THE SECOND HEALTH SECTOR STRATEGIC DEVELOPMENT PLAN II

2017 – 2021

Ministry of Health

November, 2016

The Second Health Sector Strategic Development Plan, 2017 – 2021

Published by: Ministry of Health
Asmara, Eritrea

Contents

LIST OF TABLES AND FIGURES 5
ABBREVIATIONS AND ACRONYMS 7
FOREWORD 10
ACKNOWLEDGEMENTS 11
EXECUTIVE SUMMARY 12
CHAPTER 1: BACKGROUND AND INTRODUCTION 16
1.1 Global and regional context 16
1.2 National development context 19
1.3 HSSDP II overview and framework 21
1.4 HSSDP II development process 23
CHAPTER 2: SITUATION ANALYSIS 24
2.1 Health trends and distribution 24
2.2 Status of basic health care package services 29
2.3 Status of essential health systems and governance 31
2.4 Status of sector planning, research, monitoring and evaluation 35
2.5 Status of health care financing, funding and budgeting 37
2.6 Analysis of issues and unfinished business 39
CHAPTER 3: HSSDP II STRATEGIC DIRECTION 43
3.1 Introduction 43
3.2 Emerging issues 43
3.3 Sector vision and goal 44
3.4 HSSDP II health targets 45
3.5 HSSDP II principles and values 45
3.6 Universal Health Coverage focus 47
CHAPTER 4: HSSDP II HEALTH SERVICES PRIORITIES 48
4.1 Maternal, neonatal and child health and nutrition 48
4.2 Prevention, Control and Management of Communicable Diseases 53
4.3 Prevention and Control of Non-Communicable Diseases 57
4.4 Cross cutting health interventions 60

4.5 Essential Medical Services 67
4.6 Health Promotion and Social Determinants of Health 73
CHAPTER 5: HSSDP II ESSENTIAL HEALTH SYSTEMS AND GOVERNANCE 76
5.1 Human resources for health development and management 76
5.2 Procurement, supply and logistics management 79
5.3 National Medicines and Food Administration 83
5.4 Infrastructure and Support Services 86
5.5 Legal and regulatory framework 90
5.6 Governance and principles 92
CHAPTER 6: HEALTH SECTOR PLANNING, MONITORING AND EVALUATION 96
6.1 Introduction 96
6.2 Planning, performance monitoring and review 98
6.2.1 Harmonized Planning and budgeting process 98
6.2.2 Joint assessments of progress 99
6.2.3 HSSDP II Evaluations 101
CHAPTER 7: HEALTH CARE FINANING, FUNDING AND BUDGETING 102
CHAPTER 8: COSTING OF THE STRATEGIC PLAN 105
8.1 Methodology and costs assumption ..... **Error! Bookmark not defined.**
8.2 Key assumptions for the costing scenarios ..... **Error! Bookmark not defined.**
8.3 Overall costs per capita for the HSSDP II across the three Scenario ..... **Error! Bookmark not defined.**
8.4 Cost by health service priority for the Moderate Scenario ..... **Error! Bookmark not defined.**
8.5 Cost by health system area for the Moderate Scenario ..... **Error! Bookmark not defined.**
8.6 Impact findings ..... **Error! Bookmark not defined.**
8.7. Discussion of Findings ..... **Error! Bookmark not defined.**
CHAPTER 9: IMPLEMENTATION ARRANGEMENTS 115
9.1 National, Zoba and sub zoba institutional framework 115
9.2 Roles and responsibilities in implementing the plan 115
9.5 Communication plan 115
9.6 Partnership and coordination framework 115
References 116
Annex 1: Brief overview of the OneHealth tool 117

LIST OF TABLES AND FIGURES

Figures

Figure 1: Global Sustainable Development Goals 16
Figure 2: Inter-relations between SDG goals and targets relating to health 17
Figure 3: Universal Health Coverage focus 19
Figure 4: Planning framework for health 21
Figure 5: Linkage of the HSSDP II chapters 22
Figure 6: Trends of maternal Mortality Ratio, 1990-2015 26
Figure 7: National data on Neonatal, infant and under-five mortality rates per 1,000 live births 26
Figure 8: International data on Infant and Under-five mortality rates per 1,000 live births 27
Figure 9: HSSDP II principles and values 46
Figure 10: Service areas for maternal newborn child health and nutrition 50
Figure 11: Service areas for prevention and control of communicable diseases 56
Figure 12: Service areas for prevention and control of non-communicable diseases 58
Figure 13: Service areas for cross cutting interventions 61
Figure 14: Service areas for hospital, emergency and integrated essential medical care 68
Figure 15: Service areas for health promotion and social determinants 74
Figure 16: Service areas for human resources for health 77
Figure 17: Service areas for procurement, supply and logistics management 80
Figure 18: Service areas for medicines administration 83
Figure 19: Service areas for infrastructure 87
Figure 20: Service areas for legal affairs and regulatory framework 90
Figure 21: Service areas for governance and principles 92
Figure 22: Service areas for partnerships 95
Figure 23: Service areas for planning, research and M&E 97
Figure 24: Service areas for health financing 103
Figure 25: Distributing of Program Cost (Million USD) for the Moderate Scenario ..... **Error! Bookmark not defined.**

Tables

Table 1: Four main non-communicable diseases share four common risk factors 17
Table 2: Ten Leading causes of morbidity and mortality in under One year of age in hospitals and health centers, (2015) 28
Table 3: Ten Leading causes of morbidity and mortality in 1-5 years of age in hospitals and health centers, (2015) 28
Table 4: Ten Leading Causes of Morbidity and Mortality in Five Years and Above of age in hospitals and health centers, (2015) 28
Table 5: Summary of key unfinished business 41
Table 6: Key shifts in the health sector focus 43
Table 7: HSSDP II impact targets 45
Table 9: Priority interventions for maternal, neonatal, child health and nutrition 49
Table 10: Coverage targets for prevention and control of communicable diseases 54
Table 11: Priority interventions for prevention and control of communicable diseases 56
Table 12: Coverage targets for prevention and control of non-communicable diseases 57
Table 13: Priority interventions for prevention and control of non-communicable diseases 58
Table 14: Coverage targets for cross cutting health interventions 60
Table 15: Priority interventions for cross cutting services 62
Table 16: Coverage targets for hospital, emergency and integrated essential medical care 68
Table 17: Priority interventions for hospital, emergency and integrated essential medical care 69
Table 18: Coverage targets for health promotion and social determinants of health 73
Table 19: Priority interventions for health promotion and social determinants of health 74
Table 22: Coverage targets for human resources for health 76
Table 23: Priority interventions for human resources for health 78
Table 24: Coverage indicators for procurement supply and logistics management 79
Table 25: Priority interventions for procurement, supply and logistics management 80
Table 26: Coverage targets for medicines administration ..... **Error! Bookmark not defined.**
Table 27: Priority interventions for medicines administration 83
Table 28: Coverage targets for Planning, HMIS, M&E and Research 96
Table 29: Priority interventions for Planning, HIS, M&E and Research 97
Table 30: Coverage indicators for Health care financing 102
Table 31: Priority interventions for Health financing 103

ABBREVIATIONS AND ACRONYMS

ACT	Artemesine Combined Therapy
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal care
ART	Anti Retroviral
BCC	Behavior change communication
BF	Breast Feeding
BHCP	Basic Health Care Package
CAH	Child and Adolescent Health Unit
CDC	Centers for Disease and Control and Prevention
CDR	Case Detection Rate
CH	Community Hospital
CHA	Community Health Agent
CS	Caesarean Section
CSW	Commercial Sex Workers
DHS	Demographic and Health Survey
DOTS	Directly Observed Treatment Short course
DST	Drug Susceptibility Testing
EPHS	**Eritrea** Population and Health Survey
EDHS	Eritrea Demographic and Health Survey
EHP	Eritrea Health Package
ENASP	Eritrean National AIDS Strategic Plan
ENT	Ear, Nose and Throat
EPI	Expanded Program on Immunizations
FGM	Female Genital Mutilation
FP	Family Planning
GAVI	Global Alliance for Vaccines and Immunizations
GDP	Gross Domestic Product
GF	Global Fund
GOE	Government of Eritrea
HC	Health Centre
HCF	Health Care Financing
HF	Health Facility
HFA	Health Facility Assessment
HH	Households
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRD	Human Resource Department
HRH	Human Resource for Health
HS	Health Station
HSSDP	Health Sector Strategic Development Plan
HW	Health Workers
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IMR	Infant mortality rate
ITN	Insecticide Treated Nets
IVM	Integrated Vector Management
JANS	Joint Assessment of National Strategies
JICA	Japan International Cooperation Agency
LLITN	Long lasting Insecticide Treated Nets
LSS	Life Saving Skills
MA	Maekel zone

MCD	Major Chronic Diseases
MDR-TB	Multidrug-Resistant Tuberculosis
MDG	Millenium Development Goals
MMR	Maternal mortality ratio
MNCH	Maternal, Neonatal and Child Health Care
MND	Ministry of National Development
MNT	Maternal Neo-natal Tetanus
MOF	Ministry of Finance
MPP	Macro-Policy Paper
MTR	Mid Term Review
MWH	Maternity Waiting Homes
NBTS	National Blood Transfusion Services
NCD	Non-Communicable diseases
NDP	National Drug Policy
NGO	Non-Governmental Organization
NHL	National Health Laboratory
NHP	National Health Policy
NID	National Immunisation Day
NMCP	National Malaria Control Program
NIDP	National Indicative Development Plan
NMFA	National Medicines and Food Administration
NNMR	Neo-natal Mortality Rate
NRH	National Referral Hospitals
NSSS	National Sentinel Site Survey
NTCP	National TB Control Program
NTD	Neglected Tropical Diseases
ODA	Overseas Development Assistance
ODF	Open Defecation Free
OOP	Out Of Pocket
PAC	Post-Abortion Care
PCV	Pneumococcal Conjugated Vaccine
PFDJ	People's Front for Justice and Democracy
PHC	Primary Health Care
PLHA	People living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PMU	Project Management Unit
PR	Principle Recipient
PW	Pregnant Women
RH	Reproductive Health
RHS	Reproductive Health Services
SBA	Skilled Birth Attendance
SC	Steering Committee
SDGs	Sustainable Development Goals
SPCF	Strategic Partnership Cooperation Framework
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infections
SZHMT	Sub-Zoba Health Management Team
TB	Tuberculosis
THE	Total Health Expenditure
TOR	Terms Of Reference
U5MR	Under-five mortality rate
UN	United Nations
UNDP	United Nations Development Programme

UNSD	United Nations Statistical Division
VHC	Village Health Committee
WHO	World Health Organization
ZHMT	Zoba Health Management Team
ZMO	Zoba Medical Officer

FOREWORD

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

Eritrea has witnessed the evolution of the nature and focus of health services needed to address the health challenges its people are facing. There is a double burden of disease, from both communicable and non-communicable conditions afflicting the people. The country is also facing a constant challenge due to new / re-emerging health threats. Climate change is also changing the health challenges that need to be provided to guarantee the health of the people of Eritrea. Finally, there are many contextual factors influencing the capacity to delivery services, such as levels of financing and the other social health determinants. Health services need to be provided through a more resilient fit for the purpose of the health system that takes cognizance of this changing environment to guarantee the best possible health of the people of Eritrea. A twin focus on improving health security and achieving Universal Health Coverage with required essential services is needed as the country moves forward.

- The focus on improving health security is aimed at re-tooling the health system to ensure it 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. This is calling for a re-look at how we empower communities to take control of and manage health events, together with a focus on identifying and addressing availability, functionality and readiness of systems to provide required routine and emergency services
- On the other hand, the UHC focus aims to ensure the country is able to (i) identify and plan to make available the full range of essential health and related services that their populations require, (ii) progressively increase coverage with these essential health and related services by addressing access and quality of care barriers, and (iii) progressively reduce the financial barriers that populations are facing when accessing these essential health and related services until there is equity and financial risk protection in financing of services.

The vision of the Eritrean Government as stated in the Macro-Policy Paper (MPP) and the Charter of the People's Front for Justice and Democracy (PFDJ) is to achieve rapid, balanced, home grown and sustainable economic growth with social equity and justice, anchored on the principle of self-reliance. The same vision is further reinforced in the Eritrea National Indicative Development Plan (NIDP) 2014-2018 and the National Health Policy. The major challenges that continue to affect the country include; (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 Develop Plan (NIDP), GOE has proposed to implement a series of people centred policies initiatives to mitigate against the challenges noted above and are to be implemented across the different sectors.

Over the past few years, Eritrea has witnessed significant improvements in life expectancy and in some of the key health impact targets, in particular adult mortality, Infant mortality and Child mortality, and Maternal mortality. Life expectancy at birth has significantly improved from 49 years in 1995 to 64.7 years in 2015, a rate higher than the African region average. Non communicable diseases are the main contributor to all-cause mortality, responsible for 51.7% of all deaths. Maternal mortality on the other hand has significantly reduced, from 998/100,000 in 1995 to 486/100,000 in 2010, with an estimated annual rate of reduction of 4.6%. Commendable progress has also been attained with child survival, with an annual rate of reduction of under 5 mortality between 1990 – 2013 at 4.8%. Looking at specific contributors to disease burden, there have been improvements in the incidence, prevalence and mortality due to HIV TB and Malaria. There are also successes in other areas of service provision, like reduction of Female Genital Mutilation and increased EPI coverage for Penta and Measles, consistently more than 90%. Also in the area of hygiene and sanitation successes are reported with already 695 (26.1%) of the 2,666 rural villages in the country having been declared "Open Defecation Free". There are

however emerging issues related to communicable and non-communicable conditions like diabetes, hypertension, cancers and injuries (road accidents) is increasing, leading to a 'double burden of diseases'. Additionally, malnutrition rates are on the increase, with stunting rates increasing from 50% (**Eritrea** Population and Health Survey (EPHS), 2002) from to 37.6 % (EPHS 2010)

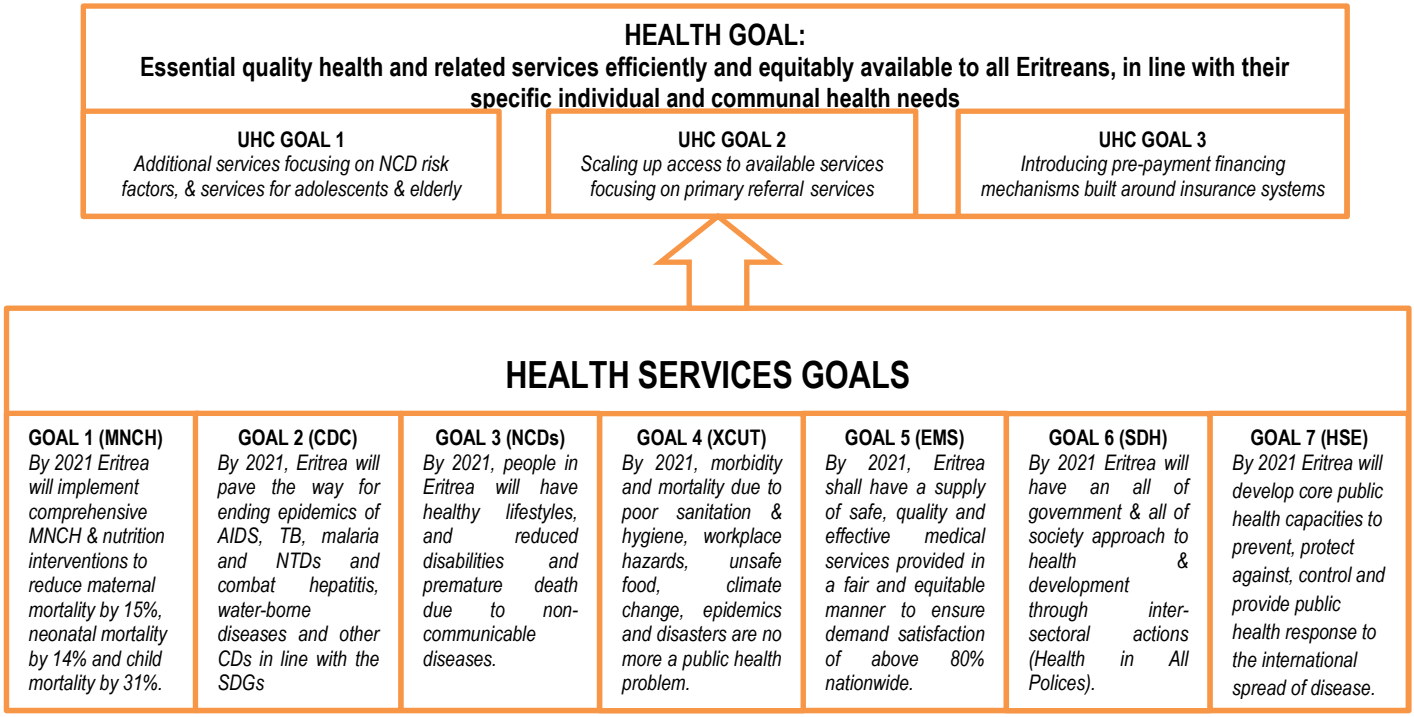
The health sector, as a result, has defined as its goal, the provision of essential quality health and related services efficiently and equitably available to all Eritreans, in line with their specific individual and communal health needs. The following are the targets it strives to achieve during this period

Impact indicators	**Current estimates**	**Target**
Life expectancy at birth	64.7	68
Overall mortality (per 100,000 persons)	1,297	1,000
Communicable diseases (per 100,000 persons)	*506*	*406*
Non communicable diésasses (per 100,000 persons)	*671*	*600*
Violence and injuries (per 100,000 persons)	*119*	*89*
Age specific mortality:		
Maternal mortality (per 100,000 live births)	501	359
Neonatal mortality (per 1,000 live births)	18.4	15
Infant mortality (per 1,000 live births)	34	25
Under 5 mortality (per 1,000 live births)	47	32
Adolescent mortality		
Adult mortality (per 100,000 persons)	264	200
Incidence rates of targeted conditions:		
Tuberculosis	78/100,000	63/100,000
Cancer		Reduction by 10% from baseline
Malaria	11.4/1,000	6.05/1,000
Hepatitis B and C		Reduction by 20% from baseline
Prevalence rates of targeted conditions		
HIV	0.93	0.5
Tuberculosis	123/100,000	99/100,000
Tobacco use amongst adolescents		10% reduction from baseline
Alcohol use amongst adolescents		10% reduction from baseline
Raised BP at age 18+ (≥140 and/or ≥90 mmHg)		5% reduction from baseline
Overweight and obesity in adolescents (BMI 25, 30)		5% reduction from baseline

In line with the sector goal, the move towards universal health coverage will focus on attaining the following goals:

- Additional services made available focusing on NCD risk factors and services for adolescents and elderly persons and expanding of continuum of care to include sub-specialities.
- Scaling up access to available services focusing on primary referral services (community hospital and health stations) services
- Improving financial risk protection in a sustainable manner, through introducing pre-payment financing mechanisms built around insurance systems

Schematic presentation of the HSSDP II Goals



These goals are to be attained through a focus on attainment of specific targets at the health services, and health systems levels as shown below

i) Development of a competent motivated HRH and ensuring that all people living in Eritrea, especially the poor and vulnerable irrespective of their locations, have access to quality health care

ii) Ensuring availability of safe, effective and quality pharmaceutical and medical supplies at all levels, and to strengthen data quality and regular data reporting on consumption and inventory status for real-time decision-making.

iii) Establishment of a stringent regulatory system on pharmaceutical products and medical supplies

iv) Setting up of quality assured infrastructure meeting the norms and standards supported by efficient and effective systems to ensure that the health sector offers affordable and accessible health services.

v) Establishment of a comprehensive national health act with its implementation framework in place

vi) Development of institutions for effective governance and service delivery in line with principles of decentralization whereby the lower levels take more authority and responsibilities.

vii) Establishment of a strong partnership with key stakeholders including government line ministries, local communities, faith based health institutions, Civil Service Organizations and

the private sector in planning, implementation, monitoring and evaluation of the strategic plan.

viii) Putting in place a consolidated and harmonized planning, monitoring and evaluation process that guides informed strategic decision making.

ix) Have sustainable financing for the health care service delivery through mobilizing sufficient financial resources while ensuring equity and efficiency in resource mobilization, allocation and utilization.

