facilitate faster and coordinated response to health threats
- Put in place planning and monitoring of inherent system resilience as part of monitoring of the health system functioning
- Expand the surveillance system to include surveillance of essential services and system capacity changes.
- Make functional the multisectoral committees to plan and monitor implementation of the NAPHS

3.2.2.3 Other Health Determinants

A number of factors affect the health status and outcomes observed and experienced by individuals, households, and communities. These determinants lead to significant differences in outcomes and health status. As such, health cannot be understood, assessed, and monitored through a single lens. Categorized as socio-cultural, economic, environmental, and political, these influences call for robust multi-sectorial action and collaborative efforts from stakeholders beyond the formal health sector. The indicators that will be used to construct the health determinants sub index are shown in the table below.

Table 11: Tracer Indicators

Ref. No.		HSSDP II			Year 1	Year 2	MTR	Year 4	ETR
		2019	2020	2021	2022	2023	2024	2025	2026
1	**Determinants of Health Index**								
1.1	**Social determinants sub index**								
1.1.1	Prevalence of stunting among children under 5 years of age (SDG 2.2.1)	-	-	-	45%	40%	40%	35%	35%
1.1.2	Prevalence of anemia among pregnant women (SDG 2.2.3)	-	-	-	24%	19%	14%	10%	<10%
1.1.3	Proportion of infants (0–6 months) exclusively breastfed	-	-	-	69%	74%	79%	84%	90%
1.1.4	Proportion of breastfed children aged 6–23 months who are given foods from four or more groups and fed at least the minimum number of times per day	-	-	-	40%	45%	50%	55%	60%
1.1.5	Proportion of children aged 5–19 years with a body mass index less than 18.5 from 49.1 % (2022) to 40 (2026).	-	-	-	49.1%	47%	45%	43%	40%
1.1.6	Prevalence of malnutrition among children under 5 years of age, by type (wasting and overweight) (SDG 2.2.2)	-	-	-	15%	14%	14%	12%	12%
1.1.7	Proportion of children transitioning from primary to secondary school (SDG 4.1.1)	48%	52%	55%	60%	63%	65%	68%	71%
1.1.8	Proportion of girls aged <15 years who have undergone female genital mutilation/cutting	3.8%	3.8%	3.8%	3.0%	2.2%	1.4%	0.6%	0.0%
1.1.9	Proportion of girls aged <5 years who have undergone female genital mutilation/cutting	1.0%	1.0%	1.0%	0.8%	0.6%	0.4%	0.2%	0.0%

1.2	**Environmental determinants sub index**								
1.2.1	Proportion of population using basic sanitation services, including a hand-washing facility with soap and water (SDG 6.2.2)	40	55	77	100	100	100	100	100
1.2.2	Proportion of bodies of water with good ambient water quality (SDG 6.3.2)	-	-	99%	99%	99%	99%	99%	99%

3.2.2.3.1 Social Determinants of Health

Priorities for HSSDP III

The priorities for HSSDP III will be to:

- Optimize and strategically use existing collaboration to ensure food safety and security
- Strengthen partnership between MOH and other stakeholders, including line government sectors, researchers, laboratories and the regulatory services
- Develop a Food Law to harmonize work by a multitude of agencies on food safety
- Develop a Food Safety National Monitoring Plan
- Incorporate health packages into the existing MIHAP nutritional programme to further ameliorate health outcomes
- Harmonize MOH and MOA laboratories to improve food quality control
- Bolster monitoring and evaluation of food safety.
- Strengthen collaboration between MOH and MOLHW to improve people's livelihoods
- Enhance NMFA's role and capacity for food safety.

3.2.2.3.2 Economic Determinants of Health

Priorities for HSSDP III

Employment

- Promote health and safety, and the rights of the workforce
- Strengthen the management of information, building on existing data
- Carry out vulnerability assessments among persons employed

3.2.2.3.3 Environmental Determinants of Health

Priorities for HSSDP III

- Complete land use classification in the remaining 3 Zobas
- Develop one consolidated land use plan.
- Increase access of households to safe water and proper sanitation

3.2.2.3.4 Political Determinants of Health

Priorities for HSSDP III

Strengthen coordination of the main stakeholders in the field (MOH, line ministries, development partners, others) for better outcomes in the country in building back better.

Promote the One Health approach,[5] for addressing health issues in collaboration with other sectors, in areas like surveillance and management of zoonoses.

3.2.3 Strategic focus for ensuring functionality

The sector will focus its investments around two areas, in order to target them effectively to attain the above-mentioned outcomes. These two areas that will function as measures of functionality of the health system are

1. Modernization of medical services, and
2. Expansion of resilient and comprehensive public health services

Attaining these twin focus areas will ensure the desired outcomes will be attained and will ensure investments made are focused. All priority investments during the HSSDP III will need to aim at improving one or both of these focus areas.

3.2.3.1 Modernization of Medical Services

This is crucial in ensuring investments made are impacting directly on the health of the populations. Specific strategic actions around which investments shall be targeted shall be:

- *Making hospitals, hospitals.* Many of the current hospitals are unable to function as fully-fledged hospitals, due to gaps in capacities needed. As a result, a number of them are primarily focusing on provision of primary care services – such as normal deliveries or immunizations – with limited actual hospital care available. The health sector will therefore intensify efforts to
  - (1) at the national level, introduce and monitor super speciality services, and monitor the national referral functionality based on their availability and provision of super speciality services
  - At the regional level, ensure all the staff and equipment / medicines for specialities of medicine, gynaecology / obstetrics, general surgery and paediatrics are available in each of the 6 Zonal Referral Hospital
  - At the district level, ensure the functionality for provision of specialist services by Medical Officers is available, so that basic services for medicine, gynaecology / obstetrics, general surgery and paediatrics are provided by medical officers in each facility classified as a Community Hospital.

- *Introduce innovations to expand access to specialist services.* This is a recognition that physical access to specialist services is a challenge for most of the population, and so innovative approaches will be used to take these services closer to the population. The sector will focus on putting in place, amongst other strategies
  - A peer to peer consultation process across regional referral facilities initially, and eventually to community hospitals too. This will ensure expertise in a given hospital can be accessed by other hospitals, maximizing the access. Regional referral facilities shall put in place a

5"One Health." World Health Organization, 17 Sept. 2017, *https://www.who.int/news-room/q-a-detail/one-health*. Accessed on: 1 July 2021

system to monthly exchange challenging cases / innovations in care amongst each other, and provide feedback to each other
    - A back-referral system where experts at a given level will run specialist clinics in facilities a level below them, so as to minimize the need for patients – particularly for non-emergency cold cases – to travel to higher level facilities. National referrals will thus set up super speciality clinics at regional referral facilities, which will in turn set up specialist clinics at community hospitals, and finally the community hospitals will run general (medicine / surgical) clinics at health centres. A schedule for these will be agreed and used annually.

- *Establish and monitor adherence to care standards in all facilities.* These standards define the expected care a person is entitled to receive when they visit the health facility. They focus on the 'process' by which services are provided, ensuring these are person-centred. Care standards shall be defined, and monitored by each facility Therapeutic committee for outpatients, inpatients, operative, laboratory, imaging and pharmacy/dispensing service units initially. Each therapeutic committee shall report on a quarterly basis on adherence to care standards based on a tool provided by the national level

- *Establish a formal, stepwise accreditation process for services.* The essential health services package has defined the expected interventions each level of the system is expected to provide. Health facilities are therefore expected to put in place a process to progressively move their service provision capacity towards an agreed standard of care expected. The process needs to be step-wise, recognizing the fact that facilities are all at different stages at present but they also all need to move towards a national standard of quality over time.

- *Establish medical services collaborations and partnerships.* The health facilities represent a central health and social institution for the populations they serve. As a result, each facility needs to establish the required links with other actors who can support improvement in its functioning. These include:
    - Collaboration mechanisms with other sectors addressing health determinants, and health security within the area of responsibility of the facility, and
    - Twinning arrangements with peer facilities in other countries, to expand capacity and knowledge. Each National Referral, and zonal referral facility shall be expected to establish at least one twinning arrangement with other global or regional facilities

3.2.3.2 Expansion of resilient and comprehensive public health services

The health sector has so far focused investments in provision of a basic set of services to the population. These have primarily focused on reproductive, maternal newborn and child health services, plus specific communicable conditions such as HIV, TB, malaria and immunization. The need to focus on UHC, Health Security and determinants of health expands the scope and capacities needed for public health services. An increased need to focus on non-communicable disease risk factors, expand health promotion services and introduce flexibilities needed to align to unique needs for each population are additional requirements of public health services. Resilience is needed to ensure essential services can be provided even when the system is challenged by a shock such as the COVID-19 pandemic.

As a result, the following shall be the strategic actions needed to build resilient and comprehensive public health services.

- *Expand availability of staff, infrastructure and medicines as per norms.* The essential health package services call for updating of the staff infrastructure and medicines norms and requirements. These norms will then guide the planning and deployment of the needs to each facility. Each facility will be monitored against its attainment of norms for the staff, infrastructure and medicines annually to monitor progress.

- *Improve the functionality of staff, infrastructure and medicines.* The sector shall aim to ensure where these inputs are available, they are being used effectively, in order to maximize outputs.
    - For staff functionality, the sector shall establish staff motivation measures – both financial and non-financial in order to allow staff focus on service provision and minimize external worries
    - For infrastructure functionality, the sector will expand the biomedical engineering services and capacities, ensuring each national and regional referral have dedicated biomedical engineering teams, either within the facility or as part of wider government biomedical engineering services
    - For medicines functionality, the supply chain for medicines, vaccines, traditional medicines, medical products of human origin (e.g. blood and its products) will all be reviewed, and gaps addressed

- *Establish and support service readiness program.* This is aimed to ensure the availability and functionality of the support capacities that are crucial for effective functioning of the staff, medicines and infrastructure logistics. These support capacities include
    - For infrastructure, a 24-hour water source, at least 2 sources of uninterrupted 24-hour power supply, and appropriate sanitation services shall need to exist for each National, Zonal and Community hospital plus health centres
    - With staff, an in-service training, together with continuous medical training programs shall be set up for all staff cadres
    - With the medicines, a warehousing and stores management monitoring system shall be established to ensure supplies are appropriately managed. Additionally, rational use of medicines shall be monitored by the sector.

- *Conduct annual monitoring of resilience and functionality of districts.* The districts represent a major innovation from HSSDP II, which needs to be strengthened in the context of HSSDP III. As a result, each district will annually assess its functionality – including the resilience to external shocks – in order to identify core areas if will focus on to improve services. The functionality assessment should focus on:
    - Management capacity to ensure there is appropriate focus on what needs to be done
    - Service provision capacity to ensure the appropriate services and being provided, and

- Governance capacity to ensure the communities and other stakeholders are actively involved in its functioning.

3.2.4 Strategic Health System Functionality Directions

The attainment of the two focus areas of modernization of medical services and expansion of resilient public health services shall be attained through investments made across the 7 different investment areas. These are the health workforce, infrastructure, medicines and essential health supplies, governance, information, financing and service delivery. Figure 23 presents critical interventions in each of these investment areas and further description is provides in subsequent sections.