The entire plan would cost $838.6m, $960.8m and $971.9m based on a baseline, moderate and aggressive scenarios in relation to achieving the desired intervention coverage rates. The tuberculosis program is the major program cost driver, followed by RMNCAH and mental health programs. Financing at the moderate to aggressive level will result in a reduction in infant and maternal mortality of 28% and 20% respectively during the plan period.

At all three levels, annual operational plans should be guided by the HSSDP II. Coordinating mechanisms will be put in place, to ensure that implementations are carried out in the spirit of the overarching national health sector strategic plan. At national level the Minister of Health will provide an oversight and guidance of implementation arrangements of plans of all levels. At zoba level the Zoba Medical Officer on behalf of the Minister of Health will take the responsibility of coordinating implementation arrangement of plans specific to his/her level of authority.

CHAPTER 1: BACKGROUND AND INTRODUCTION

1.1 Global and regional context

The global health agenda has continued to evolve, in line with key changes in the way people live, work and interact, leading to changes in the understanding and management of health. There is currently an unprecedented level of interaction amongst different peoples, with both benefits and risks associated with their health. This interaction has allowed the definition of 17 Sustainable Development Goals (SDGs), which are an intergovernmental set of aspirations towards improving, in a sustainable way, the future we want. These goals, to be achieved by 2030, represent the succession of the Millennium Development Goals (MDG), and constitute 17 goals with 169 targets that countries will aspire to attain and address issues to do with [1]. See figure one for the seventeen goals.

Figure 1: Global Sustainable Development Goals

Source: United Nations

Eritrea has formally assented to these goals, so that they will guide the development agenda in the country throughout the period of this HSSDP II and beyond. Attainment of good health is goal 3 in the SDGs, with required health actions reflected across all the other SDGs.

As shown in figure two below, the SDGs build on, and expand the unfinished agenda of the MDGs (targets 3.1,3.2,3.3, and 3.7) at the same time embracing additional emergency health concerns (targets 3.4, 3.5, 3.6 and 3.9).

Figure 2: Inter-relations between SDG goals and targets relating to health

SDG 3: ENSURE HEALTHY LIVES AND PROMOTE WELL BEING FOR ALL AT ALL AGES		
TARGET 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services, medicines and vaccines for all		
MDG unfinished and expanded agenda	***New SDG 4 targets***	***SDG3 means of Implementation targets***
TARGET 3.1: Reduce maternal mortality **TARGET 3.2:** End preventable newborn and child deaths **TARGET 3.3:** End the epidemics of HIV, TB, malaria and NTD and combat hepatitis, waterborne and other communicable diseases **TARGET 3.7:** Ensure universal access to sexual and reproductive health-care services	**TARGET 3.4:** Reduce mortality from NCD and promote mental health **TARGET 3.5:** Strengthen prevention and treatment of substance abuse **TARGET 3.6:** Halve global deaths and injuries from road traffic accidents **TARGET 3.9:** Reduce deaths from hazardous chemicals and air, water and soil pollution and contamination	**3.a:** Strengthen implementation of framework convention on tobacco control **3.b:** Provide access to medicines and vaccines for all, support R&D of vaccines and medicines for all **3.c:** Increase health financing and health workforce in developing countries **3.d:** Strengthen capacity for early warning, risk reduction and management of health risks
Interactions with economic, other social and environmental SDGs and SDG 17 on means of implementation.		

Within the Africa region, the nature and focus of required health services has evolved significantly. While the communicable diseases continue to be a major problem in many countries, additional challenges are emerging to which changes in policy are needed to address them urgently.

- More countries are witnessing an increase in the burden of non-communicable conditions and their risk factors due to improving health and living conditions. Reductions in mortalities associated with many high priority diseases like HIV and Malaria is improving overall survival rates. Globalisation and changing lifestyles are leading to more risky health behaviours that are fuelling a rise in non-communicable conditions. This burden is particularly related to four major non-communicable conditions and risk factors for which targeted policy actions are required.

Table 1: Four main non-communicable diseases share four common risk factors

		Major causative risk factors			
		Tobacco use	Unhealthy diets	Physical inactivity	Harmful use of alcohol
Major diseases	Heart disease and stroke	☑	☑	☑	☑
	Diabetes	☑	☑	☑	☑
	Cancer	☑	☑	☑	☑
	Chronic lung disease	☑			

Source: World Health Organization NCD program

- The Africa region is increasingly facing threats due to major conditions of epidemic and pandemic concern. The Ebola Virus Disease outbreak primarily in West Africa during 2014 – 2015, the yellow fever outbreak in central and southern Africa in 2016, cholera outbreak in many countries in the region since 2015, various outbreaks of dengue fever, chikungunya, rift valley fever, West Nile virus, and other diseases, together with the common threats due to avian influenza, Zika Virus and other similar conditions are continually appearing in new areas of the continent placing significant strain on health systems and resources. This has led to a fundamental rethink about the way health systems are designed to provide essential health services to ensure they are more resilient to such

threats.

- Changing climate conditions in many countries are leading to new or re-emerging health threats in the region. Some communicable conditions such as malaria and arboviruses that were on the decline are showing resurgences associated with changing weather patterns in a number of countries in the Africa region.
- Finally, it is increasingly becoming apparent that without an understanding of the contexts within which people live, utilization of available health services is impaired. Many contextual barriers are impeding utilisation of available services. A social determinants approach to ensure a whole society focus in provision of services, together with a person centred focus of health service provision are needed to facilitate the utilisation of available services, and so attain desired health outcomes.

As a result of these contextual global and regional issues, the re-design of health services in the Africa region is built around two areas:

- Improving health security, and
- Achieving Universal Health Coverage

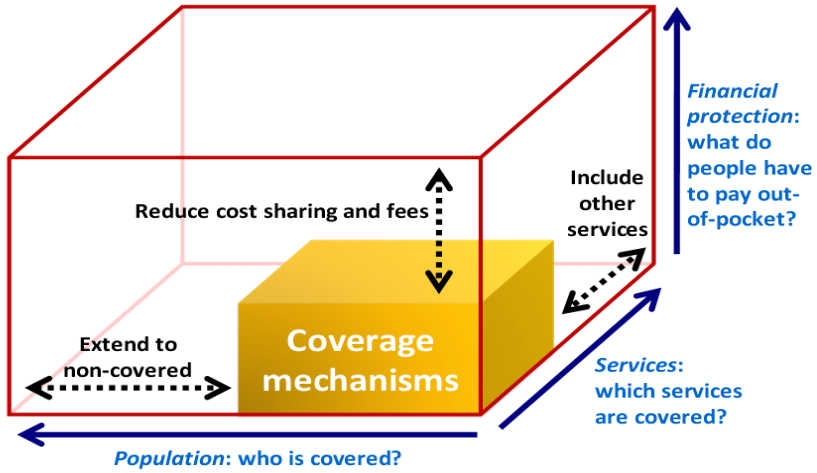
The focus on improving health security is aimed at re-tooling our health systems to ensure they are not only able to provide required essential health services, but they are also resilient enough to absorb shocks due to health threats arising from disease epidemics or disasters. This is calling for a re-look at how we empower communities to take control of and manage health events, together with a focus on identifying and addressing availability, functionality and readiness of systems to provide required routine and emergency services

On the other hand, the UHC focus aims to ensure countries are able to (i) identify and plan to make available the full range of essential health and related services that their populations require, (ii) progressively increase coverage with these essential health and related services by addressing access and quality of care barriers, and (iii) progressively reduce the financial barriers that populations are facing when accessing these essential health and related services till there is equity and financial risk protection in financing of services.

When it comes to the Eritrean context and during this HSSDP II implementation period, expansion of coverage to services with focus to underserved population needs to be one of the priorities. Upgrading of the BHCP to essential health care package and expanding the existing scope of services to include sub-specialization in various service areas is also a requirement that need to be addressed in the current plan.

As far as the financial risk protection is concerned work needs to be done to establish pooled financial scheme (some sort of insurance scheme) and to abolish user fee.

Figure 3: Universal Health Coverage focus



Source: World Health Organization, (http://www.who.int/universal_health_coverage/en/)

1.2 National development context

Located in the Horn of Africa, Eritrea attained formal independence in May 1993. It is bordered by Sudan to the north-west, Ethiopia to the south, Djibouti to the south-east and the Red Sea to the north and north-east, stretching about 1,200 km. Administratively, Eritrea is divided into six regions (Zobas), namely, Maekel, Anseba, Gash-Barka, Debub, Northern Red Sea, and Southern Red Sea.

The estimated official population size (2016) as given by the Ministry of National Development (National Statistics Office) is 3.75 million, with a fertility rate of 4.8 per woman. The 2010 Eritrea Population and Health Survey (EPHS) data suggests that the country is characterised by a young population with children less than 15 years accounting for 47 per cent of the population. While majority (65 per cent), of the population still lives in rural areas the urban population is growing rapidly due to high rural-urban migration. The rural population derive their livelihoods mainly from rain-fed crop production, cattle rearing and fisheries, which are largely based on traditional production systems and are exacerbated by frequent droughts and environmental degradation. The government has also placed emphasis on reducing poverty by investing in various developmental programs. The vision of the Eritrean Government as stated in the Macro-Policy Paper (MPP) and the Charter of the People's Front for Justice and Democracy (PFDJ) is to achieve rapid, balanced, home grown and sustainable economic growth with social equity and justice, anchored on the principle of self-reliance. The same vision is further reinforced in the Eritrea National Indicative Development Plan (NIDP) 2014-2018.

Eritrea's efforts to build a sovereign state and a strong economy has been characterised by phases of rapid and intense democratic institutional building, open development policymaking, planning and execution, strong economic growth and the establishment of membership in international organisations in the period immediately after independence and a post 1998-2000 war stabilisation, reconstruction and post conflict development during which the country has recorded improvements in economic growth and social development. The major challenges that continue to affect the country include; (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 Develop Plan (NIDP), GOE has proposed to implement a series of people centred policies initiatives to mitigate against the challenges noted above and are to be implemented across the different sectors.

Eritrea is a signatory to a number of key international agreements and development frameworks including the 2030 Agenda whose goals and targets link well with its Self-reliance Policy and Development Agenda. Other international obligations to which the GoSE has adapted include Universal Periodic Review (UPR), Convention on the Rights of the Child (CRC), the Convention on the Elimination of all forms of discrimination against women (CEDAW), Global Education for all (EFA), Health For All, and various environmental agreements such as united nations conventions on biological diversity.

The current National Indicative Development Plan (NIDP) maps, in a broad and indicative manner, Eritrea's projected five-year developmental and economic growth trajectories for the period 2014-2018. The development plan encompasses the five-year sectoral plans of key line Ministries within the coherent framework of the GOE's policy objectives and developmental priorities.

The key sectoral plans encompassed in the indicative development plan influence the health agenda in one or the other way. These influences can be briefly described as follows: the achievement of food and nutrition security, both at the national and household levels, is the prime objective of the Government of the State of Eritrea (GoSE). Strategically, the promotion and development of the agricultural programs and support services, i.e. water harvesting and irrigation development, soil, forestry and wildlife conservation, research and extension in livestock production, field and horticultural crops and agro-infrastructure development services, the concomitant promotion and development of the human resources and regulatory aspects of these services are determining factors for the success of the agricultural sector and subsequently influence the health sector agenda. In the effort to assure food security and nutrition, fish and fish products can play an important role to positively influence the health sector agenda. Eritrea has significant and untapped marine resources including fish and other high-value species such as lobster, shrimp and crab.

According to the Africa Development Bank Economic Outlook paper, real gross domestic product (GDP) growth was projected to slow from 1.7% in 2014 to 0.3% in 2015 because of slower economic activity and increasing challenges in the global market. However growth was expected to recover in 2016 to 2.2%. Over the medium term, the GOE projects further prospects in improved trade with Middle-Eastern and Asian countries, additional mining activities, growth in the food sector, and the development of tourism. The GDP is heavily based on services (59.2%), with a very small manufacturing sector (6%). Agriculture, and fisheries constitute 17.2% of GDP.

The budget deficit declined slightly to 10.3% of GDP in FY 2015/16 from 10.7% in 2014/15, and this trend will continue to 9.9% in 2016/17 as a result of increasing revenue from mining projects, access to more grant resources.

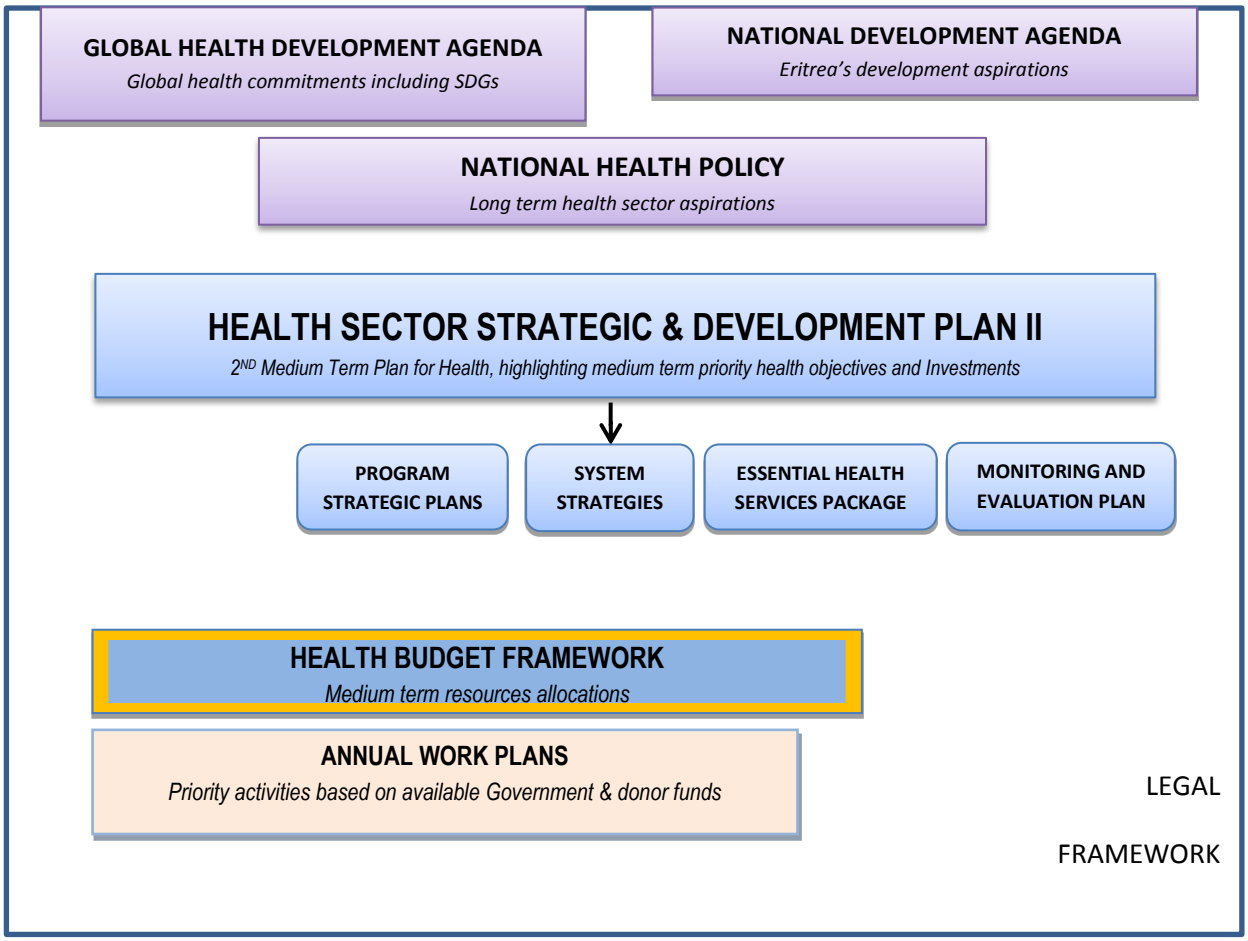
The construction sector is one of the major contributors to economic growth and development contributing 6% of the GDP. Developing national infrastructure policy, establishing standards and safety measures, monitoring and coordinating public works, assuring environmental protection, and regulating the construction industry as part of the overall development, it influences the area of healthcare in terms of building new facilities as well as rehabilitation and maintenance works. The long term view of the health sector is to develop and implement people centred responsive services which are accessible to the population.

The process of sustainable growth and development of the Eritrean economy relies heavily on the availability of adequate and reliable sources of energy. Among other, healthcare and its organizational management rely heavily on access to reliable, clean and affordable energy supplies.
Transport and communication enables the public and goods and services to obtain safe, reliable, regular, affordable and environmentally clean land transportation services in all parts of the country. Like all other sectors, this influences the health sector agenda as well.
The Eritrean Development culture has a heavy people-focus and is adopting a more operational and performance based financing approach. Development is driven by sector priorities that make up national development plans after robust vetting and consultations. Planning and implementation of national Development plans including the health sector plan are driven by people-centred policies, strong fiscal discipline and accountability modalities complemented by a strong self-reliance ethic by both the system and general population.

1.3 HSSDP II overview and framework

The HSSDP II provides the medium term strategic directions that the health sector will facilitate the attainment of the Eritrean health aspirations and so contribute appropriately to the national development, and global health agenda. This HSSDP II forms an integral part of the country health sector planning framework, providing a link between the policy aspirations and the budgeting process as shown below.