Figure 23: Priority Interventions:

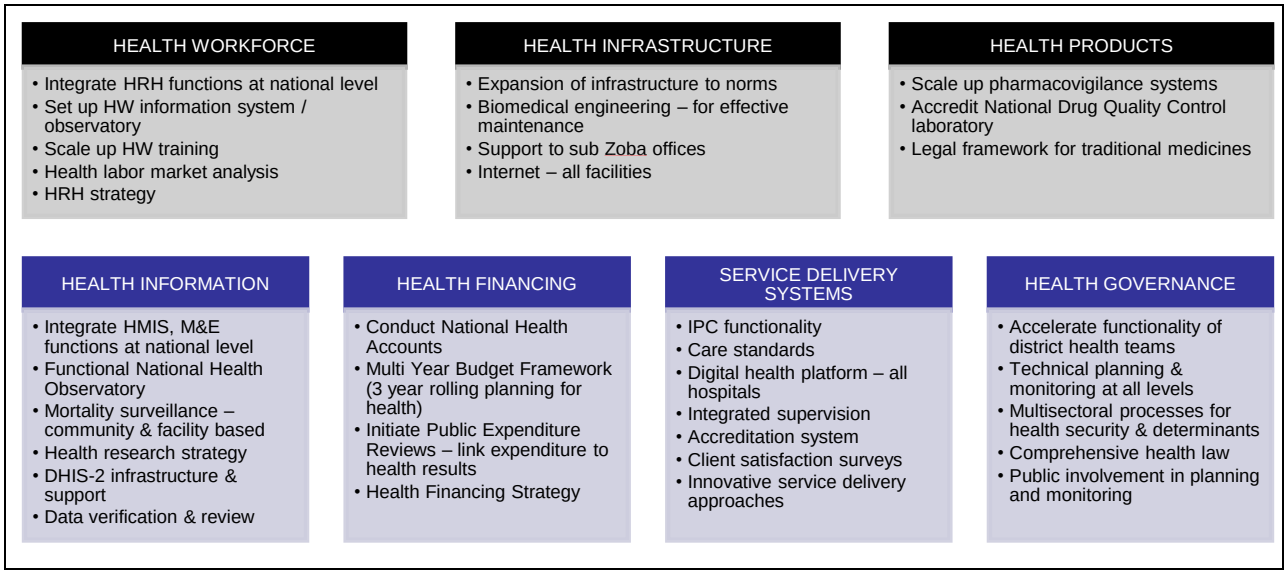


Table 12: Tracer Indicators:

4	**Health system functionality Index**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
4.1	**Health workforce sub index**								
4.1.1	Specialist doctors per 100,000 population	2	2	2	3	4	4	5	5
4.1.2	Doctors (excluding specialists) per 10,000 population	0.7	0.8	0.8	1	2	3	4	5
4.1.3	Nursing staff (including midwives and associate nurses) per 10,000 population	11	12	12	14	15	16	17	18
4.1.4	Health workforce (technical/professionals) attrition rate	6	2	2	2	2	2	2	2
4.1.5	**Health workforce readiness score**								
4.1.5.1	Proportion of health workers (technical/professionals) attending an in-service training (IST) session in the past year	No Data	No Data	No Data	20	25	30	35	40
4.1.5.2	Proportion of health workers participating in Continuous Professional Development (CPD) in the past year	No Data	No Data	No Data	5	10	15	20	20
4.2	**Health infrastructure sub index**								

4	Health system functionality Index	2019	2020	2021	2022	2023	2024	2025	2026
4.2.1	Hospital beds (OPD-observation/IPD) per 10,000 population	10.3	10.5	10.6	10.9	11	12	13	14
4.2.2	Health facilities per 10,000 population	0.99	0.99	1.1	1.2	1.3	1.5	1.6	2.2
4.2.3	Critical care beds (ICU) per 100,000 population	0.3	0.3	0.5	5	10	15	18	20
4.2.4	**Health infrastructure readiness score**								
4.2.4.1	% of facilities with at least two power sources that can run for 24 hours	45	45	50	55	65	68	70	73
4.2.4.2	% of facilities with at least two functional water sources	45	45	50	55	65	68	70	73
4.2.4.3	% of facilities with on site and functional waste disposal system	45	45	50	55	65	68	70	73
4.3	**Health products & technologies sub index**								
4.3.1	Stock out rate of essential products	20%	10%	10%	5%	5%	5%	5%	5%
4.3.2	% national list of medicine (NLM) produced in country	-	-	3.8	4.5	4.8	5.1	5.4	5.8
4.3.3	Percent of products available in the ENLM that can be tested locally (quality test)			38	45	54	64	77	92
4.3.4	Percent of registered pharmaceutical plants inspected onsite for GMP				10	20	30	40	50
4.3.5	% of health facilities reporting ICSRs to the pharmacovigilance center each year.	65.2	45.5	45	67	100	100	100	100
4.3.6	% of tracer commodities that had expiry date & batches numbers	100%	100%	100%	100%	100%	100%	100%	100%
4.3.7	**Health products readiness score**								
4.3.7.1	% of facilities with appropriately functional stores (temperature, light, pest control, humidity)	-	-	-	20%	20%	50%	100%	100%
4.3.7.2	% of facilities with biomedical maintenance addressed within 3 months	-	-	25%	40%	50%	60%	70%	80%
4.4	**Health information sub index**								
4.4.1	% complete monthly reports submitted	96	98	99	99	100	100	100	100
4.4.2	% timely monthly reports submitted	95	99	99	99	100	100	100	100
4.4.3	% of deaths with assigned ICD-10 underlying cause of death	96	100	100	100	100	100	100	100
4.4.4	% hospitals using ICD-11 for Medical Certification of Cause of Death	NA	NA	NA	70	80	90	95	100
4.4.5	% of indicators in the health observatory with up to date data elements	NA	NA	30	50	60	70	80	90
4.4.6	% of health facilities (hospitals and above levels) capturing their data through the DHIS-2	12	40	45	60	75	80	95	100
4.4.7	% community health agents reporting on mortality statistics	1	1	1	1	5	10	15	20
4.4.8	% of facilities carrying out comprehensive surveillance (notifiable conditions, essential services continuity and system capacity)	100	100	100	100	100	100	100	100

4	Health system functionality Index	2019	2020	2021	2022	2023	2024	2025	2026
4.5	**Health governance sub index**								
4.5.1	% of facilities with planning and evaluation committees that met in the past quarter	-	-	-	80	85	100	100	100
4.5.2	% districts reporting on annual performance using standard indicators	-	-	-	100	100	100	100	100
4.5.3	% districts convening health stakeholders fora with other sectors at least once a quarter	-	-	-	100	100	100	100	100
4.5.4	% of districts holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.5.5	% of zobas holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.5.6	% of MOH divisions holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.6	**Health financing sub index**								
4.6.1	% expected monthly operational health budget disbursed to budget centers	100%	100%	100%	100%	100%	100%	100%	100%
4.6.2	% of monthly disbursed operational budget utilized	61.60%	58.80%	55.50%	100%	100%	100%	100%	100%
4.7	**Service delivery sub index**								
4.7.1	% hospitals with functional IPC committees	55	75	85	90	90	95	95	100
4.7.2	% hospitals sharing monthly reports on institutional all-cause mortality audits	-	90	95	100	100	100	100	100
4.7.3	% of health facilities providing 50% of health promotion interventions in line to the EHCP	-	-	30	50	65	70	75	80
4.7.4	% of health facilities providing 50% of rehabilitative interventions in line to the EHCP	-	-	10	35	45	45	50	50
4.7.5	% of health facilities providing 50% of palliative interventions in line to the EHCP	-	-	10	35	45	45	50	50
4.7.6	% health facilities conducting quality improvement initiatives towards formal accreditation	0	0					20	25
4.7.7	% of facilities with functional ambulance services	55	65	70	75	80	80	82	85
4.7.8	Average length of stay	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6
4.7.9	Bed occupancy rate	39.9	40	42	54	56	58	58	58
4.7.10	OPD utilization	84.5	85	86	86	87	90	92	92
4.8	**Referral functionality score**								
4.8.1	% of hospitals that run specialist clinics (in-house or through visits)	10.7	10	10	10.5	10.1	10.3	10.3	10.4
4.8.2	% of OPD patients referred from low to higher level health care	-	1.4	1.6	1.7	2	2.3	2.7	3
4.8.3	% of IPD patients referred from low to higher level health care	-	0.02	0.12	0.14	0.16	1	1.2	1.5

3.2.4.1 Human Resources for Health

The health workforce is one of the critical pillars that enables the health system deliver services to the populations. However, critical as it is, the health workforce has posed a big challenge to health systems in Africa. The challenges span from production, recruitment, deployment, utilization and retention to retirement. It is, therefore, important that each of these aspects of health workforce is addressed to enable the health system of Eritrea function effectively and efficiently. With growing economies, it is important that there is good rationalization in the investments made in these areas. The health workforce needs to be fit for purpose and aimed at maximizing efficiencies. Eritrea has recently developed the Essential Health Care Package (EEHCP) and a new National Health Policy (NHP 2020) and the health workforce has to be tailored to ensuring that there is appropriate capacity to deliver the EEHCP in accordance with the aspirations of the NHP 2020. The current National Human Resource Strategic Plan covers only up to end of 2021 and Eritrea will need a new plan to guide the health workforce sector.

In the context of the Global Strategy on Human Resources for Health: Workforce 2030 (GSHRH), Eritrea aims to optimize the performance, quality and impact of the health workforce, align investment in HRH with the current and future needs of the population and health systems, strengthen the capacity of institutions at national and regional levels for effective public policy stewardship, leadership and governance on HRH, and to strengthen data and information systems on HRH for monitoring and ensuring accountability for the implementation of national sector strategies.

3.2.4.1.1 Quantification

Priorities for HSSDP III

During the HSSDP III, priority will be placed on:

- Establishing a comprehensive health workforce management information system, informing a health workforce observatory, as an integral part of the national HMIS.
- Strengthening the human resource database at Zonal and national level to help forecasting and developing workforce;
- Quantifying the health workforce needs of the country based on the Eritrean Essential Health Package.

Priority Interventions:

- Strengthen the HWF observatory at the national level
- Enhance HWF databases at national and zoba levels linked to the HMIS
- Undertake a WISN assessment to quantify the HWF needs in line with the EEHCP
- Conduct National HWF Accounts
- Build capacity for HRH planning and long-term forecasting of different cadres of HWF

3.2.4.1.2 Regulation and oversight

Priorities for HSSDP III

Focus will be put on

- Strengthening the stewardship capacity of the MOH for the HWF
- Strengthening regulation of the health workforce

Priority Interventions:

- Review the HRH policy
- Develop the new HRH Strategic plan (2022 – 2026)
- Strengthen the HRH Units at National and Zoba levels for HWF planning and management
- Place the HR planning, HR Development and Management should be under one umbrella structurally
- Strengthen the registration, licencing and certification and accreditation of health workers
- Establish national registries of practicing health workforce
- Establish necessary structures, policies and regulations.
- Establish/strengthenhealth professional councils to provide regulation and practice/accreditation of health workers.
- Institutionalize Continuous Professional Development and linking it with re-licensing of the health professionals.

3.2.4.1.3 Production

Priorities for HSSDP III

The MOH and the health training institutions shall focus on

- Producing an appropriate and adequate skill mix of human resources based on the health needs of the population.

Priority Interventions:

- Enhance specialized training of relevant professionals
- Upgrade the School of Associate Nurses (certificate level) to diploma level
- Strengthen the continuing professional development program
- Negotiate with Orotta College of Medicine and Health Sciences (OCMHS) to bring the School of Nursing diploma level under MOH (as used to be before 2009)
- Strengthen the capacity of the training schools under the MOH
- Widen the scope and the scale-up health worker education, including training of HRH planners, managers, health economists, among others
- Scale up recruitment and training of Community Health Workers and integrate them in the national health workforce in line with the new community health strategy
- Exercise regular Training needs assessment and harmonize with training institutions

3.2.4.1.4 Recruitment and Deployment

Priorities for HSSDP III

The priority shall be to enhance talent for the health sector and to place the best competences where they are needed for best results.

Priority Interventions:

- Exercise performance appraisal for HRH regularly
- Develop recruiting strategies aimed at identifying top talent, developing existing talent and retaining top performers

- Institutionalize comprehensive orientation program for newly recruited staff prior to deployment
- Develop transfer policy for HRH (including short term rotational deployments)
- Establish deployment criteria linked to competence and productivity
- Establish career path with clear procedures for promotions and transfers
- Put in place some incentives for the rural and hard-to-reach locations to facilitate easy deployment
- Explore use of e-consultations

3.2.4.1.5 Retention

Priorities for HSSDP III

The MOH shall

- Institute mechanisms including incentives to attract and retain health workers into rural areas.
- Strengthen and standardize performance management systems for health personnel
- Assess the factors governing the health labour market.

Priority Interventions:

- Carry out a Health Labour Market Analysis (HLMA) in Eritrea
- Develop a policy and strategy for enhancing attraction and retention of the HWF
- Strengthen operational management of HWF
- Strengthen and standardize performance management systems for the HWF
- Establish career path with clear procedures

3.2.4.1.6 Withdrawal

Priorities for HSSDP III

The MOH will focus on

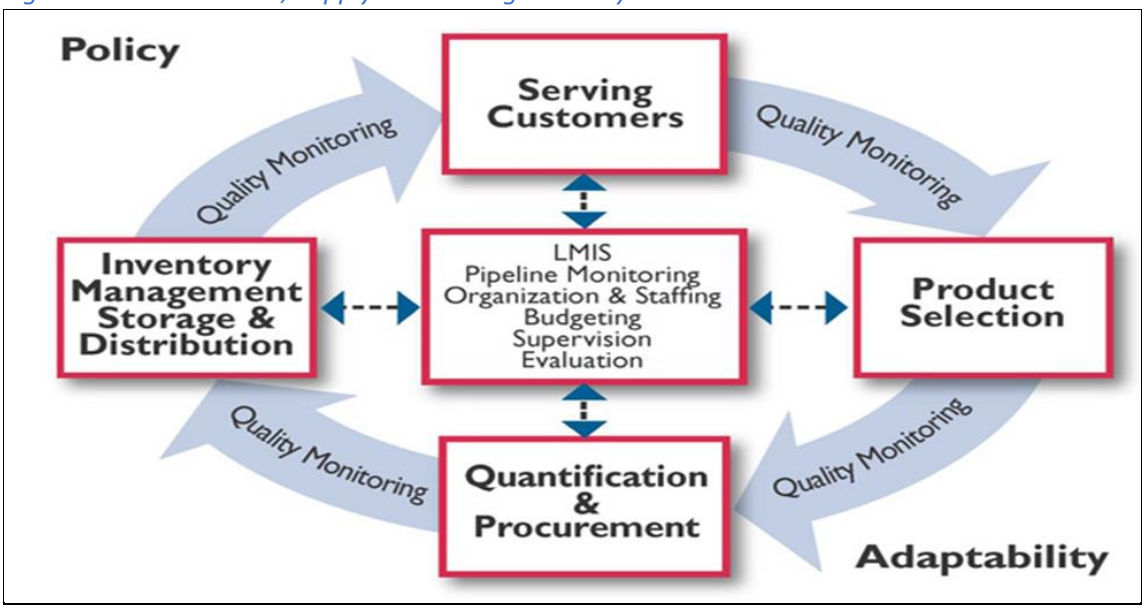
- Advocating for implementation of the retirement policy in liaison with necessary line Ministries
- Developing and aligning the retirement plan with the recruitment plan

3.2.4.2 Health products

Equitable access to health products is a global priority. The continuous supply of quality, safe, effective and affordable medicines and vaccines is one of the building blocks of every well-functioning health system. Good procurement practices play a key role in securing affordable prices and ensuring adequate and timely supply, while good supply chain management ensures that quality products are available at all levels of the health system.[6] In Eritrea, procurement is largely handled by PHARMECOR and Red Sea cooperation. Information on quantity and specification is guided by the Pharmacy division of the MOH.

6*https://www.who.int/medicines/access_use/Roadmap_for_access_zero_draft_2_July_2018_FINALv1clean.pdf?ua=1*

Figure 24: Procurement, Supply and Management Cycle



3.2.4.2.1 Quantification

Priorities for HSSDP III

- Expediate full functionality of LMIS
- Standardize quantification methods nationally

3.2.4.2.2 Procurement

Priorities for HSSDP III

- Expedite implementation of procurement and donation guidelines
- Establish structured coordination mechanisms
- Promote involvement of private sectors
- Strengthen structured governance and coordination between stakeholders
- Implement the procurement guideline

3.2.4.2.3 Regulation

Priorities for HSSDP III

The goal of the NMFA is to be a globally recognized stringent (WHO listed) medicines regulatory authority by the end of 2026. To attain the above-stated goal, the NMFA will make efforts to ensure at least four of its regulatory core functions reach maturity level three or above of the WHO global benchmarking. In the next five years the NMFA's areas of focus will be as follows:

- Strengthen the existing medicines and medical devices registration system through the introduction of an electronic medical products registration system and expedited registration pathways, and development of working documents.
- Accredit the National Drug Quality Control Laboratory to the level of ISO 17025/WHO - GPCL.

- Strengthen regulatory inspection and enforcement through the development/revision of directives and other working documents (proclamations No. 36/1993 and 143/2004) and expanding NMFA's inspectorial activities to all ports of entry, pharmaceutical outlets, health facilities and local as well as foreign manufacturing plants.
- Sustain and scale-up the exiting pharmacovigilance systems, which is at maturity level three, to maturity level four of the WHO global benchmarking by decentralizing it to the zonal levels and enforcing market authorization holders to adhere to pharmacovigilance requirements.
- Empower the regulation of traditional medicine through development of legal framework, code of ethics and practice, and directives.
- Utilize regional and global medicines regulatory harmonization initiatives in areas of medicines registration, inspection and pharmacovigilance.

3.2.4.2.4 Production, warehousing, maintenance and distribution

Priorities for HSSDP III

- Encourage private and public partnerships
- Build capacity for related professions
- Promote and expand local manufacturing of products
- Develop storage norms and standards
- Develop warehouse guidelines and SOPs
- Explore interim solutions for warehouses in critical conditions (such as re-location)
- Strengthen warehouse management
- Develop maintenance norms and standards
- Establish maintenance offices in all hospitals
- Integrate maintenance as a package with procurement of medical supplies
- Provide regular maintenance of health commodities
- Digitalize systems for real-time data management of health commodities
- Expand LMIS to PHARMECOR and all levels as appropriate

3.2.4.2.5 Rational Drug Use and Disposal

Priorities for HSSDP III

- Conduct a Rational Drug Use survey
- Develop disposal management policy/guideline
- Expedite implementation of Scheduling of Medicines
- Implement the AMR National Action Plan 2021 -2025

3.2.4.3 Infrastructure and Support Services

Priorities for HSSDP III

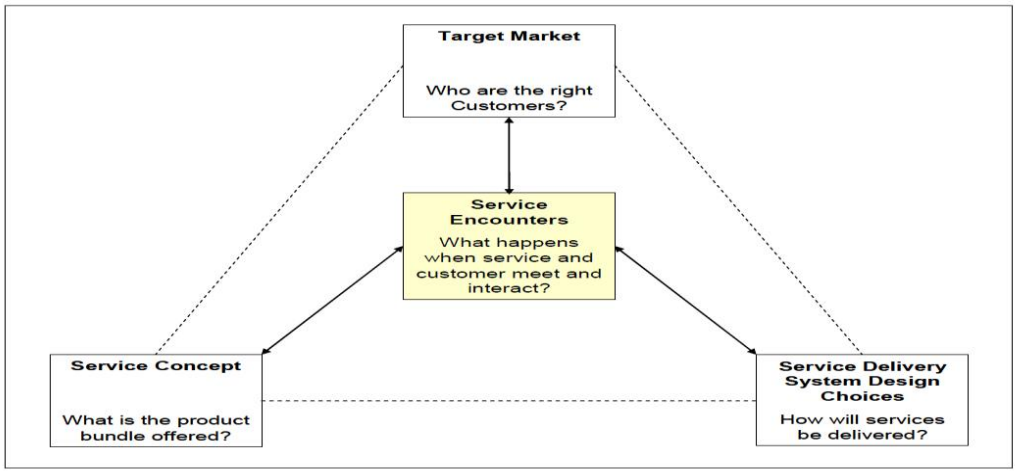
Continued investment in infrastructure development is one area that will need attention in the Health Sector Strategic and Development Plan. The following are the priorities for HSSDP III:

- Develop policies, strategic guidance, standards for provision of services, for the laboratory and radiology services
- Formulate the national infrastructure development plan
- Improve the maintenance capacity for infrastructure including the availability of adequate numbers of biomedical engineering personnel.
- Ensure regular replacement of medical equipment as needed, e.g.in areas where their life span is reduced to due climatic conditions.
- Provide appropriate cooling systems that are functional at all times especially for the laboratory and the pharmacy for hot areas like in Massawa in NRS.
- Equip a food quality control laboratory to monitor and regulate food quality
- Provide transportation especially for the newly established and up-coming sub-zoba offices
- Provide IT equipment for M&E and digitization of the services to improve data management.

3.2.4.4 Service Delivery Systems

Service delivery systems refer to the chain of elements from service production to service consumption. It, therefore, reflects an interlinkage between the bundle of services, the populations targeted for the services and the service delivery mechanisms. The figure below of the service strategy triad by Roth, A. & Menor, L. (2003)[7] provides the visual relationship.

Figure 25: Service Strategy Triad



Source: Roth, A. &Menor, L. (2003)

The service delivery system in Eritrea will aim at delivering services that satisfy the needs, wants, or aspirations of the population. Eritrea has identified the appropriate package of services to offer (EEHCP) and appropriate service delivery models that ensure effective delivery of services and satisfaction of clients (population) as they encounter the service delivery system.

[7]Roth, A. & Menor, L. 2003, 'Insights into Service Operations Management: A Research Agenda,' *Journal of Operations Management*, vol. 12, no. 2, pp. 145-164.

3.2.4.4.1 Services Range

Priorities for HSSDP III

The MOH will focus on rolling out and scaling up the EEHCP to all Eritreans.

Priority Interventions:

- Quantify the resource (HR, Logistics, infrastructure, equipment, etc.) requirement to deliver the EEHCP
- Assess the available capacity to deliver the EEHCP
- Orient the health workers on the EEHCP
- Mobilize resources for effective roll out of the EEHCP
- Provide super-specialized services at national referral hospitals e.g. ENT, Cardiovascular high-end services, Ophthalmology, oral surgery, etc.
- Provide specialized services (paediatrics, Medicine, Surgery, Obstetrics & Gynaecology) at Zoba referral hospitals.
- Undertake a STEPS survey for NCD risk factors
- Raise the profile of NCDs at the MOH and expand prevention and control of NCDs at all levels
- Provide rehabilitative and palliative services

3.2.4.4.2 Referral

Priorities for HSSDP III

Priorities will be to:

- Establish a seamless functional referral system to ensure continuum of care
- Establish functional emergency services

Priority Interventions:

- Strengthening the emergency referral and trauma services
- Enhance the capacity of Zonal referral hospitals to provide specialized services and critical care services
- Establish a functional 24-hour ambulance system
- Expand the scope of specialized services at the National Referral Hospitals
- Enhance the capacity of the community hospitals and the health centres

3.2.4.4.2 Outreach

Priorities for HSSDP III

The MOH will focus on reaching the unreached populations with health services.

Priority Interventions:

- Establishing health facilities to serve the hard-to-reach populations
- Extend health services to the hard-to reach populations through appropriate outreaches
- Promote inter-Zoba collaboration for migratory populations
- Enhance community-based services through the CHWs

3.2.4.4.3 Quality of care including care standards and clinical guidelines

Priorities for HSSDP III

The MOH will focus on establishing a quality assurance system to ensure quality of care to the population

Priority Interventions:

- Review existing clinical guidelines and update them in accordance with the EEHCP
- Train and orient the health personnel on the clinical guidelines
- Establish a quality assurance program to ensure maintenance and improvements in quality of services provided and build appropriate capacity
- Strengthen IPC (training, functionality of committees, monitoring etc.)
- Establish service accreditation systems for the health facilities providing the services
- Develop/update service standards and care protocols.
- Review existing clinical guidelines and update them in accordance with the EEHCP
- Train and orient the health personnel on the clinical guidelines
- Institutionalize client satisfaction surveys

3.2.4.4.4 e-care Services

Priorities for HSSDP III

The MOH shall establish and scale up e-health care services.

Priority interventions:

- Develop a digital health strategy
- Develop a national plan for digitizing health services or national digital health road map
- Develop legal and ethical frameworks for assuring patient safety, data security, confidentiality and controlled access to information
- Establish telemedicine for remote diagnostics and care
- Increase access to internet for the health facilities and linking lower health facilities to higher level facilities to facilitate e-consultations
- Strengthen ICT infrastructure and software
- Build human resource capacity and training of health personnel for implementing the digitization plan.

3.2.4.4.5 Readiness

Priorities for HSSDP III

MOH will focus on improving the readiness of health facilities to deliver the EEHCP

Priority Interventions:

- Conduct a harmonized health facility assessment
- Develop a national health facility readiness plan
- Provide resources to implement the health facility readiness plan
- Strengthen zonal level blood transfusion centers

Strengthen and expand diagnostics (e.g. endoscopy and laparoscopy, digital X-rays, CT scans, MRI, standard laboratory equipment and relevant institutional capacity building at national and lower levels

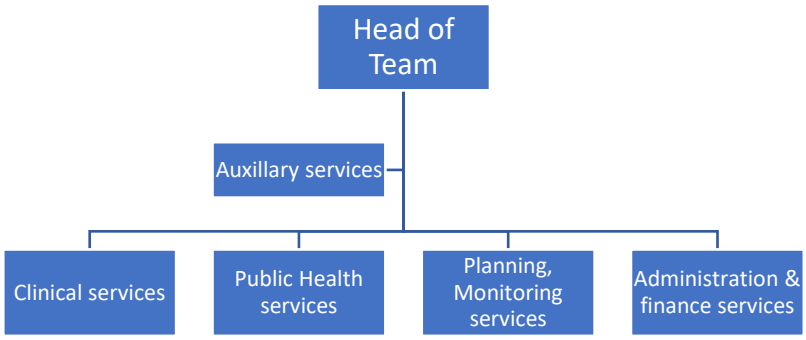
3.2.4.5 Governance of the Health Sector

Governance relates to the processes to ensure actions in the health sector are in line with what populations expect. This covers a number of areas around which progress is being made. The governance is underpinned by the level of decision space that the different levels of the health sector have, to take actions needed. The organizational structure assists to translate this mandate to facilitate execution of governance actions. These governance actions relate to the policy/ strategic focus, regulatory mechanisms, social and technical accountability, integrity & public confidence, and stakeholder engagement modalities.

Decision space is widest at the national and zoba levels. Most of the decision making relating to service provision is therefore done at these levels. The sub zoba functions are a deconcentration of the Zoba functions and facilitate the wider implementation of priorities within a Zoba. There are six Zonal (Zoba level) MOH teams. During the HSSDP II, the MOH established 22 sub zoba (District) Health Management Teams (DHMTs) out of 58 sub zobas. This has assisted in taking overall managerial and stewardship function closer to the implementation level (health facilities, and communities).