Figure 4: Planning framework for health



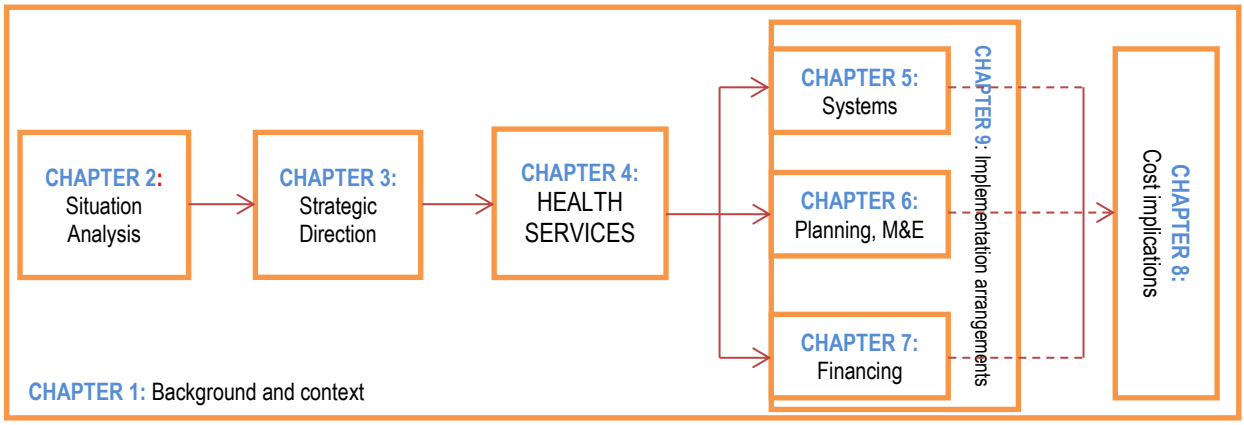
This HSSDP II is designed to inform both:

i) The strategic planning processes at the national level. This involves the processes of:
   a. Program (e.g. HIV, NCD, malaria, etc) based planning, with the HSSDP II providing targets and key interventions
   b. System (e.g. HRH, infrastructure, financing, etc) investment strategies, with the HSSDP II providing targets and key interventions
   c. Complementary plans such as the M&E plan, and the essential package of care

ii) The budgeting process through identification of priorities for funding during the budget cycles of the period of the plan

The different chapters and their sections therefore are designed to respond to this. They are all interlinked as shown in the figure below

Figure 5: Linkage of the HSSDP II chapters



Chapter 1 provides the overall context within which this plan is developed. In here, the plan highlights the global, regional and country specific health and development focus that will guide the HSSDP II

Chapter 2 is a summary of the situation of health in Eritrea. It follows the logical results framework approach in its sections, building from the state of health, to health services, systems and investments before analysing the information to draw inferences relating to why the health of Eritreans is as it is. Its sections as a result include

- State of health in Eritrea, based on health impact trends and distribution
- State of health services in Eritrea, based on public health and medical services availability and utilization
- State of the health system in Eritrea, based on the different system elements in the country, and
- Analysis of the above information, and unfinished business

Chapter 3 presents the overall strategic direction for the HSSDP II, based on information from chapters 1 and 2. The overall sector goal, principles and Universal Health Coverage focus are highlighted

Chapter 4 defines the health service priorities that the health sector will work towards making available for the people in Eritrea, to facilitate attainment of the strategic directions. It represents the public health and medical services that the people of Eritrea will benefit from during the HSSDP II period

Chapters 5, 6 and 7 draw from chapter 4 to highlight the different investments in the health system that will be made, to facilitate attainment of the health services defined in chapter 4

Chapters 8 and 9 highlight respectively the implementation arrangements and resource implications the sector needs to put in place the system defined in the preceding chapters

1.4 HSSDP II development process

Development of this document was a consultative process that involved the Honourable Minister of Health and Senior Management of the Ministry of Health and heads of programmes on the broad strategic directions, as well as technical staff who defined the technical and operational elements. The overall process was guided by the Planning Steering Committee with technical support from the WHO. Practical implementation of the steering committee recommendations and advices as well as the day to day follow up of issues related to whole process was the responsibilities of the Department of the Policy, Planning and HRD. Under the steering committee a number of technical working groups were established and provided valuable inputs. Consultations outside the Ministry of Health involved different line Ministries mainly the MoF, the MoE the MoD , MoI, MLWE, and civil society organizations like the NUEW, NUEYS, Association of People Living with HIV/AIDS(BIDHO), Academia, Health Professional Associations, and Private/Parastatal organizations. Similarly multi-lateral and bilateral organizations were heavily involved. Further, the HSSDP II was subjected to a JANS assessment and validation processes.

CHAPTER 2: SITUATION ANALYSIS

Health service delivery has been guided by the National Health Policy the first Health Sector Strategic Development Plan (HSSDP I 2012-2016) and program specific polices and strategies. The HSSDP I being in-line with the Health Policy outlined the health sector strategies aimed at achieving the national health development priorities and the Millennium Development Goals (MDGs). The plan further provided the guidance and priorities to move from policy to action and set the overall objectives, strategies, outputs and targets that were to be attained during the period. The HSSDPI was implemented through rolling Annual Operational Plans, specific for each level of service provision.

The plan focused on the following eight strategic objectives:

1. Significantly reduce the burden of early childhood illness and improve maternal and child health,
2. Prevent, control and manage communicable diseases with the aim of reducing them to a non-public health problem,
3. Prevent, control and manage non-communicable diseases,
4. Strengthen cross cutting health interventions
5. Improve effectiveness of the referral system,
6. Introduce more effective and efficient health-financing scheme,
7. Strengthen sector planning, monitoring and evaluation capability.
8. Strengthen Essential and Support Health Systems

The Health Sector undertook recently a detailed and elaborated situational analysis that aimed to (i) provide evidence for what had been done and with what result over the HSSDP period (2012-2016) and (ii) identify the gaps that still remains and need to have strategic direction and priorities for the next Strategic Plan. In addition, the in depth mid-term review of the HSSDP 2012 – 2016 provided valuable inputs to the process. These two assessments provide the basis for the information in this situation analysis.

2.1 Health trends and distribution

By the end of the HSSDP I, the sector has witnessed significant improvements in life expectancy and in some of the key health impact targets, in particular adult mortality, Infant mortality and Child mortality, and Maternal mortality.

Life expectancy at birth has significantly improved from a low of 49 years in 1995 to 64.7 years in 2015; the life expectancy at birth in the country is higher than the African Region life expectancy which according to the world health report 2016 stood at 60 years by the end of 2015. It is however worth noting that life expectancy in the country is higher in female at 67 years while for male it stands at 62.4 years, (WHO, 2016).

The all-cause mortality remains high at 1,297/100,000. The major contributor to this is non-communicable conditions, whose mortality is responsible for 671/100,000 persons as compared to communicable conditions (506/100,000 persons) and violence / injuries (119 / 100,000 persons). This is a reflection that the country is dealing with a dual disease burden of NCDs and CDs although the non-communicable disease has out striped the communicable diseases. According to Global Health Statistics report 2016, mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory diseases is on the rise with the cause of premature death (under age 70) is mainly due to cardiovascular disease (37%), cancer (27%), and other NCDs (23%) respiratory disease at 8% and diabetes at 4%. This

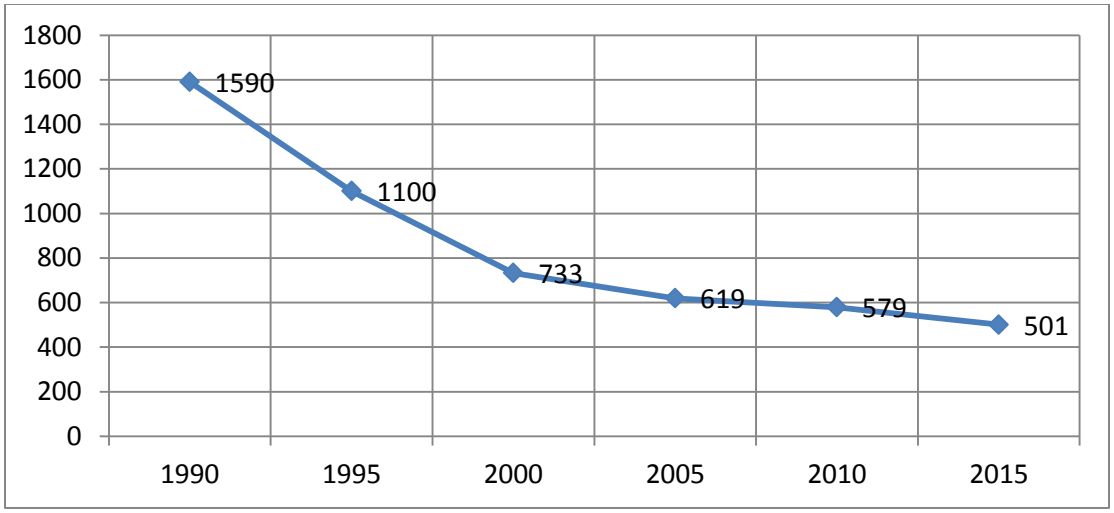
NCD mortality profile may not be significantly different for countries with dual NCD and communicable disease burden.

The report further notes that in Eritrea it is estimated that the probability of dying from any of the four major NCDs between the ages 30-70 stood at 24.2%. This rate makes the country fifth in the African region with the highest rate.

According to the EPHS (2010) the total fertility rate in Eritrea is 4.8 children per woman. The same source narrates that fertility declined substantially between 1995 and 2002 from 6.1 children per woman to 4.8 children and has remained almost constant since 2002

Eritrea has been very successful in reducing the Maternal Mortality Rate (MMR) from the extremely high 998/100,000 in 1995 (DHS) to 752/100,000 in 2002 (DHS) to 486/100,000 in 2010 (EPHS). This is indeed a remarkable achievementThe 2010 EPHS estimates revealed 51 percent reduction from the 1995 EDHS estimate. No EPHS was done after 2010. However, the trends in Maternal Mortality: 1990 to 2015 estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division (WHO, 2015), reveals that the Maternal Mortality Ratio has declined from 1,590 per 100,000 live births in 1990 to 501 in 2015. Accordingly, MMR decreased by 68.5% from 1990 to 2015. The annual rate of reduction for Maternal Mortality Ratio during 1990-2015 was estimated at 4.6 percent. The difference of achievement from that of the 2013 report is that the group has changed the way of estimating the Maternal Mortality Ratio for all countries and the baseline for Eritrea was changed to 1,590/100,000 and not 1700/100,000 live births (Figure 7).

Figure 6: Trends of maternal Mortality Ratio, 1990-2015



Eritrea has made commendable efforts and attained impressive and sustained progress towards ensuring child survival. Successive national surveys and internationally acceptable data have shown a continuing downward trend of mortality of children (Figure 6, 7 for national & 8 for international data). According to international data, the annual rate of reduction (ARR) for 1990-2013 of under-five mortality for Eritrea is 4.8 percent as compared with 2.8 percent for Africa and 2.9 percent for sub-Saharan Africa. The Proportion of 1 year-old children immunized against measles is 0.97: 1 or 97%. Child health corresponds to MDG4.

Figure 7: National data on Neonatal, infant and under-five mortality rates per 1,000 live births

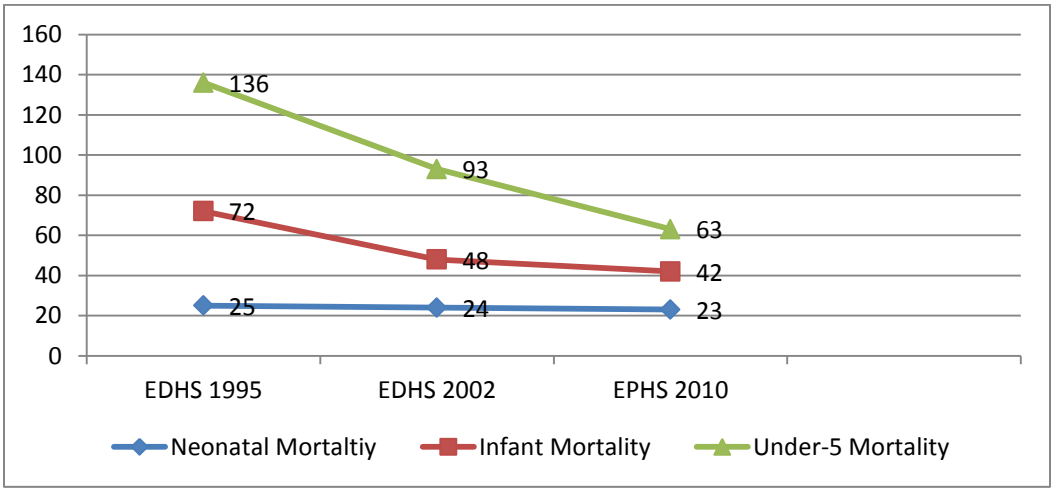
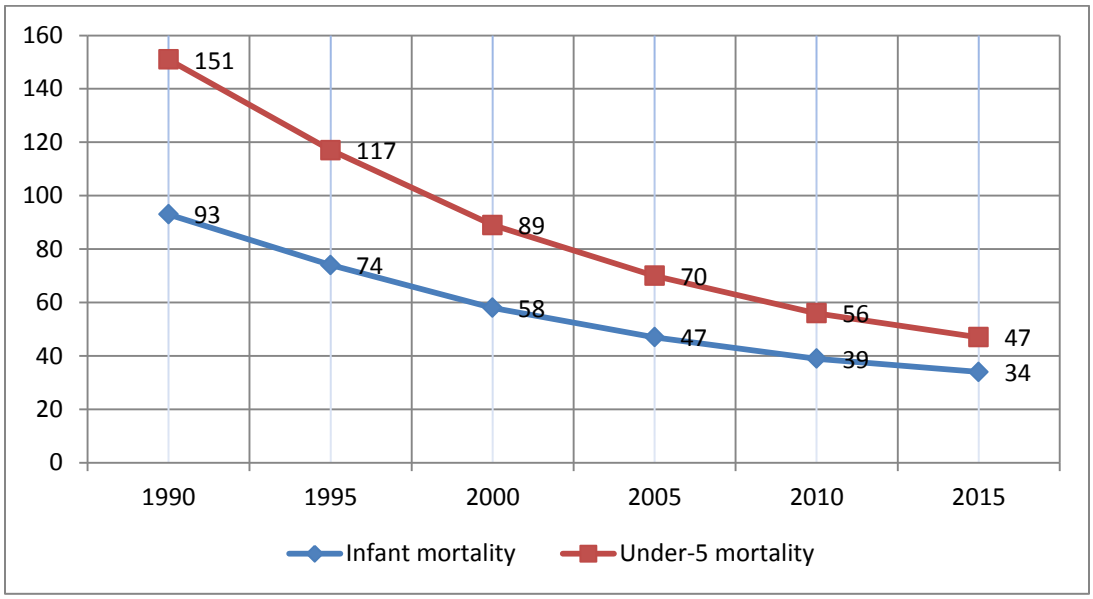


Figure 8: International data on Infant and Under-five mortality rates per 1,000 live births



Looking at specific contributors to disease burden, there have been improvements in the incidence, prevalence and mortality due to HIV TB and Malaria.

- HIV prevalence has reduced from a high of 1.3% in 2005 to 0.9 in 2010 and eventually reaching 0.7% in 2014 according to WHO global health data observatory. The new HIV infections among adults 15-49 years as at the end of 2015 stood at 0.2%. this is suggestive of a very low generalized burden in the general population, with focus on high risk groups needed to sustain this low burden
- According to the World Health Statistics 2016, it is estimated that Eritrea has malaria incidence of 17.4/1,000 population. While the Global Malaria Report 2015 noted that the confirmed cases being 30,768 with a range of (42,000-120,000) with the reported confirmed cases at the community being 19,766.
- Finally looking at TB, there has been more than 60% reduction in prevalence, incidence and mortality. According to WHO global Tuberculosis report 2015, TB prevalence declined from a high of 311/100,000 in 1990 to 123/100,000 by the end of 2014 with incidence declining from 203/100,000 in 1990 to 78/100,000, while mortality declined from 35/100,000 to 14/100,000 by the end of 2014. The decline in all the impact indicators (mortality, prevalence and incidence) indicates that the country has managed to put the disease under control although it should be noted that case detection has remained stagnant at 60% for the last 10 years indicating the potential for up to 40% undetected cases. The prevalence of Multi drug resistant tuberculosis according to the Global TB report 2015 still remains low among the new cases at 1.7% while among the retreatment cases stood at 17%.

A further analysis of trends and distribution of causes of mortality was done based on the HMIS data. The top 10 reported causes of morbidity and mortality are shown in the table below.

Table 2: Ten Leading causes of morbidity and mortality in under One year of age in hospitals and health centers, (2015)

Morbidity					Mortality	
	OPD		IPD		OPD+IPD	
Rank	Cause	%	Cause	%	Cause	%
1	Pneumonia all types	26.3	Pneumonia all types	19.5	Pneumonia all types	15.9
2	ARI (Without pneumonia)	25.9	Low birth weight	9.1	Low birth weight	14.8
3	Diarrhea all forms	22.9	Diarrhea all forms	7.2	Intrauterine hypoxia/birth asphyxia	9.4
4	Skin infection & scabies	5.3	Neonatal sepsis	3.9	Neonatal sepsis	8.6
5	Ear infection	3.7	Malnutrition, all types	3.6	Other perinatal and neonatal problem	8.4
6	Infection of eye including trachoma	3.4	ARI (Without pneumonia)	2.8	Malnutrition, all types	7.5
7	Malnutrition, all types	1.5	Other perinatal and neonatal problem	1.4	Septicemia	7.1
8	Injury all types	1.4	Intrauterine hypoxia/birth asphyxia	1.3	Diarrhea all forms	5.4
9	Other urinary tract infection	1.3	Septicemia	0.9	Heart diseases	3.9
10	Fever of unknown origin	0.7	Congenital malformations	0.9	Congenital malformations	3.2

Source: MOH HMIS report, 2015

As seen in the table above, communicable conditions continue to represent the major causes of morbidity and mortality seen at the health facilities in under one year old childdren. In the age group 1 – 5, this pattern is maintained, though injuries of all types begin to appear as causes of morbidity and mortality. The appearance of non communicable conditions starts to be noticed with the age group 5 and above.

Table 3: Ten Leading causes of morbidity and mortality in 1-5 years of age in hospitals and health centers, (2015)

Morbidity					Mortality	
	OPD		IPD		OPD+IPD	
Rank	Cause	%	Cause	%	Cause	%
1	ARI (Without pneumonia)	26.5	Pneumonia all types	39.8	Malnutrition, all types	39
2	Diarrhea all forms	24.9	Diarrhea all forms	16.3	Pneumonia all types	15.7
3	Pneumonia all types	18.1	Malnutrition, all types	15.9	Diarrhea all forms	9.4
4	Skin infection & scabies	5.8	ARI (Without pneumonia)	6	Septicemia	7.6
5	Injury all types	3.5	Injury all types	5.1	Anemia, all types	3.6
6	Ear infection	3.4	Burns	2.8	Bacterial meningitis	2.7
7	Infection of eye including trachoma	2.9	Malaria , all types	1.8	Heart diseases	2.2
8	Malnutrition, all types	2.1	Skin infection & scabies	1.7	Hepatitis	1.8
9	Soft tissue injury	1.9	Anemia, all types	1.2	Malaria , all types	1.3
10	Other urinary tract infection	1.4	Asthma	1	Injury all types	1.3

Source: MOH HMIS report, 2015

Table 4: Ten Leading Causes of Morbidity and Mortality in Five Years and Above of age in hospitals and health centers, (2015)

Morbidity					Mortality	
	OPD		IPD		OPD+IPD	
Rank	Cause	%	Cause	%	Cause	%
1	ARI (Without pneumonia)	12.5	Injury all types	8.6	Heart diseases	11.2
2	Oro - dental infection	8.2	Pneumonia all types	5.6	Pneumonia all types	7.3
3	Gastritis / duodenal ulcer	7.8	Obs emergencies	5.5	Injury all types	6.7
4	Other urinary tract infection	6.9	Abortion, all types	4.4	Other causes of death	6.4
5	Skin infection & scabies	5.4	Malaria , all types	3.6	Tb, all types	5.9
6	Diarrhea all forms	5.2	Other urinary tract infection	2.7	HIV/AIDS	5.9
7	Injury all types	4.9	Diarrhea all forms	2.7	Stroke, not spec.as hemorrhage/ infarction	5.7
8	Infection of eye including trachoma	4.1	Gastritis / duodenal ulcer	2.5	Anemia, all types	5.1
9	Pneumonia all types	3.6	Anemia, all types	2.2	Diabetes mellitus	5
10	Soft tissue injury	2.9	Skin infection & scabies	1.6	Other liver disease	4.4

Source: MOH HMIS report, 2015

It is notable that although the disease burden in terms of morbidity and mortality does not follow the international classification of disease and cause of death it provides a reflection of what are the major conditions that the country should focus on in the development of the strategic plan. It is however notable that surveillance system should be put in place to capture information on other communicabe diseases like hepatitis C.

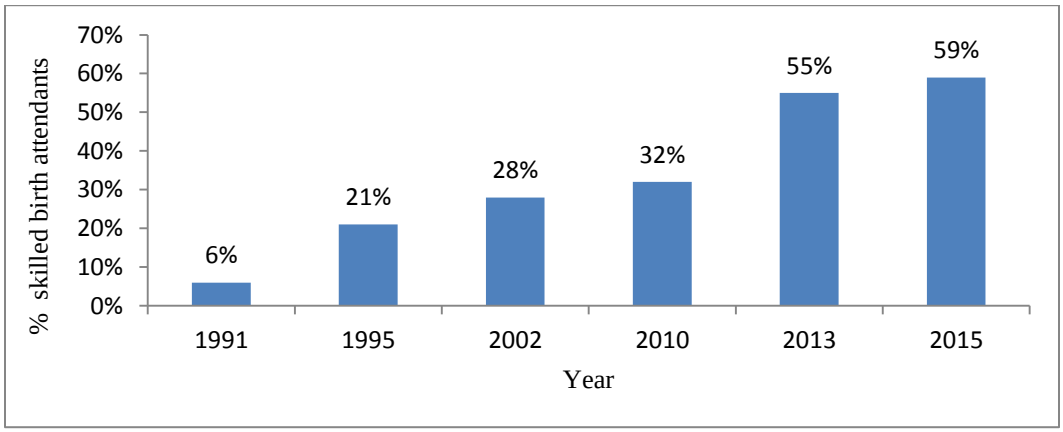
2.2 Status of basic health care package services

The National Health Policy and HSSDP I introduced for the first time in 2010 and 2012 respectively, the concept of the Basic Health Care Package (BHCP), which consisted of a set of priority interventions that were meant to address the various challenges the sector was confronted with within the four core interventions: (i) Maternal and Child Health and Nutrition, (ii) Prevention, control and management of Communicable Diseases and of (iii) Non-Communicable Diseases. Together with (iv) Cross-cutting Interventions and the strengthening of the BHCP Essential Systems, the main drive of the BHCP was to reduce morbidity and mortality in the country.

According to the HMIS Report 2015, ANC services are provided in (258/347) 74.4% of the facilities out of which 254 provide PMTCT services. The proportion of health facilities that provide delivery services has ranged between 65-69% in the last 5 years with 66.7% (229/347) of the facilities reporting to provide the delivery services in 2015.

The EDHS 1995, EDHS 2002, EPHS 2010 and LQAS Survey 2013 estimate that skilled delivery was 21%, 28%, 32% and 55%, respectively (Figure 10.). At this trend the annual growth rate for skilled birth attendance at delivery from 1995 to 2013 was 5.3 percent..

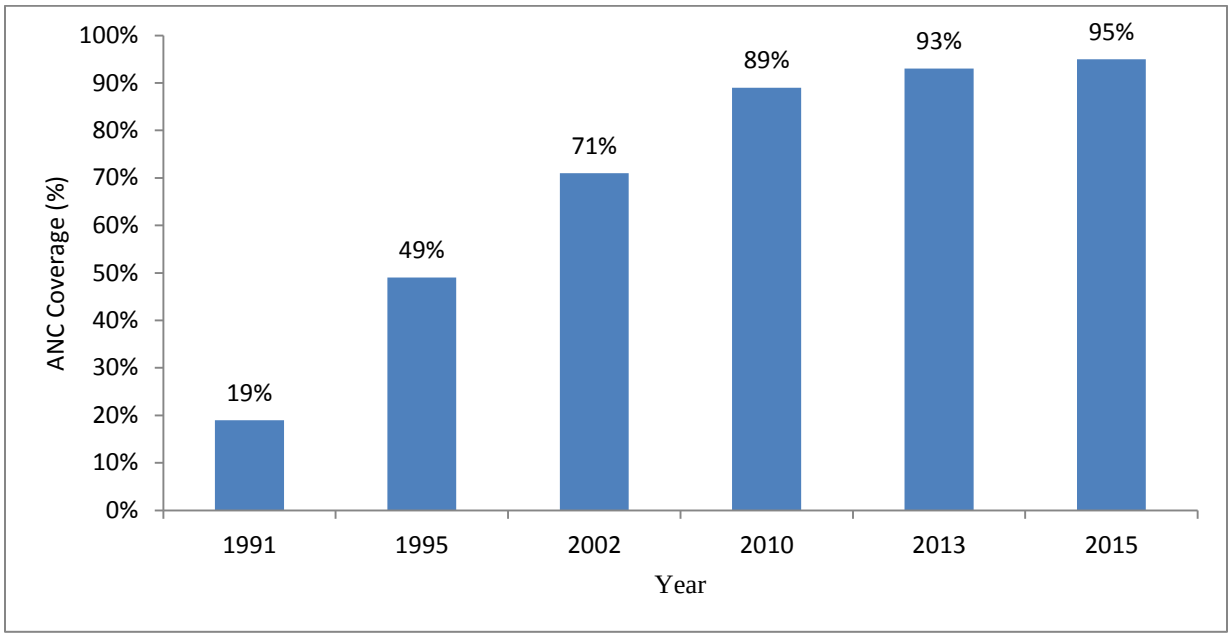
Figure 9: Births attended by skilled health personnel, 1991-2015



Antenatal care coverage (at least one visit) & contraceptive prevalence

The Antenatal care coverage for Eritrea has been on the increasing trend since 1991. As seen in Figure 11, the increase has been remarkable as it was only 19% in 1991 and increased across the years to pick at 95% in 2015. The contraceptive prevalence rate in Eritrea is very low and it is at 8%.

Figure 10: Antenatal Coverage (at least one out of four visits), 1991 - 2015



The percentage of low birth weight out of the total live births still remains high although there was a marginal decline from 6.9 in 2014 to 6.4 in 2015. The top three causes of facility based neonatal deaths were intrauterine hypoxia/birth asphyxia, neonatal respiratory distress and clinical neonatal sepsis at 17.6, 11.2 and 10.1% respectively.

The coverage for immunization services in the country according to HMIS report 2015 stood at 75.5% (263/347). The penta-1 coverage was 93.9% while penta-3 coverage rate was 62.3%. According to World Health Statistics report 2016 it noted that for Eritrea 94% of the infants received the 3 doses of Hepatitis B vaccine.

There has been significant reduction in HIV prevalence rates in the country. The four sentinel sero-prevalence surveys conducted among pregnant women attending ANC services since 2003 show that HIV prevalence decreased from 2.47 % in 2003 to 2.38 % in 2005, 1.33 % in 2007, 1.31% in 2009 and 0.79% in 2011 and 0.85 % in 2013. The results of the Eritrea Population and Health Survey 2010 (EPHS 2010) indicate that 0.93% of Eritrean adults age 15-49 are infected with HIV with variations in age, sex, residential area and Zoba (0.28% for the 15-25 age group).

Further, according to the HMIS report 2015, the HIV positivity rate in VCT clients in 2015 was 1.08% a decline from 1.69% in 2015. The number of persons ever identified to live with HIVAIDS in 2015 stood at 36,113 and those put on ART reach 8,598 in 2015.

In the control of Tuberculosis, The Eritrea TB Control Program has made significant progress on some key program performance indicators, especially treatment success rate for new smear positive TB cases which is 91% and a death rate of 4% for the 2014 treatment cohort. The case detection as calculated by the country stands at 72% but WHO estimates the case detection at 60%.

The malaria burden remained under control and the country could be moving toward pre elimination phase. There are convincing indications that malaria incidence is sharply declining from 53.5 cases/1000 population at risk in 1998 to 4.78 cases/1000 population in 2012. The incidence has declined to

17.4/1000 by the end of 2013. According to the HMIS report there were a total of 18,787 malaria cases reported in 2015 representing a 41% decline when compared to 2014 when 31,696 cases were reported in the country.

According to HMIS report 2015, non-communicable diseases have now moved to become among the 10 leading causes of morbidity and mortality. Heart diseases, injuries, hypertensive diseases, diabetes are now among the leading causes of facility morbidity and mortality. Further, a total of 2,930 neoplasm - cases were reported in 2015 accounting for 0.2 % of the total morbidity and 1.6% mortality in hospitals and health centres. The most prevalent neoplasm was the neoplasm of the female reproductive organ.

The major risk factors affecting health in Eritrea are suboptimal breastfeeding, alcohol consumption and physical inactivity, amongst others. Some of the major risk factors have been indicated in the STEPs study by Usman et.al (2006) which include tobacco use which stands at national prevalence of daily smokers was 7.2%; .9% were non-daily smokers, fruit and vegetable consumption was very low at 15.3% in the general population and The prevalence of physical inactivity was low; most of the population (90%) practiced some form of physical activity.

One of the key cross cutting intervention that should be focused by the health sector is the high rates of malnutrition. According to EPHS 2010, prevalence of stunting in children less than five years remain high at 50% while the prevalence of wasting in children less than 5 years is at 19% and underweight at 52%**.**

2.2.1 Status of hospital, emergency and integrated essential medical care services

At the end of the HSSDP I there was a network of 28 hospitals (27 public and 1 private), comprising of 5 national referral hospitals, 6 Zoba regional referral hospitals, 4 first contact hospitals and 13 community hospitals in the health sector. The referral network is in place following the three-tier health care delivery systems in the country, namely the primary level (186 health stations, 53 health centres and 13 community hospitals) where community hospitals act as first referral centres, the secondary level (zoba regional referral hospitals and the first contact hospitals) where regional referral hospitals are second level referral centres, and the tertiary level with the national referral hospitals. Health services referral policy, guidelines and protocols have been developed to guide the referral services to ensure continuum of care.

An assessment of the status of the emergency units in health facilities is periodically undertaken to identify the gaps in necessary requirements to make them fully functional. The required items have been identified and the costs for these requirements should be budgeted for in the HSSDP II. The Zobas should embark on the dissemination of the referral policy, guidelines and protocols to enable appropriate application in addition to monitoring its implementation.

2.3 Status of essential health systems and governance

During the period of the implementation of HSSDP I the services were organized in a three-tier basis with the primary level constituting the health stations, health centres and community hospitals, while the secondary level constitutes the Zoba regional hospitals and first contact hospitals (sub-zoba) and the tertiary level with national referral hospitals. The overall policy and national guidance is provided by the Ministry of Health that has 4 departments (Medical Services; Public Health; Planning, Policy and Human Resource Development, and Administration and Finance. Other structures reporting to the office of the Minister include National Medicines and Food Administration, Internal Audit, National Health Laboratory, NHIS, Public Relations, Legal affairs and Parastatal organizations. At the regional level, there are 6 zonal medical offices. , But the sub-zoba or district medical offices are in the process of establishment.

The status of the essential health systems has been looked at from the context of human resources for health, procurement, supply and logistics system, medicines administration and regulation, biomedical and infrastructure engineering, laboratory and imaging services, blood transfusion services and legal affairs.

Human resources

There exist Human Resources for Health strategic plan (2012–2016) which is currently being implemented. Human resources for health are recognized as pillars but despite regular production and recruitment of new health workers, the staffing norms are not yet met, especially for specialists at hospital level, including surgeons, radiologists, internists, etc. Production of health staff was not well coordinated and jointly planned with the Ministry of education, to ensure that appropriate numbers of skilled staff were produced as needed. Additionally, there has not been much guidance for the community health agents (CHAs). There is need to consider developing guidelines on training of such CHA and to also decide on whether to use multiple specialized CHAs or integrated CHAs. The country still has no professional councils to facilitate regulation of health professionals.

There is a need to strengthen professional associations to meet the criteria and role of regulatory bodies' requirements as a process of long term establishment of professional councils responsible for registering health professional in Eritrea away from the current MoH regulatory functions.

One of the major concerns as far as HRM is concerned is the high attrition rate of 17 % in 2015 for all categories of health workers, among which it was 9.1 % for GPs, 6.3% for nurses and 11.5% for associate nurses according to HR Report (2015).

Even though staffing norm is not yet available the Health Personnel population ratio for MDs is 1:17,000, for nurses 1:3386, and for Laboratory staff 1:8976. The capacity of the training institutions to produce sufficient numbers of critical health professionals (e.g specialist doctors, GPs, nurse diploma and specialized nurses etc.) is still inadequate to meet the MoH needs. These all indicatethe need for looking to other options to produce more qualified diploma level nurses.

A recently conducted situation analysis for the development of an HRH plan for 2017/21 recommends restructuring and strengthening the HRM to support service delivery possibly by placing it under HRD to create synergy and develop systems that link with the regional HRM units.

Procurement

During the period on the HSSDP I, there was implementation of two types of procurements, namely local and external procurements. The local procurements are handled by the General Services Division under the Department of Administration and Finance, while external procurements are handled by the Project Management Unit (PMU), PHARMECOR and Red Sea Corporation. With these procurement arrangements there still remain some inherent operational challenges that need to be streamlined and harmonized including capacity strengthening and automation of systems.

Infrastructure

Looking at infrastructure, current data show that there are 28 hospitals, 53 health centres and 186 health stations. The policy to streamline these levels has been agreed, and is awaiting implementation. This should lead to a phasing out of the health centres, either up or down gradeding them depending on the need for physical infrastructure. Most of health facilities require maintenance and consolidation in accordance to with the revised definitions and functions of health facilities. A health infrastructure development plan is not yet in place and there would be a need for development of infrastructure norms and standards.

Health products, medicines and medical supplies

In areas of regulation, there exists the National Medicines and Food Administration (NMFA) a body of the Ministry of Health that regulates the quality of pharmaceuticals and medical supplies in the country to ensure that the public has access to quality, safe, efficacious and affordable pharmaceuticals and medical supplies. The NMFA is mandated to carry out functions specified by Proclamation No. 36/1993, National Medicines Policy (2010) and National Pharmacovigilance Policy (2014).

Product registration, licensing and inspection of premises, post-market surveillance system and quality control laboratory are the main pillars of the NMFA for ensuring the quality of pharmaceuticals and health products. However, there are some bottlenecks in areas of quality assurance. As the existing QC laboratory is not yet accredited, certain samples are sent to external WHO accredited laboratories and tested at an average cost of 1,000 US$ for a single product which is quite expensive.

Pursuant to the restructuring of the Ministry of Health in 2013, a new section named as Pharmacy Services Division (PSD) was established within the Medical Services Department and has three units; Logistics Management Information System Unit (**LMIS**); Pharmaceutical and Medical Supply management unit (**PMSM**); and Medicines Information Service unit (**MIS**). The Mission of the Division is to contribute to the health and wellbeing of the individual and the community by ensuring continuous availability and appropriate use of safe, effective, and good quality medicines, related products and services in all health care settings.

The LMIS unit as part of the PSD has been taking the necessary corrective actions to improve the quality of Stock management system. In 2014, the unit's migration from access-based database to MySQL database and creating connectivity with Zonal Drug warehouses, Hospitals, National Health Laboratory, National blood Transfusion Services, and PHARMECOR Eritrea with the main LMIS server of the Ministry through EriTel-ADSL telephone line could be mentioned as an ongoing achievement.

The base for the medicine information is Eritrean National List of Medicines (ENLM), which is rationally chosen to satisfy the health care needs of the population and used as an instrumental for, production, procurement, prescribing, dispensing and donation of medicines. In addition, the Eritrean National Treatment Guidelines (ENSTGs), and Eritrean National Formulary (ENF) are periodically reviewed based on the reviewed ENLM and Rational Drug Use (RDU) survey also conducted based on the reviewed ESTGs every three years. There still remain gaps which include ensuring connectivity amongst the warehouses , ensuring that there is systematic pharmacovigilance implementation across the country and ensuring timely review of guidelines.

Biomedical engineering

In the area of biomedical engineering at present there are a total of 47 staff members of whom only 16 are skilled and semi-skilled technicians. The division's ability to respond efficiently to the needs of Zobas and health facilities for repairs and maintenance is hampered by lack of operational budget, transport facilities and limited skills.

The medical equipment workshop is old and requires upgrading of tools. There are regional workshops in Mendefera and Massawa but the capacity of the technicians is very low. There is no medical equipment policy in place and yet this would have guided procurement, maintenance and repair of medical equipment. The hi-tech equipment pose a bigger challenge as there are no medical technicians

in the MOH that are trained to repair and maintain them. There is need to either send the technicians abroad for training or arranging to have someone from abroad come and train them in-country.

Diagnostics and imaging

In the area of laboratory diagnostics and medical imaging, there are 5 levels of laboratories, constituting 1 National Health Laboratory (NHL); 2 National Referral Hospital Laboratories; 6 Zoba Regional Hospital Laboratories; 20 hospital laboratories; and 43 community hospital laboratories. In the HSSDP I, there was no differentiation between the National Health Laboratory and the other lower level laboratories, whereas the National Health Laboratory is meant to be the centre of excellence and reference and a teaching laboratory. A policy and strategic plan have been drafted for laboratory services that require consensus across the relevant laboratory stakeholders. Quality control and assurance has been a challenge as some specimens had to be sent abroad with delayed or sometime no feedback. The imaging technology uses X-ray films, but these are not yet modernised. There are already MRI, CT scan and ultrasound services at the National Referral Hospital, Orotta. There is however no radiotherapy services in the country and patients requiring radiotherapy are referred abroad.. However, people are being trained in radiotherapy and the country awaits permission to acquire the radiotherapy equipment. Ultrasound and routine x-ray services are available in all hospitals and some community hospitals. But this program area lacks adequate skilled human resources in particular radiologists.

Blood transfusion

In the area of blood transfusion services, the country has a National Blood Transfusion Policy of 2011 that guides the work of the National Blood Transfusion Services (NBTS) in Eritrea. There is one Regional Blood Transfusion centre at Gash-Barka. At the hospital level, there are blood banks where refrigerators and standby generators are necessary prerequisites. The strategic plan of the NBTS estimates the yearly blood needs to range between 12,000 and 15,000 units. Currently, the capacity for blood production is 10,000 blood units per year. These blood units are collected 93% from volunteer donors and the rest of 7% are from family donors. The centre aims towards 100% volunteer donor collection. All blood is tested and no blood is released to the hospitals without testing for HIV, Hepatitis B and C and syphilis. Both internal and external quality assurance are undertaken. On an annual basis, external quality control to ensure that the NBTS remains ISO 9001:2008 regularly certified in collaboration with South African Laboratories. The NBTS has continued to face challenges which include staff shortages, inadequate logistics, lack of an appropriate sensitization strategy, absence of legislation for NBTS and limited skills in health education, lack of appropriate means for discarding of blood and blood products, closed IT data system (DELPHI).