The organizational structure has been standardized across the health sector – from national, to Zoba and district levels. There is a head, who coordinates work across four departments of public health, clinical services, administration / finance and planning and monitoring.

Figure 26: Organizational structure for service coordination and management at sub-Zoba Health Offices



The Ministry of Health draws its legal mandate and power from proclamation 37/1993- a proclamation to establish, determine powers and responsibilities of the Government of Eritrea (GoE) and; Legal Notice 14/1993, determining the powers and responsibilities of ministries, commissions, authorities and offices of the Government of Eritrea. Eritrea has clearly prioritized health as a national priority with the health sector receiving about 6-7% national budget according to the Ministry of Finance.

The health sector in the country is guided by the National Health Policy (NHP). The health policy is implemented through cycles of five-year strategic plans and annual operational plans. Specific

programs at national levels also develop their strategic plans, aligned with the overall health sector strategies (e.g. HIV, TB, Malaria, HRH, RMNCAH etc.). The sector has adopted an annual operational planning process, with the policy and planning division regularly providing capacity building and support for sub-zobas and facility levels to produce their own plans. The MOH promotes bottom-up planning, with Zobas consolidating priorities for their sub-zobas annually and communicating to the national level. Additionally, the planning process at sub-zoba levels is inclusive of wider stakeholders, including community representative, women associations, youth association, local government, Eritrean PFDJ, religious leaders, and line ministries.

Priorities for HSSSDP III

A number of actions need to be prioritized to enhance the governance in health. These include:

- Accelerate the establishment of functional district health teams in all sub Zoba's
- Establish stronger planning, coordination and evaluation processes within and across departments, based on joint results.
- Prioritize development of a comprehensive health law, to provide the legal framework for the essential package, and its implementation
- Establish capacity at each Zoba to monitor the sector using indices for Universal Health Coverage, Health Security, Determinants of Health and health system functionality.
- Establish national level multisectoral coordination processes for the health sector

3.2.4.6 Data and Information Use

3.2.4.6.1 Health research and development

The end-term review of the concluded HSSDPII (2017-2021) had identified challenges in prioritization, coordination and financing of research, which is of focus to this plan. It is envisaged that during the HSSDPIII period, the Ministry of Health will be able to achieve structured research coordination and translation of research into policy and products.

The focus will be on aiming at three outputs:

(i) Integrated research plan and capacity building initiative at national and Zoba levels developed.
(ii) Enhanced investment in research and evidence generation for effective policy and programme development.
(iii) Strengthened research links with academic institutions

3.2.4.6.1.1 Integrated research plan and capacity building initiative at national and Zoba levels developed.

Priorities for HSSDP III

i. Review and develop Five-year Health Research strategic plan (2022-2026)
ii. Establish robust health research coordination framework
iii. Develop health research data guideline
iv. Develop guidelines for health research data to operationalize the data guideline
v. Introduce and conduct specialized operational Research Training Initiative (SORT IT)
vi. Strengthen Health Systems training program at national and Zonal levels
vii. Build the capacity of the zonal research focal points at the Zonal/Zoba MOH branches

3.2.4.6.1.2: Enhanced investment in research and evidence generation for effective policy and programme development

Priorities for HSSDP III

i. Strengthen strategic partnerships and networks in addressing national research agenda
ii. Create a portal for sharing health research data within the National health observatory
iii. Establish a structured mechanism to synthesize research findings to facilitate policy formulation and practice
iv. Advocate for research financing and allocation of fund to prioritize research proposals
v. Establish innovate ways of financing health research
vi. Establish knowledge translation platform for translating, synthesizing, and communicating research to inform health policy and practice

3.2.4.6.1.3: Strengthened research links with academic institutions

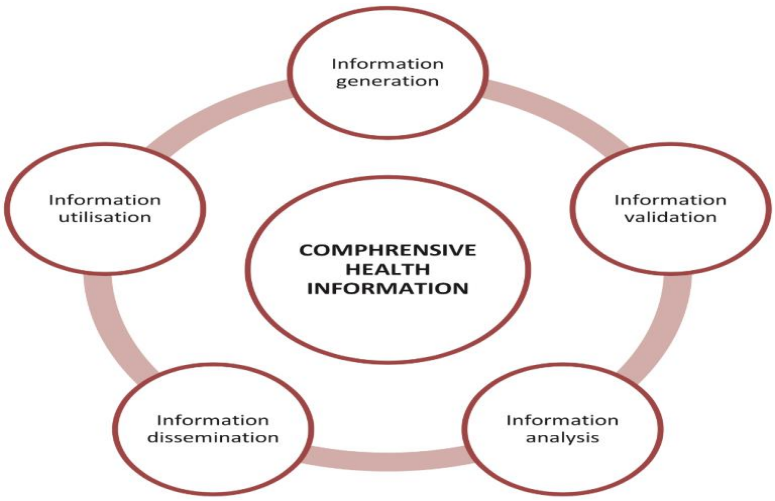
Priorities for HSSDP III

i. Create opportunities to engage students in operation research in collaboration with Orotta National Referral Hospital, Asmara University, Zonal hospitals, Zobas, facilities, communities.
ii. Establish a research equipment sharing mechanism across institutions in particular basic science research
iii. Establish an annual research forum for sharing and communication finding from research

3.2.4.6.2: Health information system

The end-term review of the concluded HSSDP II (2017-2021) has identified challenges in the health information system which have been prioritized in this plan. It is envisaged that during the HSSDPIII period, the Ministry of Health will be able to ensure that a robust health information system is in place. The envisioned system is indicated in figure 27, which shows the interrelationships between the components of a functional health information system.

Figure 27: Interrelationship between the different components of a comprehensive Health information system



Focus will be on achieving the following outputs

i. Strengthened integrated, comprehensive and quality health information generation in a timely manner
ii. Strengthened system for health information validation
iii. Enhanced capacity of analysis at all levels to use health information to make informed decisions
iv. Strengthened systems for predictable and targeted dissemination of information to all stakeholders

3.2.4.6.2.1: Strengthen the integrated, comprehensive and quality health information generation in a timely manner.

Priorities for HSSDP III

i. Review the MOH data collection tools with a view of harmonizing and updating
ii. Optimize the operationalization of the DHIS2 to ensure it is comprehensive and captures all the MOH programs
iii. Expand electronic DHIS2 access to lower health facilities
iv. Develop/update the HIS indicators reference manual
v. Introduce and scale up medical certification of cause of death (MCCoD)
vi. Train on certification and coding of underlying cause of death

3.2.4.6.2.2: Strengthen the system for health information validation

Priorities for HSSDP III

i. Integrate data validation application within the DHIS 2
ii. Develop data quality assurance/assessment protocol
iii. Carry out routine data quality assessment
iv. Carry out regular data review meetings

3.2.4.6.2.3: Enhanced capacity of analysis at all levels to use health information to make informed decisions.

Priorities for HSSDP III

i. Develop and implement data analysis competency-based capacity strengthening plan
ii. Procure/make available the relevant data analysis tools (Software's, Computers)

3.2.4.6.2.4 Strengthen the systems for predictable and targeted dissemination of information to all stakeholders.

Priorities for HSSDP III

i. Develop and implement a plan for targeted information dissemination (e.g. dashboards and quarterly bulletins for monitoring UHC, SDGs, annual statistical report, State of Health in Eritrea)
ii. Carry out regular performance review based on the available data at all levels
iii. Regularly update National Health observatory indicators and ensure visualization
iv. Develop regular policy briefs and information products

3.2.4.6.2.5: Improve governance of health information systems

Priorities for HSSDP III

i. Harmonize the different data sources and ensure that Ministry of Health has one consolidated source of health data
ii. Develop and Implement Eritrea Enterprise Architecture, the data governance protocol and the certification framework.

3.2.4.7 Financing

Priorities for HSSDP III

- Strengthen data collection infrastructure to be able to reflect all the costs and expenditure including the community contribution.
- Undertake National Health Accounts.
- Carry out tracking of both the domestic resources and those from development partners to the MOH
- Advocate for Public Expenditure Reviews in the health sector.
- Advocate for rollout of the initiatives on MTEF and use of IFMIS.
- Promote financial risk protection
- Find ways to budget for the nomadic populations- e.g. increasing budget for Zobas where the moving populations will be and when they will be; and decreasing with the same logic

CHAPTER 4: MONITORING AND EVALUATION

Monitoring and evaluation processes are essential functions to ensure that priority health actions outlined in the HSSDP III are implemented as planned against stated objectives and desired results.

The evidence gathered through M&E processes will be used to:

- Guide decision making in the health sector, by characterizing the implications of progress (or lack of it) being made by the sector
- Guide implementation of plans by providing information on progress and results.
- Guide the information dissemination and use by the sector stakeholders and the public.
- Providing a unified approach to monitoring progress by all stakeholders in the sector – Zobas, Sub-Zobas, programs, and others

An integrated and comprehensive approach for monitoring national health strategies, will measure progress towards the health-related SDGs, UHC and other national commitments.

The M&E system will respond to meet the growing interest and demand for quality data for decision-making, measurement, learning, accountability, and policy dialogue. For this plan, the M&E system will:

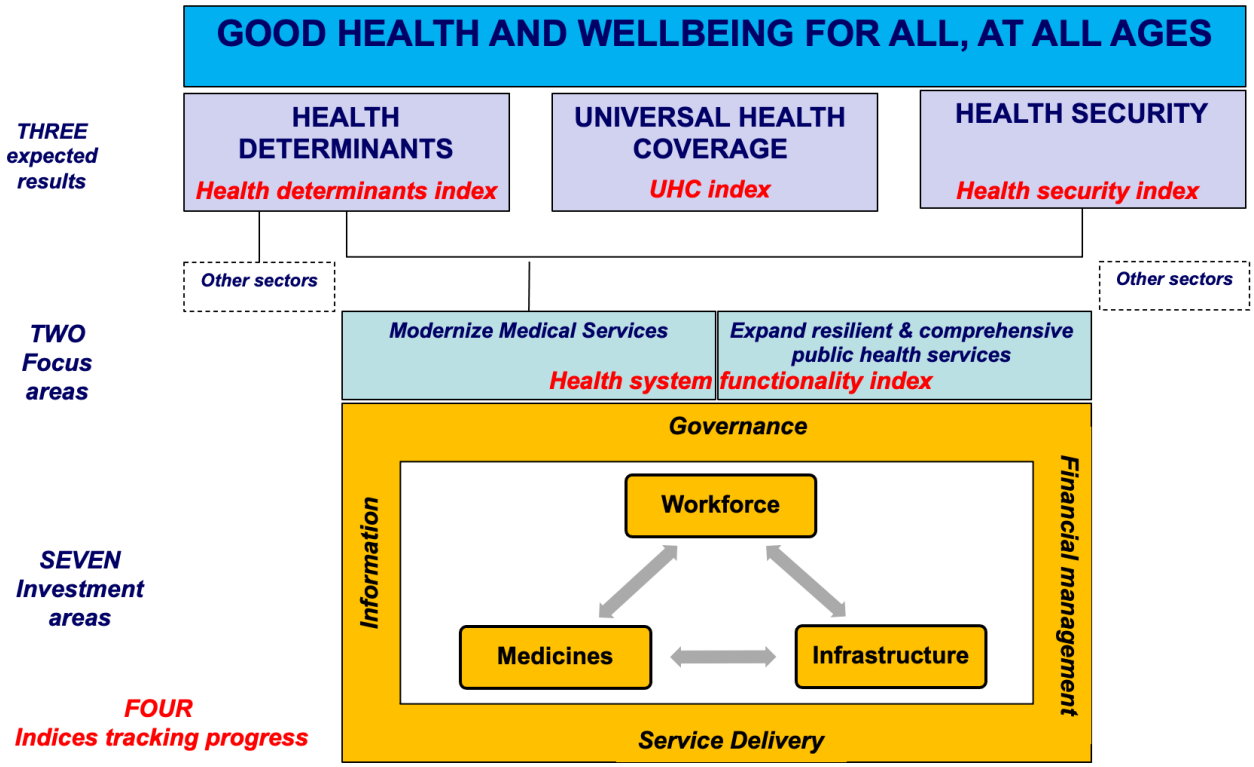
- Inform formulation of sound policy, improved institutional environment, enhanced multi-stakeholder coordination mechanisms,
- Well-functioning data sources. (Civil registration and vital statistics (CRVS) systems, population-based surveys, routine facility information systems, facility surveys, administrative data sources disease and public health surveillance, research studies);
- Strong institutional capacity for data collection with unified data architecture, management, analysis, use and dissemination.
- Effective multi-sectoral mechanisms for data and performance review

To deliver effectively, the M&E Division will need to be strengthened to deliver on the different functions which have been assigned by the health sector and the following key actions specific to the M&E will need to be implemented.

i. Carry out M&E systems strengthening assessment
ii. Build the capacity of the M&E staff (Increase number and capacity of M&E Staff at all levels)
iii. Conduct annual data quality assessments at all levels level
iv. Conduct surveys or at least ensure surveys are planned and budgeted to monitor health sector plans (such as HHFA, LQAS, etc.)
v. Establish M&E technical working group
vi. Clearly define roles and responsibilities of the M&E
vii. Establish M&E database which ensures (Data collection and Consolidation of information from different sources, national, and sub-nationals) this should be in line with enterprise architecture
viii. Align Program Specific M&E indicators with sector plans

Monitoring and evaluation of HSSDP III will be guided by the health sector Monitoring and Evaluation framework. The M&E framework and linkage with health information system shown in the figure below.