Health regulation, governance and partnership

There has been no National Health Act or Regulation but there are several proclamations on control of drugs, cosmetics and sanitary items, tobacco control, control of private practice and control of female genital mutilation (FGM). But some of these proclamations need to be revised and regularly updated. Besides there are no clear reinforcing mechanisms in place. During the period of the implementation of the HSSDP I the health issues were covered by the civil and penal codes. The Legal office, however, has limited expertise in medico-legal issues. It has not developed a strategic plan nor does it have annual operational plan. Although the work of the legal office is mostly demand driven, a plan would facilitate the proper implementations of its functions.

Looking at health governance, many program areas were able to develop strategies to provide orientation on investment priorities within them. These program specific strategies were actually the basis of the development of HSSDPI, which in reality it should probably have been the reverse.

The HSSDP I was used by the health sector to enhance partnership which included the development of country program documents, the Strategic Partnership Cooperation Framework (SPCF) 2013 - 2016 formed as an umbrella for the development of UN country program based on individual Agency mandate and areas of comparative advantage. Within this framework, UN Agencies work with the Ministry of Health departments in technical working groups and specific plan outcomes. Further there is a platform that brings the UN Agencies together with the Government of Eritrea through the Ministry of National Development. Through this platform, there is supposed to be a mid-year review and end of year review of performance of the SPCF. However, this has not regularly taken place. Although these meetings are meant to address high level strategic issues, they have tended to address operational issues, despite prior preparations in bilateral meetings between Ministry of Health and the development partners. During this period however there continued to exist weak coordination between development partners.

2.4 Status of sector planning, research, monitoring and evaluation

Planning

During the implementation of the HSSDP I the Ministry of health introduced integrated planning system which was designed to replace the previous process of program-focused planning. There has been establishment of a functional system of continuous preparation for planning cycles at Zoba and sub-Zoba level. A planning template was developed and training scaled to the whole the country.

The Policy and planning division was responsible for monitoring the implementation of HSSDP I. The organization of service delivery is defined in operational plans but the strategy does not clarify the roles and responsibilities of service providers or the resources required. The implementation and management arrangements and systems for implementing and managing the programmes in the national strategy need to be further elaborated to ensure that there exist succinct clarity.

There exists a participatory process within MOH to develop operational plans, though roles and responsibilities of implementing partners are not clearly described in the HSSDP I. There is minimum input planned from civil society, private providers and development partners.

The HSSDP I was weak on resource allocation and did not clearly describe how resources were to be mobilized to achieve outcomes and improve equity, or how resources will be allocated to Zoba level and non-state actors. There are no criteria for allocation.

Monitoring and evaluation

Basic monitoring and evaluation tools are in use and decision support software exists, though it is used by only a limited number of staff. Planning, monitoring and evaluation guidelines have been developed, and should be packaged into a user friendly manual and widely disseminated. Feedback of the results of M&E to implementers and health managers needs to be strengthened and a system put in place to institutionalise discussions about data at all levels. The feedback system should ensure that regular analysis reports targeted at specific stakeholders are prepared, supervision uses routine HMIS data before, during and after supervision and that the action plans are linked to daily activities.

The Health Management information system (HMIS) has well defined authority, roles, responsibilities and functions and there is a HIS policy (2011) and a strategic plan (2009) but which need to be updated to take into consideration the emerging issues. HMIS has been able to produce annual activity reports on a continuous basis and to avail HMIS guidelines for data collection and coalition from all facilities across the board. There is however need for investment in data warehouse, combined with improved

internet and strengthened ICT infrastructure which will allow the HMIS to provide accurate, relevant, complete, and timely health information for decision makers, implementers and other HMIS data users.

There is an extensive list of 136 indicators in the M&E results framework that cover the 7 key programs and support systems. These indicators need to be revised as planned, particularly now that HIV/AIDS, TB and Malaria are planning to use the HMIS. Routine data is timely and facility reporting is complete 98%. The proposed data quality assurance system will monitor data completeness within reports and ensure that routine data results correspond well to survey data. The biggest problem with data quality in Eritrea is that there has never been a census, so all denominator related data are of uncertain quality.

At present there is no master facility list and no GPS coordinates of facilities. While maps and GIS are used to display some health service data, systems, staff and services are not mapped. Financial and human resource data, equipment and supplies are not integrated into the HMIS.

There are currently various databases for human resources, logistics and other systems but these are not interoperable. Implementation of the data warehouse will require that all existing computer systems become interoperable with it. A metadata dictionary is planned that will provide definitions of data elements, indicators, collection methods, periodicity, geographical designations and analysis techniques to be used. Written procedures for data management need to be revised for the data warehouse and incorporated into HMIS guidelines

Health services information is currently used in most annual planning processes, with graphs and maps widely used to display information at offices and health facilities. Semi-annual and annual bulletins are published and an internal annual health sector review is performed. Plans are underway to involve program managers in improving HMIS data quality to ensure that it is good enough for use in health service management, monitoring and evaluation. Feedback is seen as important and will be strengthened by use of dashboards and standardised reports in DHIS2 that will be made widely available to data users and external stakeholders.
There is need to systematically begin to focus on the improvement of vital statistics to ensure that registration of births and deaths including the systematic reporting of underlying causes of death as per the ICD 10 guidelines.

The MOH plan for monitoring and evaluation (M&E) is basically sound, reflects the HSSDP I priorities and includes core indicators, many sources of information, methods and responsibilities for data collection.

There is no comprehensive M&E framework for the period 2012-2016 that guides implementation of the HSSDP I and reflects most goals and objectives of the national strategy. However, for each of the prioritized programs and systems it provides the baseline and the annual targets. Unfortunately, the ministry of health have not been able to include the results of implementing the various plans and programs into the M&E framework.

There exist major problems with quality of data, dissemination of results and participation of non-MoH stakeholders.

Regular assessments of progress and performance are proposed as a basis for policy dialogue and performance review. There is a plan for periodic MOH performance reviews and processes to feed back the findings into decision making and action. Plans for a multi-partner review mechanism to allow joint assessment of sector and program performance need to be further developed. There is a need to institutionalize discussions about data and its use at each level, using a cyclical approach that focuses on different topics at least quarterly and discusses them in detail

Research

MOH has developed a health research policy and policy guideline that serves as a guide for strengthening this key component of systems development geared towards generating new knowledge and information for decision making. A mechanism for coordination and dissemination of research findings has been established with a national resource centre established and in use. Mechanisms have been established that ensure health research is relevant and complies with set standards.

Health research priorities are identified and documented[1] along with policy and policy guidelines, ethical and legal frameworks governing health research. Resources and funding mechanism for operational health research are meagre and limited training on relevant areas of research and research methodologies. There is no health research centre in the country yet. In general the research and documentation division is under staffed with inadequate skilled human resources and needs to be strengthened and reoriented on its roles and responsibilities. Additionally there is no budget allocation earmarked for health research.

2.5 Status of health care financing, funding and budgeting

Eritrea, like many developing countries, is confronted with the challenges of how to reconcile the objective of improving financial accessibility to health care and equity in the health system on one hand, and the need to mobilize domestic resources for improving the financial viability of health services on the other hand.

So far there has not yet been a comprehensive financing policy in place. However in 1996 a user fee payment scheme and exemption mechanisms was introduced which was also revised and amended in 1998 and 2007 respectively. These have also had its shortcoming especially with respect to the exemption mechanisms.

Performance of a health financing system depends among others on (i) its capacity for equitable and efficient revenue generation; (ii) the extent to which financial risk is spread between the healthy and the sick, and the rich and the poor; (iii) extent to which the poor are subsidized; (iv) efficient purchasing of health inputs and services; and (v) the prevailing macroeconomic situation (e.g. economic growth, unemployment, size of the informal sector compared to the formal sector, governance, etc.)

The current Health Sector Strategic Development Plan (~~HSSDP 2012-2016~~), (HSSDP 2016- 2021) has extensively integrated specific strategic orientations in issues of health care financing and funding.

According to the different reports produced on health financing and consultations with different parties made the following key issues were identified.

- The cost recovery through the levying of nominal registration fees at the primary level and user fees at the secondary and tertiary level has been introduced. These fees are low to limit financial impact on clients and staggered based on level of care (lowest at primary care, and higher for hospitals). As yet all funds collected from user fees are sent to the MoF and there is no retention mechanism in place. For operational purposes, the MOH and MOF can put in place an arrangement for the hospitals to allow them to retain part of the collection for a period of 6 months in which thereafter they should settle all outstanding payments and submit the balances.
- Public hospitals and some selected other facilities have now already begun or are in the process of beginning private or for-profit sections of health care along with the public sector, for the past three

[1] Priority Health Research Agenda (2013-2017) MoH 2013

years. However there are no structured mechanisms that help facilities benefit from the revenue generated by the provision of these private services.

- There are exemption mechanisms in place to limit the financial burden of health care on those who are not able to pay, and selected groups such as those with some chronic diseases like HIV/AIDS and Diabetes. Strong commitment exists to ensure access to health services and access to free education including education in health sciences.
- There are still missed opportunities to make pay those who can actually pay: the MOH is fully aware that even the free services targeted to the poor are captured by the rich, who use them more than the poor;
- There is potential for disincentives in the identification of poor population and related burden on the local administration (Eligibility for exemptions on poverty is on the basis the provision of poverty certificate from the local government with the understanding that the local administration that issues the poverty certificate will be responsible for paying for the services provided to the poor);
- There is insufficient evidence generated to inform any decision-making in health care financing priorities. The three health financing studies planned in the HSSDP I have not yet been conducted.
- The shortage of skilled staff in Health Economics is hampering appropriate planning and implementation of Health Financing Strategies for HSSDP, and development and implementation of Health Financing policy.
- Presumed high levels of catastrophic expenditure and unmet needs, especially for the poor households with high out of pocket expenditures
- Some inefficiency was noticed in the use of resources. These include parallel financial management systems; wastage in resources and duplications in resource allocation due to a weak coordination among the health sector stakeholders; duplications in data collection caused by parallel data systems; existence of many database systems that are not interoperable; unnecessary spending on some medicines; some inappropriate use and maintenance of medical equipment; wastage in some health products; some health entities with low utilization rates of available resources (low bed occupancy rates)
- Funding projections were found in different MOH specific programs, including domestic and international funding sources, but no harmonized or consolidated national budgetary framework was found. Likewise, the strategy does not provide any mechanism for spending priorities in the assumption that the strategy will be not fully financed.

The Eritrean Health System is financed mainly from three sources, namely government, partners and households. The funding sources of the HSSDP I implementation were grouped into 1) Government source 2) Funding from multilateral (UN, GF, and GAVI) and bilateral partners. The government funding is in the form of annual budgets allocated by the Ministry of Finance. The financial support from the partners is managed through the Ministry of Health. The MOH uses a Project Management Unit (PMU), which is directly answerable to Minister of Health to coordinate the management of the Global Fund and GAVI Projects, and direct requests and reports with the sub-recipients. The sub-recipients at central level are ministries (health; education; labour) and civil society. At decentralized Zoba level, there are PMUs in each one of the six Zobas, managing the projects funds.

It is notable that over the period of the HSSDP I, the overall government expenditures on health have been increasing, in average terms. Donor funding has increased (e.g. from Global Fund). Household

funding has also increased due to the introduction of the cost recovery. The health sector funding from the government is done annually only in one transfer at the beginning of the year. This is valid for all levels including at zoba level, and it succeeds a systematic planning process where the planning unit in MOH coordinate the process and accompany zobas in this process, in order to improve zobas plans and budgets.

There have been challenges in the current funding structure that have potential for accentuating financial inequities. Out of pocket (OOP) payments are still high (49.5% of THE). Government spending on health is still low – way below WHO expectations (44 US$ per capita) and the Abuja targets (15% of general government budget) for a country health spending. The plan of the MOH to consider moving towards cost recovery at a higher percentage of the costs of care in the context of social insurance systems rather than through price increase within the current system is not yet implemented. There continues weak coordination of funding from the health sector stakeholders, including funds from international organizations and bilateral agencies, government entities. There has been no harmonised financial management system established yet. Multiple systems for disbursement, procurement and financial data management lead to problems of duplications and unnecessary transaction costs. Further the Health care financing indicators are not included in the National M&E framework

In the HSSDP I budgeting process has ensured that there is a good financial planning due to provision of full annual budgets at the beginning of the year. This enabled implementation units to confidently plan for activities without delays due to possible funding flow challenges, the capacity building provided to central and decentralized levels in planning and costing of health interventions. However there continued to exist a de-link between the planning and budgeting processes. The funds allocated for health are not based on evidence based baselines and targets, which is made worse by the once a year transfer process that limits capacity to adjust to situation based on the emerging realities. It is notable that the HSSDP has a budget, but neither clear indication of an expenditure framework, nor the explanation of costing estimates and methods used to come up with the budget. The HSSDP budget had only the recurrent budget component. It does not reflect any capital budget. Further, there continues to be insufficient skills in costing health interventions

2.6 Analysis of issues and unfinished business

Eritrea has achieved many outstanding successes in significantly reducing mortality rates for infant, child and maternal while significantly reducing the incidence, prevalence and mortality of the three major diseases (HIV, TB and malaria). There are also successes in other areas of service provision, like reduction of Female Genital Mutilation and increase of EPI coverage for Penta and Measles, consistently more than 90%. Also in the area of hygiene and sanitation successes are reported with already 695 (26.1%) of the 2,666 rural villages in the country having been declared "Open Defecation Free". There are however emerging issues related to communicable and non-communicable conditions like diabetes, hypertension, cancers and injuries (road accidents) is increasing, leading to a 'double burden of diseases'. Additionally, malnutrition rates are on the increase, with stunting rates increasing from 37 .6% in 2002 to 50% in 2010 (EPHS 2010 and 2003 respectively).

It is further noted that the health sector should harness the strong cultural value systems that is engrained in the Eritrean community fabric for the benefit of creating demand for health services and ensuring that the community take ownership of their own health. This would be achieved through setting up of robust community systems owned and implemented by the communities. This will support the implementation of initiatives in equitable manner.

In the area of Health Systems Strengthening (HSS) the number of 'home-trained' doctors and nurses is increasing, slowly filling the gaps from the increase in infrastructure and the relatively high level of attrition. The provision of drugs and consumables appear regular with relatively few incidences of 'out-of-stock' of essential drugs. Laboratory services exist in all regional hospitals, in 20 other hospitals and in 43 community hospitals/health centres. The National Blood Transfusion Services produce some 10,000 blood units per year, all from 93 % volunteers; this is however lower than the projected needs of the country which currently stands at 12,000-15,000 blood units per year.

Health Management Information Systems (HMIS) shows timely routine data reporting (90%) and completeness but its reliability and use by other departments and programs of the MOH is limited. There exists a comprehensive M&E framework for 2012-2016, linked with the HSSDP, providing targets, (but unfortunately baselines and results are not regularly recorded). MOH has a Research Agenda in place and some research applications have been submitted.

Financing the HSSDP I shows some positive developments, like the introduction of modest cost recovery (with exemption mechanisms in place). There are signs of improved availability of funds and the annual (upfront) funding of the health sector by the MOF improves predictability. Given the extremely low resource base in which the health sector operates (estimated at US$ 6 per person per year in 2012) (Health Sector Situational Analysis Report, 2016) , its achievements in terms of improved health of its population are outstanding and a shining example for many countries on the continent.

Despite the many successes there are challenges to be addressed. In the area of service delivery, the main challenges are the low use of Skilled Birth Attendants (SBA), with figures varying between 35 - 55%, the Family Planning services that are available but hardly used (10%) and the very high figures for malnutrition (50.3% stunted and 52% underweight) that should cause alarm in all nutrition-related sectors. The rising importance of the NCDs will have important consequences in all the other systems, like staff and training, drugs, equipment and laboratory services and finally also in the indicators for the NCDs and the allocation of financial resources.

In the area of systems strengthening, important challenges are shortages in technical and support staff; training in management of hospital heads; limited tools to monitor quality of care at the various levels; no standards and guidelines for the procurement of goods and services; no operational budget for maintenance of an old medical equipment workshop that has limited tools and staff; absence of a health infrastructure development plan; no strategic plan to strengthen medical imaging, diagnostics and radiotherapy, and finally absence of an comprehensive Health Act.

In Planning and HMIS/M&E, the HSSDP I did not have a comprehensive situational analysis that would have brought together all the major features of the sector and thus allows for priority setting and strategic choices. The M&E framework was hardly used by the MOH for monitoring the results in service delivery or systems strengthening. There was reliance mainly of the information coming from the various programs, as there are gaps between the various data -sets and the link between HMIS and M&E has not yet been made. There are significant data gaps in data collection and uncertainty about its reliability. There are challenges in information use due the issue of denominators. The country should consider investing in common data architecture.

With regard to financing and funding, the HSSDP I shows only recurrent expenditure andneither investment costs, nor details about spending per region or per area of intervention. Government funding is incremental, limiting the scope for funding of new priorities and interventions. With the general absence of data on Health Care Financing, the high Out Of Pocket Expenditure (OOP) could indicate high levels of catastrophic and unmet needs.

The main emerging recommendations from this situational analysis have been summarised from MTR report, Situational analysis report and the HMIS 2015 report and have been summarised in the table below and forms the basis of development of the Key Strategies for the HSSDP II.

Table 5: Summary of key unfinished business

	Recommendations to be included in the strategies of the HSSDP-II	Responsible
SERVICE DELIVERY	Develop a Comprehensive Health Care package Align all program plans to the next HSSDP in terms of timeline, indicators / targets and budget	Joint Consultation
	Accelerate construction of MWH, Expand B-EmONC and C-EmONC	F&CH
	Initiate Nutrition Prevention Program and strengthen coordination with other sectors	Nutrition
	Expand and improve the work of CHW guided by an integrated comprehensive community strategy	PPD, F&CH
	Develop a new FP Policy with focus on spacing Improve Post-Abortion Care (PAC) services	F&CH
	Increase focus on Neo-Natal care.	F&CH
	Participate in the development of a National Multi-sector Nutrition Program	F&CH
HEALTH SYSTEMS	Develop a Systems Investment Plan, in which infrastructure, HRH, HIS are all included	HRD
	Develop national standards for procurement of goods; Strengthen coordination between PMU and General Services Division	PSM, PMU, GSD
	Develop a health emergency plan for National and Regional levels	HCSD
	Initiate a Quality of Care Improvement Strategy for the hospital sector	HCSD
	Prepare accreditation of Quality Control Lab	NMFA
	Ensure funding for repair and maintenance. Update the workshop with adequate tools Extend survey on HF conditions and update HF Master list	MBEU, HCSD
	Develop Legislation for NBTS and strengthen open IT data system, aligned to HMIS	HCSD
	Conduct an Institutional review of the MOH and align its functions to the new HSSDP.	Joint Cons.
	Develop a new HRH Strategy; Address HRH attrition; explore non-monetary retention schemes	HRM
	Initiate a Logistic Management Information System (LMIS)	PSM-LMIS
	Develop medical equipment policy and establish standard list of medical equipment Develop long-term national infrastructure development plan	GSD Eng. Div
	Develop policy for imaging and diagnostic services	HCSD
	Evaluate the impact of introduction of Private Services in Public Facilities to the health sector	HCSD
	Review and update health sector legislation	Legal Affairs
	Develop a comprehensive national health act	Legal Affairs
Planning	Align HSSDP with NCD and all national programs Align Planning cycles from 2017 and align HSSDP to the post 2015 UHC Agenda	PPD
	Start working on Situational Assessment; Burden of Disease Assessment; STEPS survey; M&E revision; HH expenditure study, NHA, and Infrastructure Assessment.	Joint consul.
	Initiate a web-based National Data Warehouse for HMIS, Review core set of indicators and develop a meta-data dictionary	HRM/HRD
	Initiate Annual Review and Planning meetings with all partners	PPD
	Develop HMIS / M&E guidelines and a training plan for in-service training	HIS
	Widen stakeholder participation in the HMIS / M&E development of HSSDP II	PPD, HIS
	Increase non-MOH stakeholder involvement; Institutionalize decentralised data-analysis, demand and use	HIS
	Implement relevant DHIS-2 modules (GIS)	HIS
Health Care	Develop a Health Care Financing Strategy	Finance Div
	Design evidence-base transition towards UHC	Joint consul
	Accelerate generation of critical HF information: conduct NHA, do a costing study and a HH living conditions survey	Joint consul

Recommendations to be included in the strategies of the HSSDP-II		Responsible
	Include key finance indicators in M&E framework for HSSDP II	M&E
	Design progressive pre-payment scheme Involve CSO and FBO in identification of the poor and HH classification	Finance Div
	Explore opportunities for Public Private Partnership	Joint consul
	Improve coordination, harmonisation and alignment of health resources from all sources.	Joint consul

CHAPTER 3: HSSDP II STRATEGIC DIRECTION

3.1 Introduction

The previous two chapters have highlighted a number of elements that need to be taken into consideration, in the HSSDP II. It is widely noted that health is recognized as an essential component of human development. The HSSDP II should consider the adoption of various declarations and calls for action including the Health-for-All Policy for the African Region in the 21st Century; the unfinished business of the 2000 United Nations Millennium Declaration; the Abuja Declaration of 2001 related to allocation of 15% of the public budget to the health sector; the call for Malaria Elimination; and the Nairobi Call to Action on Closing the Implementation Gap in Health Promotion (2009); the common African position (cap) on the post-2015 development agenda; Agenda 2063 – The Africa We Want, the SDGs etc... Furthermore, the HSSDP II should build on the achievements of the HSSDP I and to tackle current, emerging and re-emerging priorities as identified in the situation analysis.

3.2 Emerging issues

i) In alignment with the global agenda, the health sector needs to define a clear path towards assuring universal health coverage with critical essential health and related services that the people of Eritrea require for them to attain their health goals. A number of shifts in strategic and operational focus are required, as shown in the table below

Table 6: Key shifts in the health sector focus

	From	To
1	A basic package of services made up of a limited number of services targeting the rural poor	An essential package of services made up of comprehensive services targeting all persons health needs
2	Definition of services based on current affordability – with a strategic focus on scarcity and downsizing	Definition of services based on what is needed, with a plan to progressively make these available – managing growth to UHC
3	A focus on acute and infectious diseases mainly targeting women and children	A focus on all health risks affecting each life cohort, from pregnancy to elderly persons
4	A focus on interventions directly addressing diseases relating to major causes of ill health and death	A focus both on direct causes of ill health and death, but also on their risk factors particularly unsafe sex, smoking, physical inactivity, alcohol abuse and unhealthy diets
5	Government role primarily defined around provision of all services	Government role defined around both provision of services, but also coordinating the provision of non-public services through establishing PPPs
6	Donor-recipient relationship with partners	Co-production of health results with partners, where successes and failures are jointly owned
7	Focus on services at primary care facilities	Balancing primary, secondary and tertiary services in recognition of the key role of the continuum of care
8	Health is a right and is cheap to attain	Health is both a human right, and a contributor to economic development and so makes good value for money
9	Focus of sector actions are primarily around improvement in access to a basic package	Sector actions are not only focused on improving access, but also on improving quality, available services and financial risk protection

ii) The investments being made need to take cognizance of the fact that there are new and re-emerging health threats, and so resilience of the health systems needs to be factored in. This should ensure that

even when there are health threats, service provision is able to continue as the threat is addressed. This calls for identifying and/or strengthening

a. Community resilience, focusing on improving their capacity to identify, respond to and manage health threats
b. Facility resilience by reorganizing the health service provision through taking diagnostic and response capacities lower by expanding community hospitals as the 1st level referral
c. National resilience through improving the capacity of the national Ministry of Health to predict and facilitate response to outbreaks and disasters

3.3 Sector vision and goal

The theme, vision and mission as articulated in the National Health Policy are as follows:

Theme: **Healthy Eritreans!**

Sector Vision: Improved health status, wellbeing, productivity and quality of life of the Eritrean people with an enabling and empowering environment for the provision of sustainable quality health care that is effective, efficient, acceptable, affordable and accessible to all citizens.

Mission: To promote and provide high quality promotive, preventive, curative and rehabilitative health care services to the Eritrean people

Goal: Essential quality health and related services efficiently and equitably available to all Eritreans, in line with their specific individual and communal health needs.

The goal ensures key characteristics of the required services that include:

- All the services essential to the health needs of the people of Eritrea are being provided
- There is appropriate quality of care in service provision, with client experiences and expectations being met
- Both health, and related social determinants are being focused on
- There is both efficiency in provision of services, with innovative models of care being used to ensure increased productivity of the health system
- Services are made available in an equitable and fair manner
- Services are tailored to the needs of the people through ensuring a person centred focus of service provision, and so increasing their own productivity

3.4 HSSDP II health targets

To measure attainment of this goal by 2021, the health sector shall use the following targets to measure its progress.

Table 7: HSSDP II impact targets

Impact indicators	Current estimates	Target
Life expectancy at birth	64.7	68
Overall mortality (per 100,000 persons)	1,297	1,000
Communicable diseases (per 100,000 persons)	*506*	*406*
Non communicable diésasses (per 100,000 persons)	*671*	*600*
Violence and injuries (per 100,000 persons)	*119*	*89*
Age specific mortality:		
Maternal mortality (per 100,000 live births)	501	359
Neonatal mortality (per 1,000 live births)	18.4	15
Infant mortality (per 1,000 live births)	34	25
Under 5 mortality (per 1,000 live births)	47	32
Adolescent mortality		
Adult mortality (per 100,000 persons)	264	200
Incidence rates of targeted conditions:		
Tuberculosis	78/100,000	63/100,000
Cancer		Reduction by 10% from baseline
Malaria	11.4/1,000	6.05/1,000
Hepatitis B and C		Reduction by 20% from baseline
Prevalence rates of targeted conditions		
HIV	0.93	0.5
Tuberculosis	123/100,000	99/100,000
Tobacco use amongst adolescents		10% reduction from baseline
Alcohol use amongst adolescents		10% reduction from baseline
Raised BP at age 18+ (≥140 and/or ≥90 mmHg)		5% reduction from baseline
Overweight and obesity in adolescents (BMI 25, 30)		5% reduction from baseline

3.5 HSSDP II principles and values

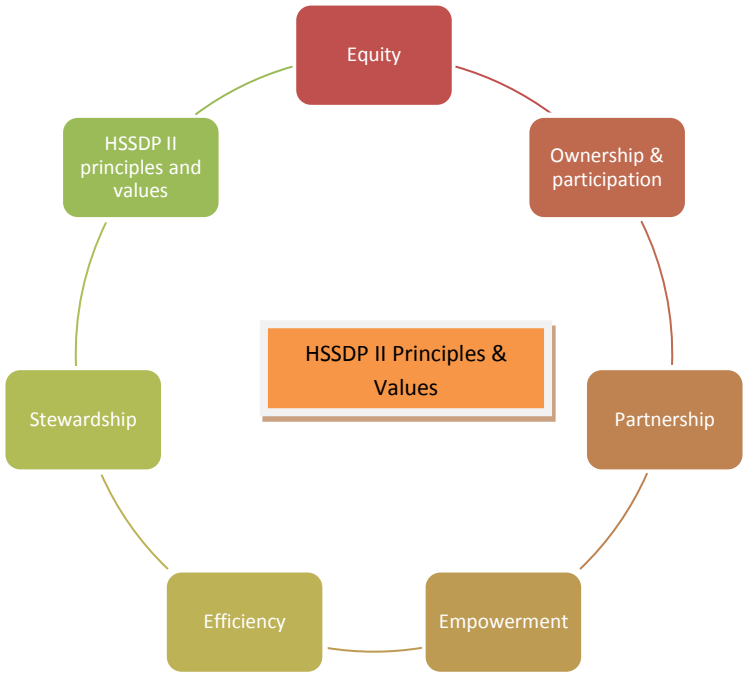
The HSSDP II principles and values are derived from the National Health Policy and are as follows:

- **Promote equity** in provision of health service: this refers to distribution of costs and benefits of health services to all people, regardless of their location, ethnicity, gender, age, social, economic, cultural and political status.
- **Ownership & participation: under decentralisation**, the aim is to enhance client-oriented services that improve the general satisfaction of the people regardless of their social status. This will be achieved by facilitating higher levels of participation in identification of health problems,

prioritisation, planning, monitoring, and budgeting decisions. Participation and decision-making in prioritisation, planning, budgeting, implementation progress reviews by the zobas and sub-zobas will therefore, be fundamental to enhancing community ownership and partnership with a special emphasis on women's groups.

- **Partnership**: The partnership principle will be facilitated through inter-sectoral collaboration at community, sub-zoba and zoba levels on the one hand, and involvement of the wide spectrum of opinion/influence leaders on the other hand. This entails partnership with other government departments, development partners, traditional healers, etc.
- **Empowerment:** The household is the most crucial and effective unit for production of health. Individuals in households with adequate knowledge and skills about prevention of illnesses are able to take timely corrective measures and maintain a healthy lifestyle. It therefore, follows that empowering the individual and households by reaching them through varied social groupings would improve people's lifestyles which in turn would improve the individuals' overall health status. Empowerment will be through a participatory approach in development and implementation of culturally acceptable and scientifically sound health promotion activities.
- **Efficiency:** This will involve rationalisation of health inputs to ensure maximum health outputs and outcomes.
- **Stewardship:** the MOH will provide leadership through development and provision of policies, strategies, guidelines and technical support to facility and Zoba governance structures. MOH will provide oversight for service delivery and regulate health services provided by the private sector with a special emphasis on vulnerable groups and enhancing access to quality health services.

Figure 9: HSSDP II principles and values



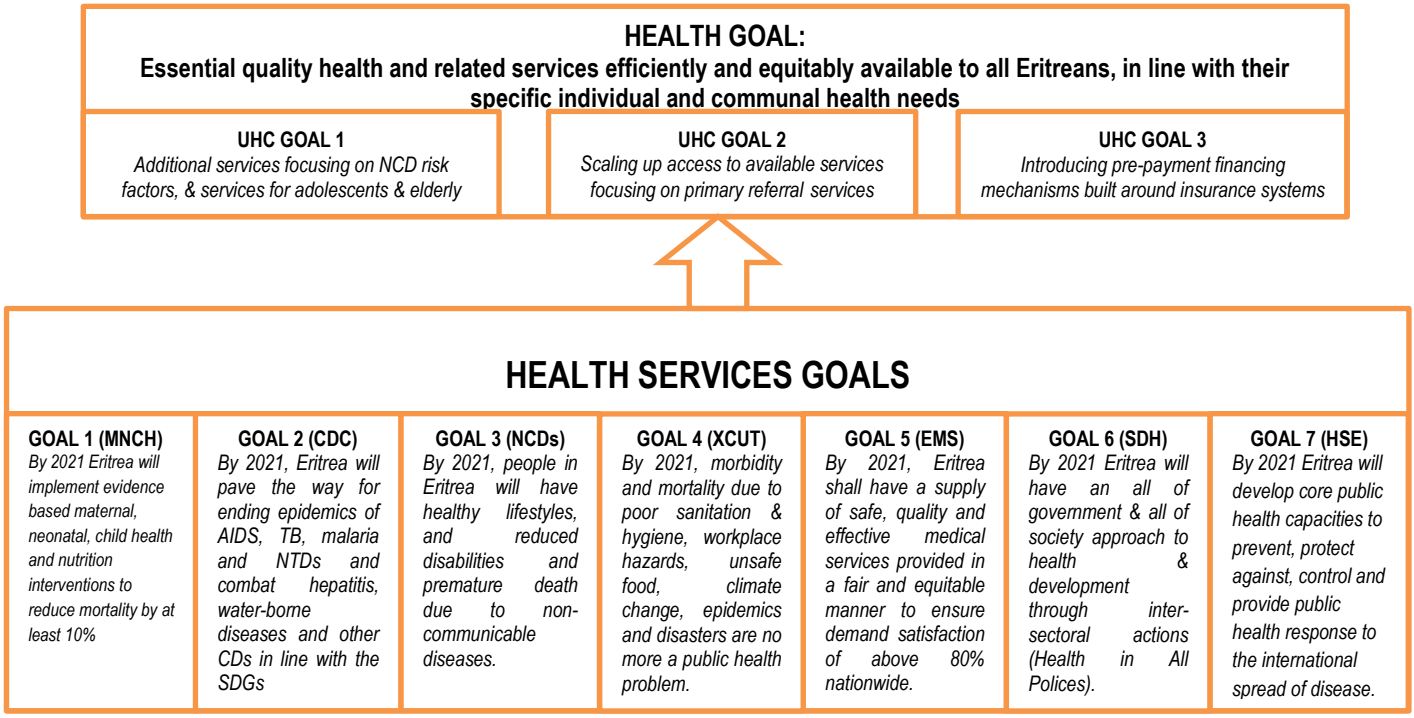
3.6 Universal Health Coverage focus

In line with the sector goal, the move towards universal health coverage will focus on attaining the following goals:

- Additional services made available focusing on NCD risk factors, and services for adolescents and elderly persons and expanding of continuum of care to include sub-specialities.
- Scaling up access to available services focusing on primary referral services (community hospital) services
- Improving financial risk protection in a sustainable manner, through introducing pre-payment financing mechanisms built around insurance systems

These goals are to be attained through a focus on attainment of specific targets at the health services, and health systems levels as shown below

Figure 12: Overall, services and system investment goals



CHAPTER 4: HSSDP II HEALTH SERVICES PRIORITIES

4.1 Maternal, neonatal and child health and nutrition

Goal

By 2021 Eritrea will implement comprehensive maternal, neonatal, child health and nutrition interventions to reduce maternal mortality by 48%, neonatal mortality by 14% and child mortality by 31%.

Strategic focus

During the period 2017-2021, Eritrea will strategically focus on the following intervention areas;

1. Empowering individuals, families and communities for improved healthy sexual and reproductive Health behavior and timely utilization of RMNCH services
2. Provision of accessible quality FANC, EmONC, PPC, PAC, FP services
3. Strengthen essential new born care
4. Advocacy for implementation of reproductive health strategies at all levels
5. Initiation of infertility prevention and management service.
6. Improvement in the quality of care for children under five years of age through IMNCI strategy at the health facility, scale up community level and hospital level care
7. Provision of comprehensive training on case management of the sick child (i.e. strictly adhering the IMAM, IMNCI and C- IMCI protocols)
8. Strengthening the Management of under 5 SAM/MAM children at facility and community level
9. Ensuring uninterrupted supply of Therapeutic foods and drugs for malnourished children, pregnant and lactating mothers
10. Revitalize and scale up BFHI
11. Provision of vitamin A supplementation to children 6-59 months every six months
12. Secured adequate vaccines and storage capacity at all levels to have potent vaccines for immunization activities.
13. Ensuring accessible and equitable immunization service for children 0-59 months using RED/REC approach in all districts.
14. Social mobilization activities to enhance timely uptake of vaccine doses for children under one year old.
15. Introduction of new vaccines
16. Establishment of adolescent friendly services

Key innovations

The key innovations that will be implemented during the period of the strategy will include the following;

(i) Introduction of home-based maternal and neonatal care through utilization of community health care workers
(ii) Initiation of prevention, screening and management of reproductive organ cancer at all levels.
(iii) Adoption of the International Code of Breast Feeding Substitutes (BMS Codes) aimed at preventing artificial formulas.

(iv) . Initiation of infertility prevention and management service.
(v) Community-based distribution of FP commodities
(vi) Provision of Long lasting contraceptive methods at the health centres and health stations
(vii) Development of complementary food menu booklet with available food ingredients in the country
(viii) Collaboration with Ministry of Information for mass media communication on complementary feed, growth monitoring and development
(ix) Conduct EVMA and Cold-chain inventory to identify gaps and shortages to develop replacement plan for CC equipment's.
(x) Integrated RMNCAH Community involvement on micro planning at district level to address population groups in less accessible geographical areas.