Figure 28: Monitoring and Evaluation Framework Logical framework



HSSDP III Targets

The health sector has identified sector indicators for monitoring and evaluating the implementation of HSSDP III. The data sources for these indicators will be defined in the health sector indicator manual. The indicator details with the baseline data, and mid- and end-term targets as well as the sources for these indicators are found in Annex 2.

The different levels of the health system and all the stakeholders in health need to work together in order to achieve the stipulated targets. The monitoring and evaluation framework defines the responsibilities of each actor and stakeholder.

Data Review and Performance monitoring processes

The data review and performance monitoring processes are useful for documenting lessons learnt and measures of success during the implementation of the strategic plan.

A transparent system of joint periodic data and performance reviews that involves key health stakeholders will be ensured. All data review, performance monitoring and evaluations processes will produce targeted and actionable recommendations. Programme-specific reviews will be linked to the overall health sector review in terms of timing and the methodology while contributing to the sector performance.

All the health sector planning entities and M&E will be required to maintain implementation tracking plan which will keep track of review and evaluations, agreed follow-up actions, and status of these actions. A comprehensive feedback mechanism will be ensured and inclusive to enhance accountability. These processes will be elaborated in the M&E framework.

Quarterly reports

At Zoba and national levels, data and performance review reports will be produced outlining the performance against the strategic objectives in this plan. The reports and the implementation of previous recommendations will be discussed by the health management teams including all the stakeholders at the quarterly data and performance review meetings at the different levels.

Annual reports

a) Sub-Zoba Annual Health Sector Report

This is the annual report documenting progress against the implementation of the Sub-Zoba Annual Work Plans for all planning units in the Sub-Zoba as well as against sector performance (Indicators and targets) set in this strategic plan and any additional Sub-Zoba specific indicators. It will include challenges encountered during the period under review and key priorities for the coming year. The report will be developed by the Sub-Zoba health stakeholders through a consultative process and will be presented at a Sub-Zoba Annual Health Review forum.

b) Zoba Annual Health Sector Report

This is the annual report documenting progress against the implementation of the Zoba Annual Work Plans for all planning units in the Zoba as well as against sector performance (Indicators and targets) set in this strategic plan and any additional Zoba specific indicators. It will include challenges encountered during the period under review and key priorities for the coming year. The report will be developed by the Zoba health stakeholders through a consultative process and will be presented at a Zoba Annual Health Review forum.

c) National Annual Health Sector Report

This is the annual report for the Ministry of Health and stakeholders documenting progress against the implementation of the Annual Work Plan for all planning units at the national level as well as against sector performance targets set in the HSSDP III. The report will be presented to Ministry of Health senior management for endorsement and use. It will also be disseminated to all stakeholders in health, including Zoba health management teams for feedback and use for decision making. It will contribute to the annual state of health in Eritrea report and will be discussed at the national health review meeting/summit or annual meeting.

d) Annual state of health in Eritrea Report

This is a comprehensive analytical report giving a snapshot of performance covering the different strategic objectives articulated in this strategic plan and the overall state of health in Eritrea. It will be informed by the Zoba annual health sector reports, the national annual health sector report and other health related reports. This report will be shared at an annual health meeting.

A fact sheet and other summary information products will be developed from the report as per the target audience needs highlighting key components of the annual state of health in Eritrea report. These products will be disseminated to the health stakeholders for use through appropriate channels.

Enhance sharing of data and promoting information use.

The health sector recognizes the need for information by different actors for their decision-making processes, policy, planning and investment decisions. Information will be packaged and disseminated in formats that meet the needs of health officials and various stakeholders. Predictable

production of information products and defined dissemination platforms will be enhanced. The Eritrea Health observatory will be strengthened to support information sharing for both government, non-government actors and the public. The inter-agency joint stakeholder forums will also be critical in information sharing.

Joint assessments of progress

The principle of joint assessment shall be used at all levels of the health sector during performance reviews. This will involve all stakeholders both government and non-government actors in review of performance. A community health services stakeholder forum will be responsible for the joint assessment at the community level. The Zoba and Sub-Zoba M&E units in Zobas will take lead in the joint assessments at subnational levels. The Zoba management teams will prepare the quarterly reports and in collaboration with Zoba stakeholders organize Zoba quarterly performance review forums. The national M&E Division will organize for the annual health National meeting which will bring together all stakeholders in health to jointly review the performance of the health sector for the year under review. The purpose of the joint assessments is to review performance, determine priorities, action plans and spending for the subsequent period.

HSSDP III Evaluations

A midterm review and an end evaluation will be undertaken to determine the extent to which the objectives of this strategic plan are met, including implications of trends across the different indicator domains - inputs/processes; outputs and outcomes.

- **Mid-term review** – to review progress and progress made towards the realization of the HSSDP III Strategic Objectives. The midterm review will coincide with the annual review of strategic plan year three. It will cover all the targets mentioned in the plan, including targets for outcome and impact indicators. The results will used to adjust national strategies, priorities and objectives.
- **End term evaluation**– to review final achievements of the sector against what had been planned. It will involve a comprehensive analysis of progress and performance for the whole period of the plan.

The National and Zoba M&E Division or equivalent will be responsible for overall oversight of M&E activities at the respective levels for the day-to-day implementation and coordination of the M&E activities to monitor this strategic plan.

CHAPTER 5: IMPLEMENTATION ARRANGEMENTS

5.1 Organization and management of the health sector

The health sector is organized in a three-tier structure, with the Ministry of Health at National level, Zoba health offices at the regional level and sub-zobas at district level. The Ministry of Health provide overall policy guidance and oversight of the health sector, while the Zoba health offices are responsible for planning and management of health services in the regions and support the sub-zobas for implementation.

5.2 Stewardship roles and responsibilities

The Ministry of Health is responsible for policy and strategic guidance for the health sector. It provides oversight of the health sector and builds capacity of the health sector at all levels. It is responsible for collaboration with health training institutions, line Ministries that handle the other health determinants, UN and bilateral partners, and other key stakeholders like the professional health councils, federations and associations (e.g. of women, youth, etc.).
The table below shows a list of some key stakeholders that the Ministry of Health collaborates with and the roles and responsibilities each one of them plays.

Table 13: Stakeholder Roles and Responsibilities

Stakeholder	Roles & Responsibilities
Training Institutions	
Orotta College of Medicine and Health sciences	Training of health professionals, support research
Line Ministries & Agencies	
Ministry of Agriculture	Nutrition, prevent and control zoonotic diseases, avoid hazardous pesticides
Ministry of Land, Water and Environment	Provide safe water, Avoid Environmental contaminants, Avoid water, air and chemical pollution
Ministry of Labour and Social Welfare	Occupational health, rehabilitation of Elderly and disabled, social protection
Ministry of Education	School health, water sanitation, health promotion, girl child education
Ministry of Finance	Secure budget for health and monitoring
Ministry of National Development	Coordination of Donors and partners, provision for health in the national development plan
Ministry of Local Government	Community mobilization, mobilization of local resources
Ministry of Information	Health promotion and dissemination of health information products
Ministry of Public Works	Infrastructure development and maintenance
Ministry of Tourism	Health promotion, food safety,

Stakeholder	Roles & Responsibilities
Ministry of Trade and Industry	Food safety and quality control
Ministry of Transport and Communication	Road safety and transportation of Lab specimen, facilitate transport in accidents, ICT infrastructure development, Internet access
National Statistical Office	Community and household surveys, censuses
UN Agencies	
UNICEF	Sexual and reproductive health, water and sanitation, youth and adolescent health and development
UNFPA	Reproductive Health, family planning, health commodities
UNDP	Improving household income, development projects
UNAIDS	HIV and AIDS control
UNHCR	Health of refugees and displaced populations
FAO	Food security and food safety, nutrition
OCHA	Health security
Civil Society Organizations	
National Union of Eritrean Women	Health promotion, ESMG
National Union of Eritrean Youth & Students	Health promotion
Office of Religious Affairs	Health Education
BIDHO	Health promotion and provide services, rehabilitation of people with HIV

5.3 Partnership and coordination arrangements

Efforts will be made to strengthen partnerships. The Ministry will put in place mechanisms and for a to bring together key stakeholders on one table. There will be set regular meetings between the Ministry of Health and the partners that support the sector to agree on a joint work and support program. To stimulate and harness the collaboration and contribution from the line Ministries, the Ministry will set up different fora (technical and policy levels). At technical level, Technical Working Groups (TWGs) will be established, while at policy level, arrangements will be made to set up a cross-sectoral committee as well as arrange for bilateral policy interactions to address appropriate specific areas.

A similar arrangement will be made at the Zoba level, where the Zoba Health Office will play a role similar to that played by Ministry of Health at central level

CHAPTER 6: FINANCIAL IMPLICATIONS

6.1 Costs of NHSSDPIII

Following the development of the draft strategy, the WHO country office supported the MOH to undertake a costing exercise in order to estimate the total cost of implementing the plan over the five-year period 2022-2026, including scaling up of services from the current baseline. The purpose of the costing was to;

- Bring into focus the level of investments required for full implementation of the planned activities
- Ascertain the funding gap and support efforts towards resource mobilization

The One Health Tool was utilized for the costing which also a tool is recommended by the UN for the costing of national strategic plans.

The primary purpose of the tool is to assess health investment needs which can span over periods of 3-10 years. The tool is recommended by the UN (including WHO) for the costing of national health sector strategic plans. Besides allowing using to estimate investment needs for to scale up essential services in the short to medium term, the tool has also been designed to be used for costing of national health sector strategic plans. The tool comprises components on Health services (programme areas e.g. child health, immunization, TB, HIV/AIDS, WASH) and Health systems (infrastructure, Human resources, health financing). It also has sections on fiscal space and can produce estimates on standard outputs outlining the costs for each area (e.g. programme costs, HR, infrastructure, governance, health financing etc).

One of the key requirements of the tool is the identification of baselines and targets hence the need to first confirm the indicators and targets highlighted in the HSSDP III and to ensure that these are annualized. The tool makes a distinction between the baseline and target coverage levels for the various priority interventions whilst the Population in need comprises the relevant target groups which are supposed to benefit from the prevention and care interventions. Its importance lies in the fact that it determines the size of the costs or the quantum of the resources required to implement the plan.

The tool makes a distinction between recurrent (direct and overhead) and capital costs. Further, recurrent costs are captured under "Programme Costs" and Intervention Costs". The recurrent costs components would include the costs of drugs, supplies and salary for the health service delivery areas, while the capital costs comprise of the capital investment costs in infrastructure and other health systems components (e.g., logistics, information systems, etc.)

6.1.1 Methodology

The approach adopted involved reviewing the draft HSSDP III to internalize it and gain understanding of the content and gaps. This was followed by the configuration of the OHT to the Eritrean context and preparation of an excel spreadsheet cost input tool, which was later shared with the MOH.

The following specific steps were followed in costing the strategy;

a) Configuration of tool to the Eritrean Context
b) Confirmation and finalization of baselines and indicators
c) Collecting input data to feed into the One Health Tool.
d) Determining the relevant unit costs, emphasizing key assumptions
e) Populating the relevant sections of the tool

The costs of the interventions were analysed for the plan period on the basis of the assumptions about the level of investments in capacity and infrastructure, ability to expand services and feasible levels of target coverage required to achieve set objectives.

The areas covered by the costing exercise included the following:

1. Substantial investments in **medicines, commodities and supplies** in all programme areas.
2. **Programme Management** (e.g. policies, treatment guidelines, training, and advocacy, communication) to support provision of health services in the identified priority areas in the plan
3. **Infrastructure and human resources** required to provide these services including cost of rehabilitation/extension of existing facilities at all levels. This also includes transport and communication facilities
4. **Health Systems Management Information to** strengthen collection of health-related data, analysis and reporting including M&E. This component also included health research in line with the strategic plan priorities.
5. **Logistics:** focusing on strengthening the supply chain and logistical management for pharmaceuticals and medical supplies. The Health Products priority was costed under this component.
6. **Governance** required to build capacity in leadership and management at all levels, policy setting and strengthening partnerships for health

Several stakeholders were consulted to gather both primary and secondary information that were used to populate the tool.