Indicators and targets

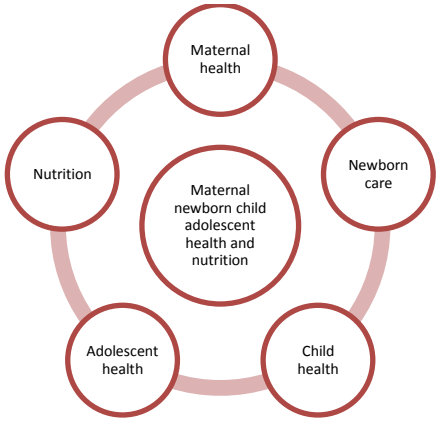
Table 8: Priority interventions for maternal, neonatal, child health and nutrition

Coverage targets for maternal, neonatal, child health and nutrition

	Coverage Indicator description	Source of data	Means of verification	Indicator targets				
				2017	2018	2019	2020	2021
1	Antenatal care coverage – at least four visits (%)	HMIS Report	DHS	40	50	60	65	70
2	Births attended by skilled health personnel (%)	HMIS Report	DHS	40	45	50	55	60
3	Immunization coverage rate for Penta-3 and MCV1 (%)	HMIS Report	DHS	96	98	99	99	99
4	Contraceptive prevalence rate (%)	HMIS Report	DHS	3.2	5	7	9	11
5	Exclusive breastfeeding rate (%)	DHS	DHS	69	72	75	78	81

The service areas are as follows

Figure 10: Service areas for maternal newborn child health and nutrition



The priority interventions and milestones each are highlighted in the table below

Priority interventions

		Priority interventions	**Milestones**			
				Baseline target	*Mid-term target*	*End term target*
No	**Service area**	**Priority intervention**	*Indicator Description*			
1	Sexual and Reproductive health services	Increase availability of skilled care attendant at birth	% of women delivered by skilled birth attendant	40	50	60
		Increase ANC visits at first trimester	% of facilities providing c-EmNOC services	5	35	60
		Increase FP coverage	% of facilities providing reproductive health organ cancer screening services	0	25	50
		Increase the uptake of postnatal care				
		Expansion of maternity waiting homes				
		Strengthen and expand c-EmNOC delivery services				
		Establish the Reproductive organ cancer services at all level				
		Establish Infertility services				
2	Newborn care	Scale up capacity building for essential new born care	% of health facilities equipped with essential equipment's and materials for neonatal care	7	35	60
		Strengthen capacity building of health care workers on essential new born care	# and % of health care workers trained on neonatal care	50 /1.3%	100 /2.6%	250 /7%

		Introduce home based maternal and new born care at community level				
3	Child health	Strengthen HFs for implementing IMNCI	Number and % of the facilities with at least 1 HW trained in IMNCI	164 (61%)	200 (74%)	230 (85%)
		Expand C-IMCI into new villages/kebabis	Number of villages/kebabis implementing C-IMCI	333	380	450
4	Adolescent health	Scaling up AYPF SRH Services	Number of health facilities providing AYPFH services	3	15	25
		Training of health workers on AYPFSRH	Number of health workers trained on AYPFSRH	96	288	480
		Training of peer promoters on AYPFSRH				
		Introduce AYPFSRH program at health facilities				
		Community sensitisation including youth, parents teachers, religious leaders on AYPFSRH	Number of community members sensitization sessions	12	36	50
5	EPI	Strengthening routine and outreach vaccination services	Dropout rate between Penta 1 and Penta 3	3%	2%	1%
		Introduction of new IPV through routine and outreach vaccination services	%HF equipped with photovoltaic solar systems	80%	85%	90%
		Introduction of MR vaccine through routine and outreach vaccination service	%HF submitting AEFIs reports monthly, including zero reports	45%	65%	80%
		Strengthening routine and outreach vaccination service for Rota Virus				
		Defaulters tracing activities during AVW and CHNW				
		Implementation of RED/REC approach in less accessible areas and nomadic population				
		Improve access and utilization of immunization service irrespective of social background				

		Strengthen cold chain systems to assure vaccine quality				
		Procurement of refrigerators and cold rooms				
		Training and awareness raising activities on health workers on AEFIs				
		Procurement and delivery of vaccines according based on schedule and target population				
6	Nutrition	Revitalize the Baby Friendly Hospital Initiative				
		Strengthening Growth Monitoring and Promotion	% of facilities practicing GMP	40%	60	80%
		Uninterrupted pipeline of therapeutic supplies (foods, drug and equipment)				
		Vitamin A supplementation for children <5 years	% of children 6-59 months supplemented with Vit A	83%	90	95
		Household consumption of Iodized Salt	% of Households with consumption of iodized salt	90	>90	>90
		Strengthen the Nutrition Surveillance System				
		Strengthen the capacity building of the nutrition staffs				
		Roll out infant and young feeding program	Number of Zoba's implementing infant and young feeding program	0	3	6

4.2 Prevention, Control and Management of Communicable Diseases

Goal

By 2021, the MOH will pave the way for ending the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases in line with the sustainable development goals.

Strategic focus

In order to prevent, control and end the above epidemic diseases, the MOH will scale up all the preventive, curative and control activities and services of these communicable diseases to the lowest level of health facilities including the community. It will implement cost effective and high impact interventions by identifying and targeting vulnerable and key population groups that are highly affected by these diseases. It will create a platform for the involvement of multiple stakeholders including the community and the key populations highly affected by the targeted diseases.

Key innovations

The MOH will strengthen the existing high impact and cost-effective interventions of known effectiveness in preventing and controlling the targeted diseases. Moreover, integrated approach will be used to enhance the control of HIV/TB, HIV/Hepatitis/STI and Malaria with other vector borne diseases. Integrated surveillance and control activities, data collection using modern technologies will be pushed to the limit to make the next five years the stepping stone to ending the targeted epidemics. Introduction and expansion of new point of care diagnostic tools and novel drugs which are expected to improve the diagnosis and treatment of existing diseases such as tuberculosis, hepatitis, HIV, etc. are areas that will be given priorities.

	Coverage Indicator description	Source of data	Means of verification	Indicator targets				
				2017	2018	2019	2020	2021
1	Proportion of population sleeping under LLIN and/or living in a household sprayed with IRS in the last 12 months	Malaria Indicator survey	DHS	NA	NA	0.9	0.9	0.9
2	Number and percentage of adults and children receiving HAART	ART register	Quarterly report by zonal HIV coordinators	8,432/ 13125 (64%)		12,176 /15220 (80%)		13,779/ 15310 (90%)
3	Case notification rate of all forms of TB per 100,000 population	HMIS Report	DHS	27	29	31	33	35
4	Treatment success rate of MDR-TB : Percentage of bacteriological confirmed drug resistant TB cases (RR-TB and or MDT-TB) successfully treated	HMIS Reports	DHS	91		93		95
5	% of eligible population receiving MDA for schistosomiasis	HMIS Report	DHS	90		95		98
6	% of diagnosed hepatitis C cases treated	HMIS Report		5		25		50

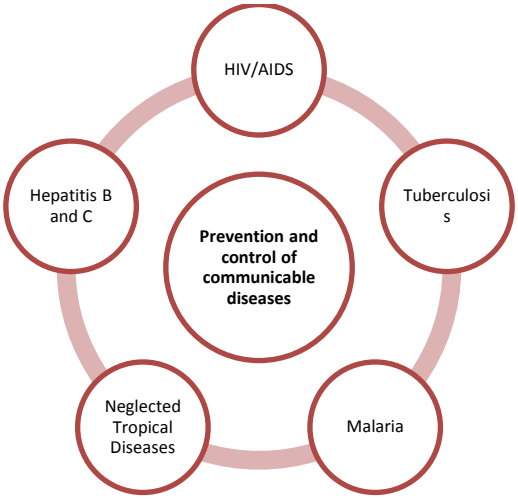
Table 9: Coverage targets for prevention and control of communicable diseases

Service area	Priority interventions	Indicator description	*Baseline (2017)*	*2019*	*2021*
Malaria	Sustain universal access to LLINs	Number of pregnant women in Malaria endemic areas who have received LLINS	60,143	130,777	138,203
	Scale up diagnosis and treatment of malaria cases at all levels including village levels	Proportion of fever cases tested for malaria	NA	99%	100%
HIV	Test and treat all HIV infected adults and children with HAART irrespective of CD4 count and clinical stage	Number of Male and Female clients of all ages who received an HIV test and know their result	82,000	85,000	90,000
		Number and percentage of adults and children receiving HAART	8,432/13125 (64%)	12,176/15220 (80%)	13,779/15310 (90%)
		No of health care workers trained in comprehensive HIV care	360	1,080	1,800
	Test and treat all HIV infected pregnant women and diagnose early all HIV exposed infants	no. of HIV test kits procured	85,900	90,000	95,000
		No; of condoms procured	5.8 Million	6.5 Million	7.0 million
	Expanding and strengthening prevention services (HCT, condom, BCC) by prioritizing key populations of higher risk (KPHR) including Female Sex Workers (FSW), Truck Drivers, Young Women, and prisoners				
	Early diagnosis and appropriate treatment of STIs	Percentage of cases with drug resistant TB (RR-TB and/or MDR-TB) started on treatment for MDR-TB	32/32(100%)	43/43(100%)	52/52(100%)
		% of bacteriologically confirmed TB cases confirmed successfully treated	91	93	95
TB	Scale up diagnosis and treatment of TB cases at all levels of health care	% of HIV-positive registered TB patients receiving ART during TB treatment	93%	95%	97%
		Number of Health care workers trained on MDR TB treatment management			
		% of eligible TB patients receiving DST			
	Scale up diagnosis and treatment of MDR-TB cases at all levels of health care	Number of bacteriological confirmed, drug resistant TB cases (RR-TB and/or MDR-TB) notified	32	43	52
	Strengthen identification and management of TB/HIV confection				
NTD	MDA to schistosomiasis endemic sub zones	% of eligible population receiving MDA for schistosomiasis	90%	95%	98%
	MDA to LF endemic sub zones	% of eligible population receiving MDA for LF	90%	95%	98%
Hepatitis	Establish and scale up diagnosis and treatment centers of viral hepatitis infections	% of diagnosed hepatitis C cases treated	5%	25%	50%

Priority interventions

The service areas are as follows

Figure 11: Service areas for prevention and control of communicable diseases



The priority interventions and milestones each are highlighted in the table below

Table 10: Priority interventions for prevention and control of communicable disease

4.3 Prevention and Control of Non-Communicable Diseases

Goal

To ensure healthy lifestyle, reduce disabilities and premature death due to non-communicable diseases.

Strategic Focus

Basically the prevention and control of Non-communicable diseases focuses on the promotion of lifestyle and change of behaviour on the risk factors of non-communicable diseases. Furthermore, it will focus on early diagnosis and treatment of diseases either genetically acquired or due to poor lifestyles. The diseases included in this group are major non-communicable diseases (cardiovascular, Diabetes, Cancer and chronic respiratory diseases), mental illnesses, oro-dental and ENT diseases, injuries and violence, and/or muscloskeletal diseases, eye diseases including trachoma.

Key Innovations

Linking health promotion and NCD prevention and control to build favorable environment and create strong multi-sectoral collaboration/ partnership as well as service users and community involvement. The integration of the programs in the primary health care level shall be given high priority. Moreover, school health programs will be institutionalized and facilities will be equipped with the necessary human resources, equipment and supplies.

Indicators & Targets

These are shown on the table below

	Coverage Indicators (Outcome)			**Indicator Targets**				
		Source of data	Means of verification	2017	2018	2019	2020	2021
1	Cataract surgical rate/per million			2000	2400	2880	3168	3802
2	Tobbacco use among persons aged > 18 years (%)	STEPS Survey	DHS	4.4	4.2	4.0	3.8	3.5
3	Probability of dying from any of CVD, cancer, diabetes, CRD between age 30 and exact age 70 k (%)			24.2	22	21	20	18
4	Increase percentage of health seeking behavior of community members for NCDs by 10% every		DHS	10	20	30	40	50

	year							
5	Road traffic mortality rate (per 100 000 population)		DHS	24.1	23	22	21	20

Table 11: Coverage targets for prevention and control of non-communicable diseases

Priority Interventions

The service areas are as follows

Figure 12: Service areas for prevention and control of non-communicable diseases

The priority interventions and milestones each are highlighted in the table below

Table 12: Priority interventions for prevention and control of non-communicable diseases

No	Service area	Priority interventions	Indicator description	*Baseline (2017)*	*2019*	*2021*
1	Major Chronic Diseases	Capacity building for Health workers at health centre level	% of Health workers Trained on WHO-PEN Protocol	30%	60%	100%
		Develop Health promotional materials				
		Strengthening and expansion of NCD corners equipped with basic medical necessities	# of established NCD corners	40	130	190
		Promote healthy life style through school health program intervention.				
2	Oro-dental	Capacity building of Health workers	# of trained health workers or oro dental and ENT	0	330	550
		Development of policy and strategy on Oro dental and ENT	Policy and strategy developed	0	1	1

		Increase community sensitization on Oro-dental and ENT health	# of people sensitized on Oro-dental and ENT	0	21000	35000
		Conduct survey of the main ORO DENTAL & ENT health situation	% of health facilities providing oro-dental and ENT services	0	25%	50%
		Conduct regular Monitoring & Supervision				
3	NBPP	Provision of eye care services				
		Increase Cataract Surgery	no; opf people attending for catract surgical services	8000	12,800	16,000
		Increase Trachoma (TT) Surgery	no; of community sensitization campaigns undertaken	4	6	8
		Conduct MDA distribution campaigns in all trachoma endemic areas	% of adult population sensitised through campains	0.5	0.7	0.9
4	Injuries and violence	Capacity building in injury and violence prevention	# of health workers trained on injuries, violence & disability	250	600	800
		Community Sensitization	# of people sensitized on prevention of injuries and violence	0	7,000	9,000
			Training material developed			
		Conduct regular surveillance of injuries	# of health facilities who established injury surveillance system	200	250	350
5	Mental health	Capacity building	# of health workers trained on WHO- mhGAP	22	300	600
		Expansion of OPD and IPD Mental Health in secondary and tertiary health care services	% of health facilities providing Mental health services at OPD & IPD	22.5	45	80
		Conduct school-based mental health programs				
		Engage religious and traditional healers in provision of mental health services				
		Ensure availability of essential psychotherapic medication at health centre and health station level.	Percentage of health centers and stations with essential psychotropic medication	0	50	90
		Develop alcohol and other substance use disorder policy and strategic plan to reduce their negative effects	Alcohol and other substance use policy and strategic plan is available	0	1	

		Conduct biannual supportive supervision to facilities with mental health service	Percent of mental health service sites visited and supervised	22.5	45	80

4.4 Cross cutting health interventions

Goal

By the end of 2021 the morbidity and mortality due to poor sanitation and hygiene, occupational hazards, consumption of unsafe food, climate change effects, epidemics and disasters are reduced to the level where they are no more public health problem.

Strategic focus

During the period of the strategic plan, Eritrea will strategically focus on building institutional capacity (development of national policies, Public health acts, guidelines, regulatory frameworks and tools and institution of regulatory mechanisms etc.) to address workplace health and safety, strengthening safe sanitation and hygiene practices, and implementation of safe food handing processes while main streaming climate change interventions in the health sector. Further, the country will focus on implementation of International health regulations, building resilient health systems able to manage and mitigate the effects of climate change, epidemics and disasters. In addition, the country will focus on development and implementation of guidelines and regulations geared towards addressing the social determinants of health.

Key innovations

The country will main stream climate change mitigation interventions in the health sector through development and implementation of guidelines and regulations, training tools geared towards enhancing clean and safe health and work environment. Utility of climate data to predict emergence of climate related public health diseases and events e.g. Malaria, dengue, and predicting the climate change related events. Further the country will promote health and prevent diseases through the development and implementation of public health acts in general and environmental health acts in particular.

Indicators and targets

These are highlighted in the table below

Table 13: Coverage targets for cross cutting health interventions

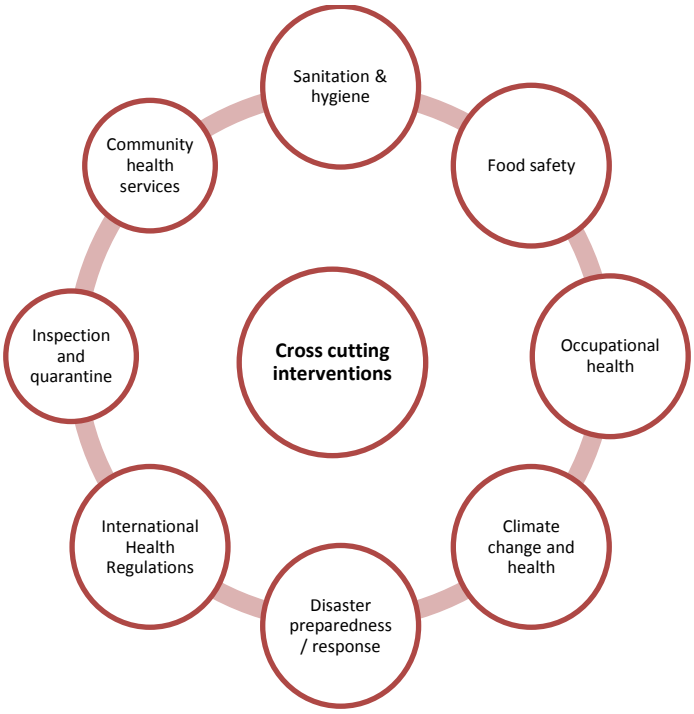
	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
1	Proportion of population using improved sanitation	16%	25%	30%	40%	50%

	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
2	Reduction of food borne diseases	5%	10%	20%	30%	40%
3	Annual mean concentrations of fine particulate matter(PM_{23}) in urban areas($\mu g/m^3$)	35.7%	30.7%	25.7%	20.7%	15.7%
4	Proportion of population with primary reliance on clean fuels (%)	14%	20%	22%	25%	30%
5	International health regulation core capacity index	73	78	85	90	95

Priority interventions

The service areas are as follows

Figure 13: Service areas for cross cutting interventions



The priority interventions and milestones each are highlighted in the table below

Table 14: Priority interventions for cross cutting services

No	Service area			Milestones		
		Priority interventions	***Indicator Description***	***2017***	***2019***	***2021***
1	Sanitation and hygiene	Formulating and using a comprehensive sanitation and hygiene policy	A comprehensive sanitation and hygiene policy develoed	0	1	1
		Developing a comprehensive national sanitation and hygiene strategy				
		Regulatory tools and mechanism used at sub zonal level **(Are these regulatory tools on sanitation?)**				
		Declare villages from defecating in open fields by implementing Community Led Total Sanitation approach	% of villages declaring and sustaining open defecation free	33%	50%	80%
		Equip and strengthen the capacity of laboratories on water quality monitoring				
		Strengthening the skill and proficiency of environmental health staff on water quality monitoring				
		Developing water quality monitoring guidelines and standards	% of health facilities using water quality monitoring guidelines and standards	0	50%	100%

		Development and implementation of sanitation and hygiene data management system				
		Integration of Water, Sanitation and Hygiene and HIV/AIDs to reduce WASH related diseases				
		Safe water handling education conducted	# of rural communities reached with safe water handling education campaigns	700	1300	1900
2	Food safety	Formulating and using food safety and food hygiene policy framework	food safety and food hygiene policy developed	0	1	1
		Developing and implementing national food hygiene and safety guideline				
		Establishing and using food safety and food hygiene information system				
		Strengthening the human capacity of food safety and food hygiene programme to implement necessary services	% health facilities with health care workers trained on food safety and food hygiene.	0	40%	80%
3	Occupational health	Developing and implementing national policy, strategies, standards, and targets for coverage of occupational health services				
		Building national capacity to operationalize the tools and monitor environmental and occupational health impacts				
		Procurement of equipment to assess environmental and occupational health risks				
		strengthen health sector occupational health and safety programme	% of zonal and sub zonal health facilities with sector occupational health and safety programme	0	55%	90%
		Streamline health impact assessment concept to development projects and relevant sectors				

		Building capability of health information system to estimate the occupational burden of diseases and injuries, creating registries of exposure to major risks, occupational accidents and occupational diseases, and improving reporting and early detection of such accidents and diseases				
		Developing tools and guidelines to Incorporate workers' health in the training of primary health care practitioners and other professionals needed for occupational health services.				
		Developing occupational health and safety act				
		Promote work place safety and wellness	# of workplace safety and wellness program	4	8	12
			# of people tested for NCDs at joint wellness programmes	400	800	1200
4	Climate change and health	Assess health risks and develop and implement policies, strategies for the prevention, mitigation and management of the health impacts of climate change.	% of health facilities utilizing climate friendly energy solutions (facilites using solar power only)	0	10%	30%
		Develop and implement health and climate change strategic plan				
		Developing and implementing regulations for the prevention, mitigation and management of the health impacts of climate change				
		Development and implementation of National Plans of Joint Action (NPJA) on Health and Environment for Eritrea	Number of institutions implementing NPJA on health and environment	0	10	15
		Strengthening of national public health capacity for preparedness and response to environmental emergencies, related to climate, water, sanitation, chemicals and air pollution.				
		Developing and implementing guidelines and adapting tools and methodologies for preventing and managing the health impacts of climate change and other environmental and occupational risks				
		Establish drought early warning systems				
		Improve the quality of water supply and sanitation systems				
5	Disaster/ Emergency Preparedness and Response	Establish disaster preparedness and response programme				
		Developing national policy on disaster preparedness and response	Strategy and guideline on disaster preparedness and response	0	1	1