During the country visit, initial one-on-one consultations were held with MOH officers responsible for each of the disease programme areas and key departments. During the consultations, the officers were involved in an exercise to;

- Select relevant intervention coverages
- Verify/provide baseline and annual targets for selected interventions
- Provide details on the cost items for each intervention
- Indicate the year of implementation

This culminated in a meeting with the Steering Committee, held to present the preliminary estimates. The Committee observed that costs for Infrastructure were low as well as those for NCDs. They also advised that the HRH costs should exclude the pre-service training component. The projections were revised accordingly and presented again to the Steering Committee. The Committee observed that total cost, amounting to ERN6 billion for the 5 years were reasonable.

6.1.2 Key assumptions

- Unit costs based on the current year, 2021.
- Substantial increase of health system inputs i.e. HRH and Infrastructure
- Disease programmes part of the result area on Universal Health Coverage
- Linear interpolation (gradual increase of coverages) of target scale up per annum
- Unit Costs for travel (internal and external) meetings, studies, media campaigns, consultancies and training are standard and thus applied across the board
- UN Consultancy rates assumed for most activities (Masters level) with average duration of 30 days
- Inflation rate of 5% annually adapted

6.1.3 Overview of Results

The analysis mainly projected three scenarios, Baseline (modest projections), Moderate and Aggressive.

As shown in Table 14 below, the results of the costing analysis (Scenario 1) reveal that the HSSDP III would cost approximately ERN5,5 billion over the five-year period with annual costs rising from ERN919million in Year 1 reaching ERN1.1 billion in Year 5. For the moderate scenario the total costs were estimated to be ERN5.7billion and the estimated total costs for the aggressive scenario were ERN6.2 billion over the five-year period.

Table 14: Total Costs for implementing the HSSDP III

Scenario	2022	2023	2024	2025	2026	Total
Baseline	919,869,596	1,327,078,589	1,128,969,457	1,060,828,579	1,088,550,189	**5,525,296,409**
Moderate	918,241,579	1,357,988,563	1,146,404,571	1,130,895,806	1,134,722,709	**5,688,253,229**
Aggressive	1,030,005,954	1,580,625,038	1,212,425,726	1,165,244,939	1,183,934,019	**6,172,235,677**

The development of the scenarios was mainly based on the main cost drivers: human resources for health, infrastructure and vehicles. Table16 below reflects the underlying assumptions for each of the Scenarios.

Table 15: Underlying assumptions for scenario building

Baseline Scenario	Moderate Scenario	Aggressive Scenario
Infrastructure • Build only one hospital • Build only 10 health stations • Focus on priority geographical areas where access is limited. **HRH** • Targets for recruitment reduced by 50% **Vehicles** • Procure 100 Ambulances	**Infrastructure** • Upgrade 5 HCs to community hospitals • Build one hospital • Build 15 health stations **HRH** • Targets for recruitment reduced by 70% **Vehicles** • Procure 100 ambulances	**Infrastructure** • Upgrade 10 HCs to community hospitals • Build 2 hospitals • Build 20 health stations **HRH** Targets for recruitment maintained as planned (100%) **Vehicles** Procure 200 ambulances

As can be seen in Figure 29 below, human resources account for the largest share of 46% of the total plan costs, followed by medicines, commodities and supplies with a relative share of total plan costs of 30%.

The table below shows the detailed total costs by each health systems investment areas over a period of five years.

Table 16: Disaggregated costs by health system investment area

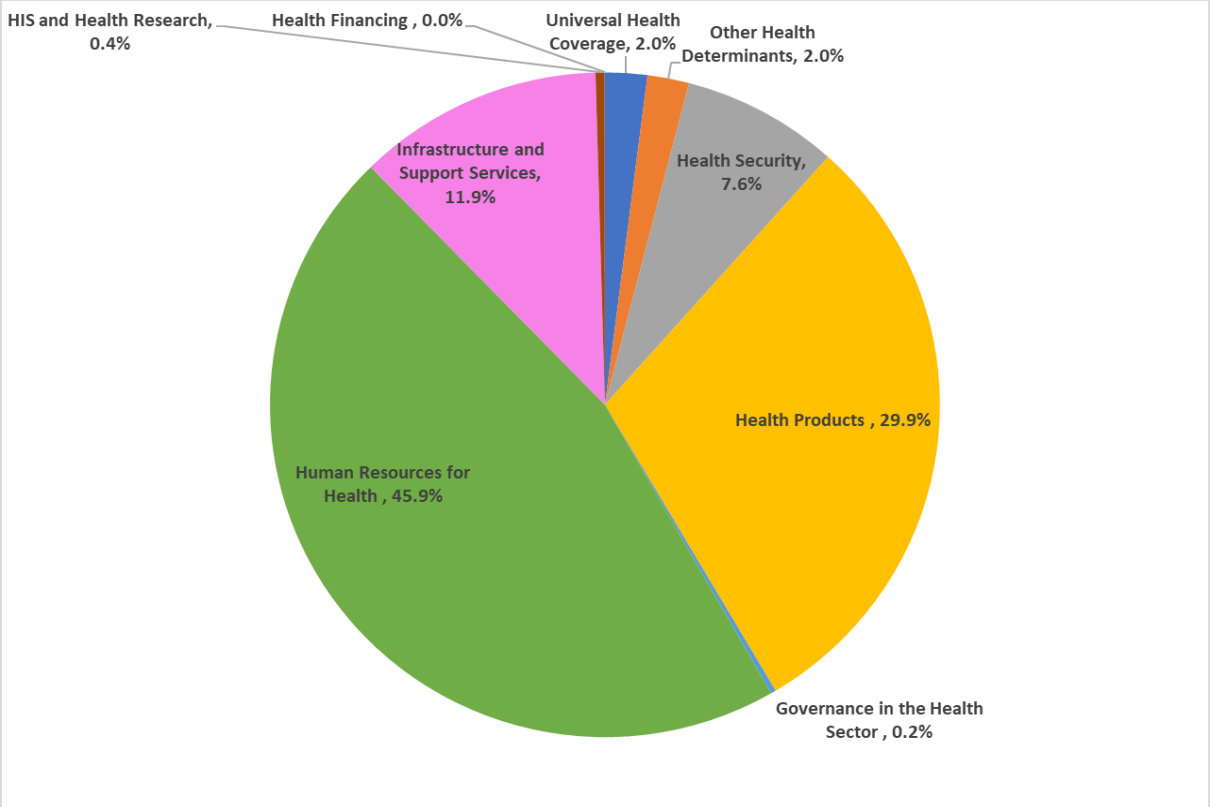
Health system components	2022	2023	2024	2025	2026	Total
Programme Costs	82,936,252	285,271,933	113,922,929	80,563,960	78,545,020	641,240,094
Human Resources	435,367,752	487,277,762	519,257,901	546,500,857	550,035,696	2,538,439,968
Infrastructure	119,738,334	243,830,727	149,350,563	71,402,650	71,652,650	655,974,924
Logistics	3,798,100	2,943,910	2,627,196	2,714,646	2,750,969	14,834,821
Medicines, commodities, and supplies	267,696,408	298,311,445	336,789,044	354,148,475	379,226,868	1,636,172,241
Health Financing	332,675	513,575	0	0	0	846,250
Health Information Systems	5,888,000	6,861,823	3,966,240	3,758,040	3,506,479	23,980,582
Governance	4,112,075	2,067,413	3,055,583	1,739,951	2,832,507	13,807,529
Total	**919,869,596**	**1,327,078,588**	**1,128,969,456**	**1,060,828,579**	**1,088,550,189**	**5,525,296,409**

The relatively high proportion of personnel costs considers future increases in the number of health professionals. It is estimated that an additional 1690 personnel will be required by 2026.

On the other hand, an additional 1668 barefoot doctors would be required by 2026.Capital expenditure, which comprises construction, medical equipment and furniture accounts for about 12% of the total plan costs. The relatively low proportion of capital expenditure share of the total planned expenditures due to the fact that the strategic plan only focuses on construction of health stations and one hospital over the implementation period under the Baseline scenario.

The disaggregation of costs by the HSSDP priorities shows that HRH claims the largest share of costs (46%), followed by Health Products at30% and Infrastructure claiming 12%.

Figure 29: Disaggregation of costs by HSSDP priorities



As stated in the key assumptions, the costs for implementing interventions under the disease programmes are included in the UHC priority area. The Health Products priority area also includes costs for medicines, commodities and supplies. It should be noted that even though the UHC priority area claims only 2.18%, the scale up of programmatic interventions required a substantial increase on medicines, commodities and supplies which are accounted for under the Health products priority area.

The table below depicts the detailed costs of the HSSDP III priorities over the five-year period;

Table 17: A breakdown of the costs by priority area

HSSDP Priorities	2022	2023	2024	2025	2026	Total
Universal Health Coverage	23,138,228	22,538,738	21,336,850	21,994,084	23,337,463	112,345,363
Other Health Determinants	38,832,754	18,201,252	18,885,731	16,969,251	18,224,622	111,113,610
Health Security	20,965,270	244,531,943	73,700,348	41,600,625	36,982,935	417,781,121
Health Products	271,494,508	301,255,355	339,416,240	356,863,121	381,977,837	1,651,007,062
Governance in the Health Sector	4112075	2067413	3055583	1739951	2832507	13,807,529
Human Resources for Health	435,367,752	487,277,762	519,257,901	546,500,857	550,035,696	2,538,439,968
Infrastructure and Support Services	119,738,334	243,830,727	149,350,563	71,402,650	71,652,650	655,974,924
HIS and Health Research	5,888,000	6,861,823	3,966,240	3,758,040	3,506,479	23,980,582
Health Financing	332675	513575	0	0	0	846,250
Total	**919,869,596**	**1,327,078,588**	**1,128,969,456**	**1,060,828,579**	**1,088,550,189**	**5,525,296,409**

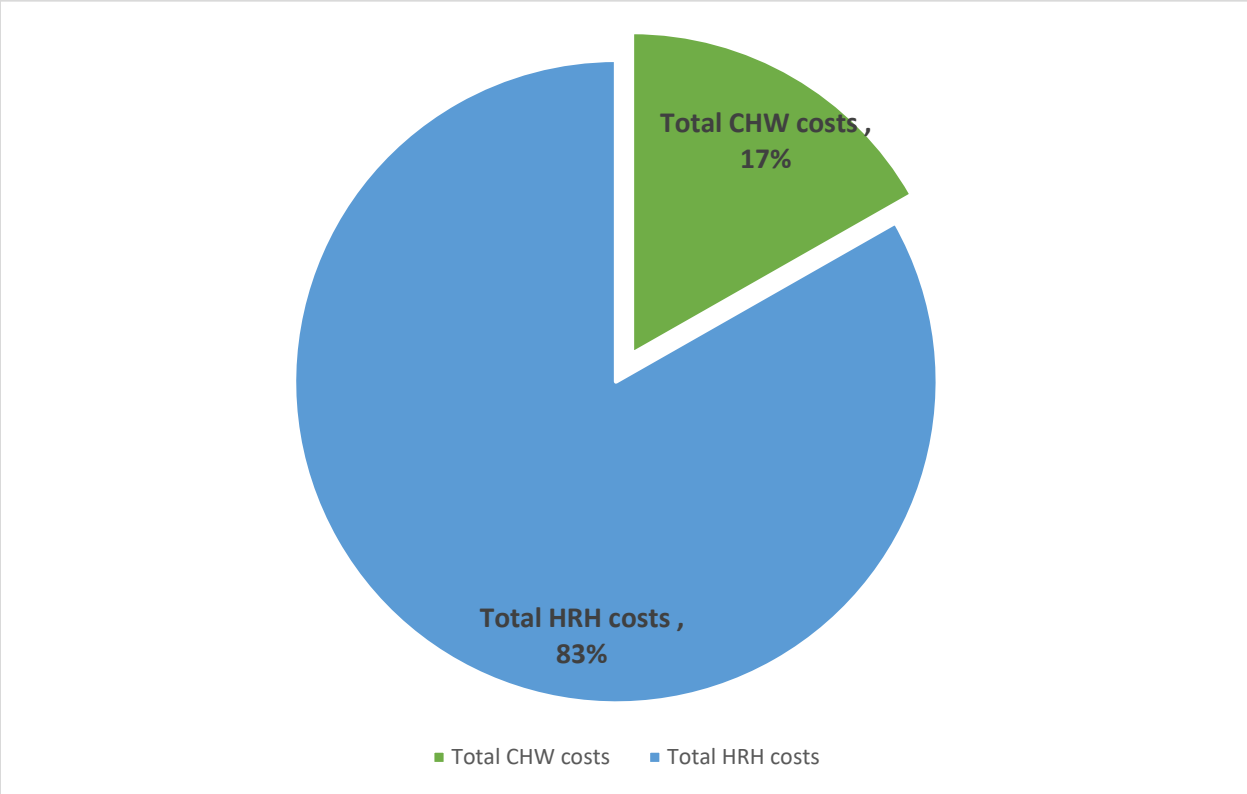
Notably, the HRH costs also comprise CHW costs which are detailed in the table below:

Table 18: Detailed CHW Costs

Summary of total costs	2021	2022	2023	2024	2025	2026	Total
1. Programme-Specific Human Resources	16,160,784	26,372,592	36,969,984	47,567,376	58,164,768	68,762,160	253,997,664
2. Training	2,951,998	15,425,544	21,275,052	24,200,296	24,685,232	26,416,976	114,955,098
3. Supervision	378,000	441,000	441,000	441,000	441,000	441,000	2,583,000
4. Monitoring and Evaluation	1,724,000	1,925,992	1,724,000	1,724,000	1,724,000	1,724,000	10,545,992
5. Infrastructure and Equipment	-	4,427,023	6,633,900	13,281,068	13,267,800	22,135,113	59,744,903
7. Communication, Media & Outreach	22,010	755,550	22,010	22,010	22,010	22,010	865,600
8. Advocacy	-	3,544,236	-	-	-	-	3,544,236
9. General Programme Management	2,369,290	14,817,942	6,065,121	9,087,999	13,202,310	19,538,672	65,081,334
Total Cost	**23,606,082**	**67,709,879**	**73,131,067**	**96,323,749**	**111,507,120**	**139,039,931**	**511,317,829**

The total CHW costs over the five-year period are ERN511 million which were computed using the Community Health Planning and Costing Tool (CHPCT) developed by Management Health Sciences in partnership with UNICEF. CHW total costs comprise 17% of total HRH costs as reflected in the figure below;

Figure 30: Total CHW costs as a percentage of total HRH Costs



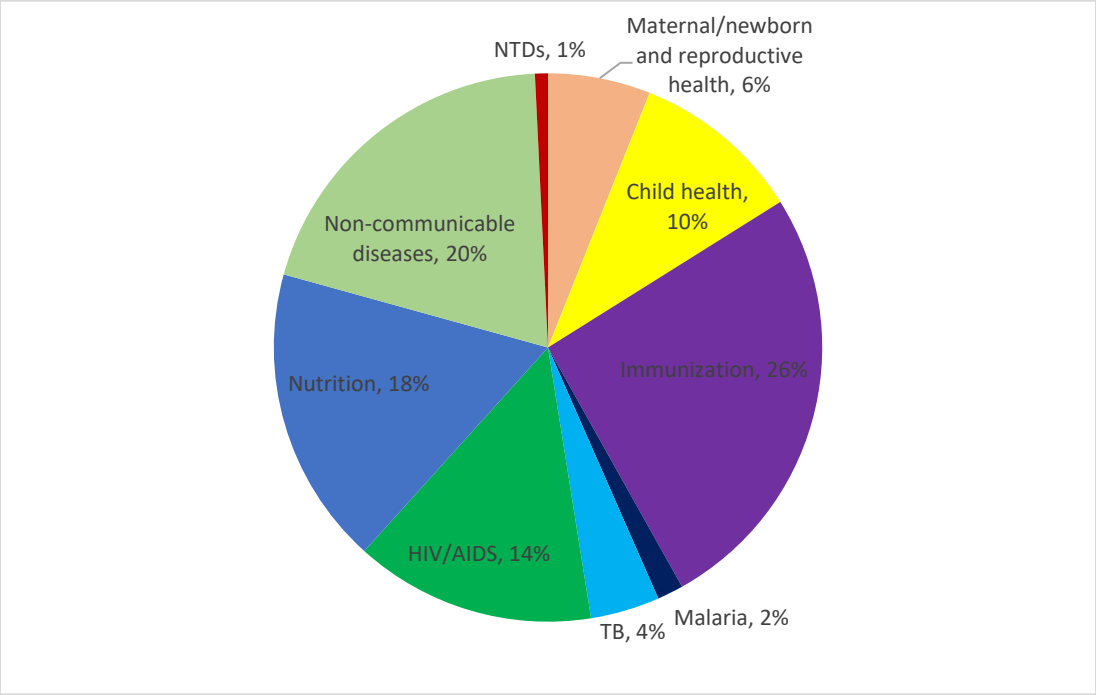
With regard to disease programs, these only comprise intervention costs i.e. number of people receiving the intervention and the quantity of resources required to deliver the intervention per person. The costs per disease programme area are shown in the table below;

Table 19: Disaggregated costs per disease programme area

Disease Programmes	2022	2023	2024	2025	2026	TOTAL
MNH & RH	18,325,898	20,144,185	22,138,871	24,207,216	26,345,901	111,162,071
Child health	37,270,927	37,242,931	37,124,758	36,773,591	36,350,186	184,762,393
Immunization	97,693,283	96,320,952	94,829,702	93,330,994	91,823,114	473,998,044
Malaria	3,194,126	3,327,492	14,428,703	3,766,080	3,616,721	28,333,122
TB	12,740,652	13,966,360	15,184,967	16,413,275	16,719,833	75,025,087
HIV/AIDS	46,128,156	50,144,705	52,113,405	54,103,831	58,501,833	260,991,930
Nutrition	39,848,140	53,995,972	66,321,473	78,476,841	85,265,162	323,907,587
NCDs	33,287,098	46,718,184	61,119,962	94,792,179	130,818,709	366,736,132
NTDs	2,587,109	2,691,873	2,799,109	2,908,506	3,019,819	14,006,417

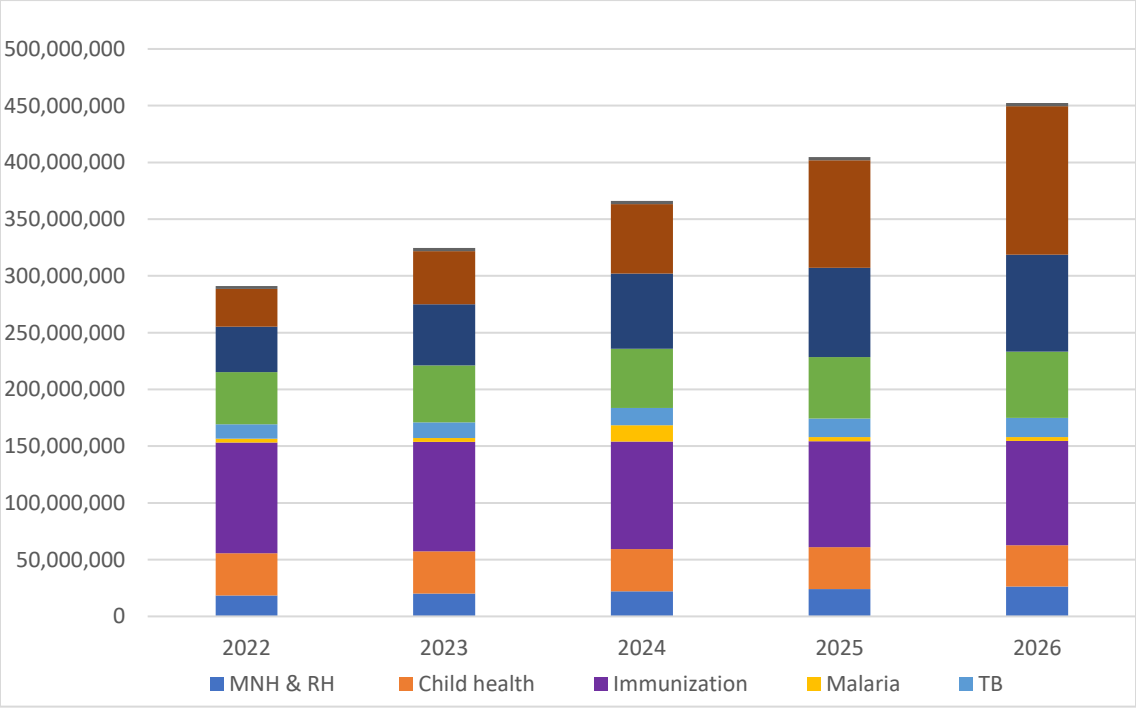
In figure 31 below, the immunization programme clearly claims the largest share of total costs at 26% followed by NCDs (20%) and HIV/AIDS (14%).

Figure 31: Disaggregation of costs by Disease programme



As shown in figure 32 below, the annual costs per disease programme are generally on an upward trend over the five years. For some of the disease programme areas, the costs largely remain constant since the targets do not change significantly.

Figure 32: Disaggregation of costs by Disease programme on an annual basis



6.2 Available Financing

The Ministry of Health (MOH) is leading efforts to scale up interventions across all disease areas and strengthening health systems aimed at achieving Universal Health Coverage. A key component of this undertaking is the development of a financially sustainable strategy for implementing the priority interventions.

Estimates of Domestic General Government Health expenditure (as a % of general government expenditure) were not obtained from local sources including External health expenditure. However, according to the World Health Organization Global Health Expenditure database (apps.who.int/nha/database), External Health Expenditure was estimated to be 36% in 2018 whilst Domestic General Government Health expenditure (as a % of general government expenditure) was estimated to be 2.3%. Further, Current Health expenditure per capita was estimated to be US$24 (approximately ERN360) which is lower than the WHO recommended figure of US$86 per capita. (WHO, 2016). The HSSDP III shows that for all three scenarios, the average cost per capita is US$180 which is much higher than the current spending levels.

6.3 Financial Gaps and Resource Mobilization Strategy

The choice between the three aforementioned scenarios will largely depend on several factors including government budgetary allocations, government budgetary plus donor inflows and resources to be mobilised within the strategic plan expenditure forecasts.

It is envisaged that the funding for the HSSDP III will come from an increased government allocation and funding through health donors. However, to ensure sustainable financing mechanisms, the government needs to mobilise substantial revenues over the medium to long term as currently most programmatic areas of the health sector are underfunded. The health sector budget as a proportion of the national budget is far less than the Abuja target of 15%.

The financial gaps will be closed through policy and advocacy to Government and partners including donors to commit more investments to health sector. These will include;

- Government increasing MOH budget allocation
- Policy dialogue with the Government Central Agencies and donors to increase funding to address the gaps
- Funding through UN agencies resident in-country.
- Improving efficiency in health spending and resource use with particular focus on reducing wastage

Annex 1: References

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Annex 2: Monitoring and Evaluation Sector Indicator Matrix

Ref. No.	Overall Health and Wellbeing Index	HSSDP II			Year 1	Year 2	MTR	Year 4	ETR
		2019	2020	2021	2022	2023	2024	2025	2026
1	**Determinants of Health Index**								
1.1	**Social determinants sub index**								
1.1.1	Prevalence of stunting among children under 5 years of age (SDG 2.2.1)	-	-	-	45%	40%	40%	35%	35%
1.1.2	Prevalence of anemia among pregnant women (SDG 2.2.3)	-	-	-	24%	19%	14%	10%	<10%
1.1.3	Proportion of infants (0–6 months) exclusively breastfed	-	-	-	69%	74%	79%	84%	90%
1.1.4	Proportion of breastfed children aged 6–23 months who are given foods from four or more groups and fed at least the minimum number of times per day	-	-	-	40%	45%	50%	55%	60%
1.1.5	Proportion of children aged 5–19 years with a body mass index less than 18.5 from 49.1 % (2022) to 40 (2026).	-	-	-	49.1%	47%	45%	43%	40%
1.1.6	Prevalence of malnutrition among children under 5 years of age, by type (wasting and overweight) (SDG 2.2.2)	-	-	-	15%	14%	14%	12%	12%
1.1.7	Proportion of children transitioning from primary to secondary school (SDG 4.1.1)	48%	52%	55%	60%	63%	65%	68%	71%
1.1.8	Proportion of girls aged <15 years who have undergone female genital mutilation/cutting	3.8%	3.8%	3.8%	3.0%	2.2%	1.4%	0.6%	0.0%
1.1.9	Proportion of girls aged <5 years who have undergone female genital mutilation/cutting	1.0%	1.0%	1.0%	0.8%	0.6%	0.4%	0.2%	0.0%
1.2	**Environmental determinants sub index**								
1.2.1	Proportion of population using basic sanitation services, including a hand-washing facility with soap and water (SDG 6.2.2)	40	55	77	100	100	100	100	100
1.2.2	Proportion of bodies of water with good ambient water quality (SDG 6.3.2)	-	-	99%	99%	99%	99%	99%	99%
2	**Universal Health Coverage Index**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
2.1	***Availability of essential services sub index***								
2.1.1	**Maternal & newborn health services**								
2.1.1.1	% of facilities providing CEmONC	60	70	85	90	95	100	100	100
2.1.1.2	% of facilities providing post-natal care	100	100	100	100	100	100	100	100
2.1.2	**Child health services**								
2.1.2.2	% health facilities managing AEFI	100	100	100	100	100	100	100	100
2.1.2.1	% health facilities with IMNCI	100	100	100	100	100	100	100	100
2.1.3	**Nutrition service**								
2.1.3.1	% of health facilities managing severe acute malnutrition	100	100	100	100	100	100	100	100

2.1.4	**Adolescent health services**								
2.1.4.1	% of health facilities providing adolescent friendly health services	-	-	4.6	4.6	5.4	6.2	6.9	7.7
2.1.5	**Adult health services**								
2.1.5.1	% of health facilities providing screening for major NCDs (Hypertension, Diabetes, Cancer, CVDs)	81	81	81	86	89	93	97	100
2.1.5.2	% of health facilities providing mental health services	5	5	5	10	16	22	27	31
2.1.6	**Elderly health services**								
2.1.6.1	% health facilities providing Integrated Care of People of Grace Age (ICPOGA)	0	0	0	20	40	60	80	100
2.1.6.2	% health facilities providing Palliative care	0	0	0	20	40	60	80	100
2.2	***Coverage of essential services sub index***								
2.2.1	Need for family planning satisfied with modern methods in women aged 15-49 who are married or in a union (%)	4.6	4.6	6	8	10	12	14	16
2.2.2	Antenatal care coverage, +4 visits (%)	40.1	39.7	42	46	51	58	65	72
2.2.3	Skilled birth attendance (%)	51.4	57.8	62	66	72	77	82	88
2.2.4	% coverage of Penta3 (DPT-HepB-Hib)	97	97.8	98	98	98	98	99	100
2.2.5	Care seeking for children <5 with suspected pneumonia (%)	100	100	100	100	100	100	100	100
2.2.6	TB treatment coverage (%)	61%	61%	67%	70%	74%	78%	81%	84%
2.2.7	TB treatment success rate for new TB cases (%)	93%	92%	94%	94%	94%	95%	95%	95%
2.2.8	HIV ART coverage (%)	66	73	77	81	84	86	88	89
2.2.9	ITN use among people living in malaria endemic areas (%)	49	-	-	59	-	-	-	95
2.2.10	Prevalence of raised blood pressure in adults aged 18+ (%)	5	-	-	5	4	3	2	2
2.2.11	Mean fasting blood glucose in adults aged 18+ (mmol/dl)	71	-	-	71	71	71	71	71
2.2.12	Tobacco use in the last 30 days in adults aged 15+ (%)	2	-	-	<2	<2	<2	<2	<2
2.2.13	Prevalence of raised BMI in adults aged 18+ (%)	3	-	-	3	3	3	3	3
2.2.14	Proportion of new OPD attendance with Mental health diagnosis	0	0	0	1	1	1	1	1
2.2.15	Availability of tracer medicines for mental health care	-	-	-	95%	100%	100%	100%	100%
2.2.16	Percent of Hospitals with dedicated beds for mentally ill patients	-	-	-	95%	100%	100%	100%	100%
2.2.17	Proportion of road traffic mortality per 100 000 population	2.8	1.8	2.8	1.8	<1	<1	<1	<1
2.2.18	Cataract surgical rate/million	<2000	<2000	<2000	2300	2500	2500	2500	2500
2.2.19	% reduction in overall mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory disease (civil registration, survey)	-	-	-		25	27	28	29

2.2.20	% of women between ages 30-49 screened for cervical cancer at least once	No data	No data	No data	60	65	70	75	80
2.2.21	Coverage of Hepatitis B treatment	-	-	5	25	40	50	60	70
3	**Health Security Index**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
3.1	**Preparedness sub index**								
3.1.1	% of IHR core capacities that are at least at level 3 (developing capacity) based on the IHR annual reporting (Party Self-Assessment Annual Reporting)	-	61.6%	-	66%	70%	73%	77%	80%
3.1.2	% of bloodstream infections due to selected antimicrobial-resistant organisms	-	-	-	0	0	0	0	0
3.1.3	% points of entry monitoring and enforcing Immunization according to IHR regulations	75	75	75	75	75	80	80	100
3.1.4	% food outlets inspected annually in line with food safety regulation	-	-	40	60	70	80	90	100
3.2	**Detection sub index**								
3.2.1	% Sub-Zobas submitting complete IDSR reports (Both indicator and event-based surveillance)	100	100	100	100	100	100	100	100
3.2.2	% Zobas with established laboratory system with capacity to detect priority diseases and public health threats according to norms	100	100	100	100	100	100	100	100
3.2.3	% Sub-Zobas conducting one health activities for detection, control and reporting of Zoonotic diseases	100	100	100	100	100	100	100	100
3.2.4	% Sub-Zobas reporting suspected threats to health and the health system within 48 hours	100	100	100	100	100	100	100	100
3.3	**Response sub index**								
3.3.1	% Sub-Zobas with risk profiles for high threat pathogen	0	0	0	5	10	15	20	25
3.3.2	% of Sub-Zobas with multi-hazard response plans that have been tested through an after-action review (AAR) or simulation exercise (SIMEX)	0	0	0	5	10	15	20	25
3.3.3	% hospitals with established capacity to effectively isolate a health threat	No Data	No Data	No Data	70	75	80	85	90
3.3.4	% districts with contingency mechanisms that allow continued provision of essential services during a response to a threat	No Data	No Data	No Data	60	65	70	75	80
3.3.5	% Sub-Zobas with documented plans to engage non-public health partners and the population during response to a health threat	100	100	100	100	100	100	100	100
3.3.6	% Sub-Zobas reporting on the resilience of their health system as part of annual health sector monitoring	No Data	No Data	No Data	5	10	15	20	25

3.3.7	% of public health events rapidly contained within Sub-Zoba area boundary	No data	No data	No data	100	100	100	100	100
4	**Health system functionality Index**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
4.1	**Health workforce sub index**								
4.1.1	Specialist doctors per 100,000 population	2	2	2	3	4	4	5	5
4.1.2	Doctors (excluding specialists) per 10,000 population	0.7	0.8	0.8	1	2	3	4	5
4.1.3	Nursing staff (including midwives and associate nurses) per 10,000 population	11	12	12	14	15	16	17	18
4.1.4	Health workforce (technical/professionals) attrition rate	6	2	2	2	2	2	2	2
4.1.5	**Health workforce readiness score**								
4.1.5.1	Proportion of health workers (technical/professionals) attending an in-service training (IST) session in the past year	No Data	No Data	No Data	20	25	30	35	40
4.1.5.2	Proportion of health workers participating in Continuous Professional Development (CPD) in the past year	No Data	No Data	No Data	5	10	15	20	20
4.2	**Health infrastructure sub index**								
4.2.1	Hospital beds (OPD-observation/IPD) per 10,000 population	10.3	10.5	10.6	10.9	11	12	13	14
4.2.2	Health facilities per 10,000 population	0.99	0.99	1.1	1.2	1.3	1.5	1.6	2.2
4.2.3	Critical care beds (ICU) per 100,000 population	0.3	0.3	0.5	5	10	15	18	20
4.2.4	**Health infrastructure readiness score**								
4.2.4.1	% of facilities with at least two power sources that can run for 24 hours	45	45	50	55	65	68	70	73
4.2.4.2	% of facilities with at least two functional water sources	45	45	50	55	65	68	70	73
4.2.4.3	% of facilities with on site and functional waste disposal system	45	45	50	55	65	68	70	73
4.3	**Health products & technologies sub index**								
4.3.1	Stock out rate of essential products	20%	10%	10%	5%	5%	5%	5%	5%
4.3.2	% national list of medicine (NLM) produced in country	-	-	3.8	4.5	4.8	5.1	5.4	5.8
4.3.3	Percent of products available in the ENLM that can be tested locally (quality test)			38	45	54	64	77	92
4.3.4	Percent of registered pharmaceutical plants inspected onsite for GMP				10	20	30	40	50
4.3.5	% of health facilities reporting ICSRs to the pharmacovigilance center each year.	65.2	45.5	45	67	100	100	100	100
4.3.6	% of tracer commodities that had expiry date & batches numbers	100%	100%	100%	100%	100%	100%	100%	100%

4.3.7	**Health products readiness score**								
4.3.7.1	% of facilities with appropriately functional stores (temperature, light, pest control, humidity)	-	-	-	20%	20%	50%	100%	100%
4.3.7.2	% of facilities with biomedical maintenance addressed within 3 months	-	-	25%	40%	50%	60%	70%	80%
4.4	**Health information sub index**								
4.4.1	% complete monthly reports submitted	96	98	99	99	100	100	100	100
4.4.2	% timely monthly reports submitted	95	99	99	99	100	100	100	100
4.4.3	% of deaths with assigned ICD-10 underlying cause of death	96	100	100	100	100	100	100	100
4.4.4	% hospitals using ICD-11 for Medical Certification of Cause of Death	NA	NA	NA	70	80	90	95	100
4.4.5	% of indicators in the health observatory with up to date data elements	NA	NA	30	50	60	70	80	90
4.4.6	% of health facilities (hospitals and above levels) capturing their data through the DHIS-2	12	40	45	60	75	80	95	100
4.4.7	% community health agents reporting on mortality statistics	1	1	1	1	5	10	15	20
4.4.8	% of facilities carrying out comprehensive surveillance (notifiable conditions, essential services continuity and system capacity)	100	100	100	100	100	100	100	100
4.5	**Health governance sub index**								
4.5.1	% of facilities with planning and evaluation committees that met in the past quarter	-	-	-	80	85	100	100	100
4.5.2	% districts reporting on annual performance using standard indicators	-	-	-	100	100	100	100	100
4.5.3	% districts convening health stakeholders fora with other sectors at least once a quarter	-	-	-	100	100	100	100	100
4.5.4	% of districts holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.5.5	% of zobas holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.5.6	% of MOH divisions holding performance review meetings quarterly	-	-	-	100	100	100	100	100
4.6	**Health financing sub index**								
4.6.1	% expected monthly operational health budget disbursed to budget centers	100%	100%	100%	100%	100%	100%	100%	100%
4.6.2	% of monthly disbursed operational budget utilized	61.60%	58.80%	55.50%	100%	100%	100%	100%	100%
4.7	**Service delivery sub index**								
4.7.1	% hospitals with functional IPC committees	55	75	85	90	90	95	95	100
4.7.2	% hospitals sharing monthly reports on institutional all-cause mortality audits	-	90	95	100	100	100	100	100

4.7.3	% of health facilities providing 50% of health promotion interventions in line to the EHCP	-	-	30	50	65	70	75	80
4.7.4	% of health facilities providing 50% of rehabilitative interventions in line to the EHCP	-	-	10	35	45	45	50	50
4.7.5	% of health facilities providing 50% of palliative interventions in line to the EHCP	-	-	10	35	45	45	50	50
4.7.6	% health facilities conducting quality improvement initiatives towards formal accreditation	0	0					20	25
4.7.7	% of facilities with functional ambulance services	55	65	70	75	80	80	82	85
4.7.8	Average length of stay	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6
4.7.9	Bed occupancy rate	39.9	40	42	54	56	58	58	58
4.7.10	OPD utilization	84.5	85	86	86	87	90	92	92
4.8	**Referral functionality score**								
4.8.1	% of hospitals that run specialist clinics (in-house or through visits)	10.7	10	10	10.5	10.1	10.3	10.3	10.4
4.8.2	% of OPD patients referred from low to higher level health care	-	1.4	1.6	1.7	2	2.3	2.7	3
4.8.3	% of IPD patients referred from low to higher level health care	-	0.02	0.12	0.14	0.16	1	1.2	1.5

Annex 3: List of Institutions Consulted

Ministry of Health Programs

- Public health (Family and community health, Communicable Disease Control (CDC), Prevention and control of Non-Communicable Diseases (NCD)
- Policy and planning (HRD; HMIS, M&E, Research, Licensing)
- Medical services (Pharmaceuticals, Blood bank & Nursing, laboratory)
- National Medicines and Food Administration (NMFA)
- Health security/IHR
- Admin and finance

Line Ministries

- Ministry of Finance and National development
- National Statistics office
- Ministry of Land Water and Environment
- Ministry of Agriculture
- Ministry of Labor and Social Welfare

Field visits

- Debub Zonal Medical office
- Dubaruba sub-zoba office
- Mendefera hospital
- Northern Red Sea Zonal Medical office
- Ghindae sub-zoba office
- Massawa Hospital
- Ghindae Hospital
- Foro Health center
- Orotta National Referral and Teaching Hospital

UN agencies

- Office of the UN Resident Coordinator (RCO)
- United Nations Development Program (UNDP)
- Food and Agricultural Organization (FAO)

- United Nations Population Fund (UNFPA)
- United Nations Children's Fund (UNICEF)
- OCHA
- United Nations Joint Program on AIDS (UNAIDS)
- World Health Organization, Country Office (WCO)

Zonal Consultations

- Anseba Zonal Office
- Debub Zonal Office
- Gash Barka Zonal Office
- Maekel Zonal Office
- Northern Red Sea Zonal Office

Annex 4: Economic and financial determinants sub index

% of households spending over 10% of expenditure on health

Out of pocket spending as % of total health expenditure

Government health expenditure as % of total Government expenditure

Proportion of population with access to electricity (SDG 7.1.1)

Proportion of population with primary reliance on clean fuels and technology (SDG 7.1.2)

Annual growth rate of real GDP per capita (SDG 8.1.1)

% Unemployment rate (SDG 8.5.2)