		Developing national strategies and guidelines on disaster preparedness and response	Number of zones with disaster preparedness and response programme	1	6	6
		Strengthen national capacity on preparedness and response to environmental emergencies and their public health concerns				
6	IHR	Carry out core IHR capacity assessment	IHR core capacity assessment report available	-	Y	Y
		Build the capacity of port health staff	% of port health staff trained	25%	50%	100%
		Build the diagnostic capacity of laboratory	International health regulation core capacity index	73	85	95
		Integrate PH emergency preparedness and response plan with the point of entry (POE) contingency plans with the IHR compliant air, sea, and ground crossings plan				
		Strengthening leadership and governance systems				
		Develop SOPS and guidelines for ERC				
		Printing SOPs, policy, strategy documents and guidelines				
		Building capacity for information system				
		Advocate for financing of IHR initiatives				
		Capacity building of health workers on TOT for ERC	Number and % of trained health workers on ERC	0	50(450)%	100 (900)%
		Develop and implement preparedness and response plan for PHEIC	PHEIC response plan developed	0	1	1
		Conduct outbreak simulation exercise one time per yr/zone				
		Establish/strengthen Early warning system				
		Procurement of PPE and Pharmaceuticals, vaccines, scanners,	Number and percentage of PoE equipped with PPE and associated suppliers	0	4(100%)	4(100%)
		Strengthen laboratory capacity and establish networking in-line to IHR				
		Conduct risk mapping				

		Strengthen POE (8 Computers, 8 printers, 4 cold chain, furniture)				
		Support communication connectivity to all PoE and Zobas (6 Zones)				
		Continuous Identification and notification of new cases of IHR reportable diseases	Availability of IHR related reports in DHIS 2	Y	Y	Y
7	Inspection & Quarantine	Ensure availability of vaccination for all international travellers by procuring vaccines against Yellow fever& meningitis	**% of travellers vaccinated with the necessary vaccines**	100 %	100%	100%
		Applying inspection principles & techniques on passengers ships (on ssc) at two sea ports	Number and % of inspection staff trained on inspection principles and techniques	20 (25 %)	(40)50%	(80)100%
		Equipping of inspection kits	% of points of entry equiped with inspection kits	0	(8)50%	(16)100%
		Establishing /strengthening isolation rooms at four POE				
		Formulation of acts on public health (environmental health)				
8	Community health services	Definition of comprehensive, integrated community approach, that takes into consideration all the services to be provided at community level	Integrated and comprehensive community health strategy	0	1	
		Roll out of integrated and comprehensive community health strategy	Zobas implementing integrated and comprehensive community health strategy	0	3	6
		Migration of current standalone community health workers and systems into integrated and comprehensive community approach				

4.5 Essential Medical Services

Goal

By 2021, Eritrea shall have a supply of safe, quality and effective medical services provided in a fair and equitable manner to ensure demand satisfaction of above 80% nationwide.

Strategic focus

The sector will focus on introduction of critical medical services in the different levels of health facilities in line with agreed protocols and standards, providing continuous on job training of health workers regarding the existing and new management standards and protocols, implementing quality management systems, and procurements of essential inputs (human resources, infrastructure, medical equipment, diagnostics and supplies) needed for delivery of services as well as mobilizing individuals and communities to contribute to services.

Key innovations

- Standardization of medical services being provided across the country to ensure equity in access. This shall be through a focus on:
    - Availability of services based on agreed standards for each level of care. New services will be introduced for each level of care based on the agreed services for the level
    - Functionality of facilities by identifying and investing in critical missing inputs (human resources, infrastructure and equipment, plus medical products) that are needed for the provision of the required services
    - Readiness of facilities to provide services, by focusing on key hindrances to service functionality such as electricity, water, sanitation and other readiness investments
- Strong emphasis on quality of care and person-centeredness in provision of services, to improve satisfaction with services and service outcomes

Indicators and targets

These are illustrated in the table below

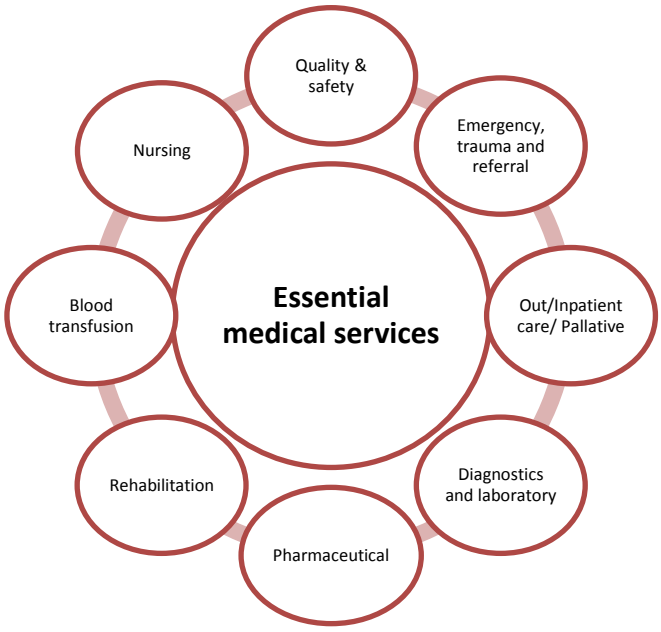
	Coverage Indicator description	Source of data	Means of verification	Indicator targets				
				2017	2018	2019	2020	2021
1	Facility based under five deaths per 1000	Health facility records	DHS	47	43	39	35	32
2	% of clients satisfied with services			70%	75%	80%	83%	85%
3	New outpatient utilization per person per year			70%	80%	85%	90%	90%
4	Service readiness index			40%	50%	55%	65%	70%
5	Institutional maternal deaths	Facility records	DHS	380		300		250

Table 15: Coverage targets for hospital, emergency and integrated essential medical care

Priority interventions

The service areas are as follows

Figure 14: Service areas for hospital, emergency and integrated essential medical care



The priority interventions and milestones each are highlighted in the table below

Table 16: Priority interventions for hospital, emergency and integrated essential medical care

No	Service area	Priority interventions	Milestones			
			Indicator description	*2017*	*2019*	*2021*
1	Quality and safety	Develop policy for coordination, planning, organization and management of medical services across levels of care	% of health centres upgraded to community hospitals in line with the required standards and norms	5%	25%	50%
				5%	10%	50%
		Develop and enforce clinical standards, guidelines, protocols and procedure manuals for all services at all levels of care				
			% of facilities adhering to clinical standards		15%	50%
		Introduce a person centred approach to delivery of services			1	
				65%	75%	85%
		Establish strategies to improve quality and safety of services	National patient safety policy and strategy developed		1	
			% of facilities with functional health care waste management services in line with standards	45%	55%	80%
			% of hospitals with functional Infection prevention and control committees	45%	65%	100%
		Management and leadership capacity building				
			% of hospitals managed by trained managers	10%	50%	60%
2	Emergency referral and trauma services	Establish functional accident and emergency units in all ZRHs	# of ZRHs offering emergency and trauma services	1	4	6
		Provide an effective emergency ambulance system	National protocol for emergency ambulance services	1	1	1
		Put in place a functional national referral system				
		Strengthen all hazards health emergency and disaster risk management in facilities				

3	Ambulatory (outpatient) services	Assure provision of 24 hour outpatient services in all hospitals				
		Establish functional ambulatory services (general, and specialized) in all facilities according to standards	Standards for ambulatory services by level of service delivery	1		
					65%	100%
4	In patient services	Establish functional operative services in all community and zonal hospitals	% of hospitals offering emergency caesarean section	40%	55%	100%
		Establish functional in patient services in all community and zonal hospitals in line with norms and standards				
			Hospital bed density			
5	Diagnostic services	Quantify needs for infrastructure, equipment and supplies and staff for laboratory services at all levels of care	laboratory services norms and standards developed		1	
			% of laboratories with services in line with standards		10%	45%
		Improve the organization and management of laboratory services				
		Establish functional imaging and radiology services based on needs at each level of care	Imaging and radiology service standards and protocols in place		1	
			% of facilities providing functional imaging and radiology services according to standards and protocols		10%	45%
		Procure equipment, reagents and other supplies				
			% of facilities with stock outs of tracer equipment and reagents	5%	3%	2%
		Training of lab. Staff	% of newly hired Lab staff who have received on job training	40%	50%	65%
		Strengthen quality management system	% of, National and regional laboratories including NHL and NBTS participating in external proficiency tests	50%	75%	85%
6	Pharmaceutical services	Establish functional pharmaceutical services in all community and zonal hospitals in line with standards	Standards and protocols for pharmaceutical services Developed	1		

7	Palliative services	Introduce palliative care in all community and zonal hospitals	Standards and protocols for provision of palliative services in health stations, community and zonal hospitals developed		1	
8	Care for the deceased	Introduce mortuary services in all community and zonal hospitals	Standards and protocols for provision of mortuary services in community and zonal hospitals		1	
			% of community and zonal hospitals with functional mortuary services according to standards and protocols		10%	40%
9	Rehabilitative services	Introduce rehabilitative services in all facilities as per standards			1	
			% of facilities providing rehabilitative services	10%	30%	100%
			% of facilities with disability access	50%	70%	80%
10	Blood transfusion services	Mobilize voluntary blood donors	% of non-remunerated blood donors	80%	90%	95%
11	Nursing services	Conduct assessment on the implementation of existing policies, guidelines and nursing procedures		0	150	250
			IPC policy and guidelines developed		1	
		Develop infection prevention and control policy and guidelines	Number of health workers trained on quality of care	100	500	1500
		Conduct in service training on quality of care for all categories of nurses and A/nurses				
			IPC policy and guidelines developed		1	
		Set up mechanisms to ensure infection control and safety in and outside of health facilities (HCAI and SSI) and form quality assurance committees	Number of health workers trained on quality of care	100	500	1500
			Number of heatth facilities with functional IPC committees in place	5	10	20
		Revise Integrated Supportive Supervision guidelines and checklists				
		Conduct SS at all levels of health facilities	Percentage of health facilities supervised	10%	50%	100%
		Develop training modules and monitoring tools for all categories of nurses				
		Establish nurse managers' forum				

		Procure and distribute infection prevention items and involve nursing services in the new or rehabilitating health infrastructure design				

4.6 Health Promotion and Social Determinants of Health

Goal

By 2021 Eritrea will have an all of government and all of society approach to health and development through inter-sectoral actions (Health in All Polices).

Strategic focus

the Health Sector will strengthen inter-sectoral dialogue and actions to maximize on comparative advantages and synergies for improved health and development outcomes as well as ensuring adequate capacity, coordination and quality internally. .

Key innovations

- The Health Sector shall address the causes of ill health in collaboration and partnership with other sectors through the Health in All Policies approach. This will place health at the centre of human development and create a symbiotic relationship between health and other areas of human development.
- Generation of evidence will enhance development and implementation of robust policy and strategic frameworks that will enable all stakeholders including communities to play meaningful and strategic roles in health and development.
- Use of information technology tools eg. mobile text messages to reach the population
- Tool, guidelines and frameworks for working across sectors

move to family and reproductive health ***Indicators and targets***

These are shown in the table below

Table 17: Coverage targets for health promotion and social determinants of health

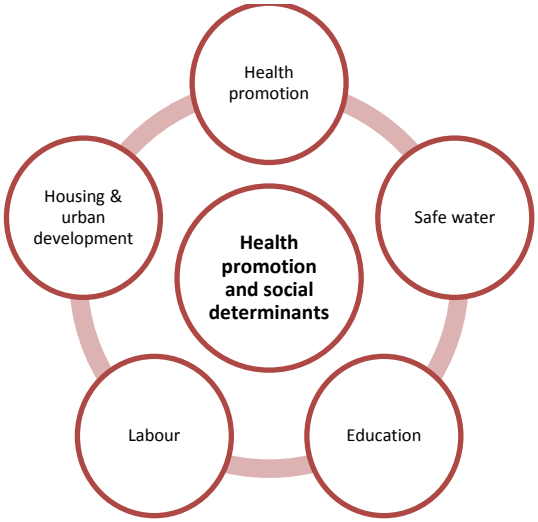
	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
1	# of civil servants sensitized/ on SDH/HiAP	600	650	700	750	800
2	# of rural communities reached by safe water awareness campaigns	700	1000	1300	1600	1900
3	# Sensitization on Prevalence of tobacco, alcohol and drug use among students	5000	6000	7000	8000	9000
4	# of people reached through Health Promotion/Wellness campaigns with different sectors on key health issues	40,000	50,000	60,000	70,000	80,000
5	% people reporting increased health knowledge and improved decision-making over their health	15%	20%	25%	30%	35%

Priority interventions

The priority interventions in the table below will strengthen and be strengthened by Evidence generation, robust policy and strategic environment, enhanced Inter-sectoral action (Health in All Policies), strong programme support, enhanced capacity building, streamlined and coordinated implementation as well as community empowerment

The service areas are as follows

Figure 15: Service areas for health promotion and social determinants



The priority interventions and milestones each are highlighted in the table below

Table 18: Priority interventions for health promotion and social determinants of health

No	Service area	Priority interventions	Milestones			
			Indicator description	***2017***	***2019***	***2021***
1	Health and Social Determinants Capacity Building	Policy and strategic framework for guiding SDH adoption in Eritrea	# of SDH/HiAP strategic documents developed (Policy and strategic framework)	1		
		BCC Peer coordinators trained on SDH country wide	# of new BCC peer coordinators and facilitators trained on SDH	125/1, 396	160/1,600	200/2,000
		BCC Peer facilitators trained on SDH country wide	% of trained peer coordinators and facilitators with improved perfomance as assessmed using a supervision checklist			
		Print promotional materials developed in different languages				
		Audiovisual promotional materials developed in different languages	# of Promotional spots produced on radio and television in nine Eritrean languages.	24	72	144
		Training of health workers in IPC and use of Promotional materials				
		Joint wellness programs/campaigns				

2	Education	Evidence Generation and school health promotion				
3	Housing					
4	Water	Train zonal health promoters on safe water use	no; zonal offices that have received sensitation and communication materials			
		Advocacy at zonal and national levels on safe water use	No; of health promoters trained on safe water use			
		Senssitize communities on safe water use				

CHAPTER 5: HSSDP II ESSENTIAL HEALTH SYSTEMS AND GOVERNANCE

5.1 Human resources for health development and management

Goals

The overall goal is to develop competent motivated HRH and ensure that all people living in Eritrea, especially the poor and vulnerable irrespective of their locations, have access to quality health care by 2021.

Strategic focus

The key HRH strategic focus are 1- An enhanced and integrated HRH planning system 2- a rationalized health workforce supply system that is well aligned with the priorities of the health sector 3- develop, strengthened and consistent in-service training and continuing staff development

Key innovations

Institutionalize performance incentives and management systems that recognize hard work and service at National level.

Establish National Steering Committee for Human Resources Development Observatory that will oversee the implementation of all HRH strategies.

Indicators and targets

These are shown below

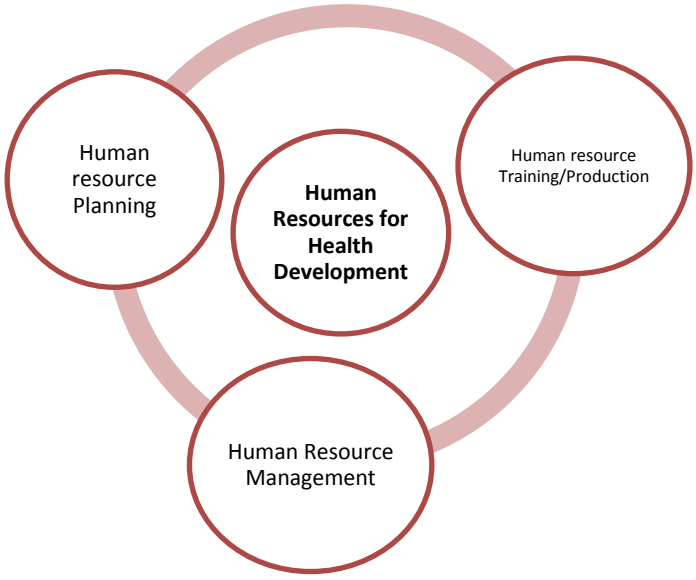
Table 19: Coverage targets for human resources for health

	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
1	% of health workers satisfied with their work environment and productivity	60%	65%	70%	80%	90%
2	Ratio of entry : exits from the health workforce (2016 = **5:1)**	5:01	5.5:1	6:01	6.5:1	7:01

Priority interventions

The service areas are as follows

Figure 16: Service areas for human resources for health



The priority interventions and milestones each are highlighted in the table below

Table 20: Priority interventions for human resources for health

	Service area	Key interventions	Milestones			
			Indicator description	2017	2019	2021
1	Human Resources Development	Produce sufficient numbers of critical health professionals (specialist doctors, general practitioners, diploma and specialized nurses)	Health worker to population ratio (Doctors, nurses and nurse midwives/1000) min. recommended threshold = 2.3/1000	0.5	0.54	0.58
		TNA for health workers being conducted jointly with the training institutions	% of Health facilities with at least 70% staffing norms fulfilled	30%	60%	70%
		Develop staffing norms taking into consideration the minimum basic need and production capacity of the country	No of Instructors recruited	5	5	5
		To make HRH forecasting based on the being developed staffing norms or standards	No of Associate Nurse produced to satisfy health care needs	300	300	300
		Training of associate nurses	NO. of upgraded nurses/assit staff	150	150	150
		Jointly HRD & training institutions will collaborate more effectively to align training with health sector priorities				
		Upgrading of Ass Nurses to Diploma				
		Increased Master's and PhD program training coverage				
2	Human Resources Management	Strengthen the existing HRH database system (Enhanced and integrated HRH planning system)	Procurement of computers and other accessories	16		
			Updated HR information	HR Data Bank	6 Zobas, 4 Hospitals	
		Attract and retain HRH in rural and remote areas				
		Remuneration and incentives for actively working health workers				
		Strengthen performance appraisal to support overall performance management of the EHP	Perfomace standards and guidelined reviewed and disseminated			
		Standardizing of in Service Training	No. of Managers and supervisors at health facility and Zoba level trained to implement the appraisal system	150	150	150

5.2 Procurement, supply and logistics management

Goal

To ensure availability of safe, effective and quality pharmaceutical and medical supplies at all level, and to strengthen data quality and regular data reporting on consumption and inventory status for real-time decision-making.

Strategic focus

To strengthen pharmaceutical and medical supplies management system.

Key innovations

All ZDWHs, N/R/Hospitals and Regional Hospitals are connected with LMIS main office server of the ministry through EriTel-ADSL-Line, which have a great impact in the strengthening and improvement of the PSM system.

Indicators and targets

These are shown below

Table 21: Coverage indicators for procurement supply and logistics management

	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
1	**Product selection** :- Percentage of medical supplies received (procured and donated) or planned to be received that are in the national standard treatment guidelines (degree of adherence)	70%	80%	85%	85%	90%
2	**Quantification and Forecasting: -** percentage of quantities of product actually received during a defined period out of total quantities planned for the same period.	80%	80%	85%	90%	95%
3	**Procurement:-** Percentage by value supplies purchased through competitive tender	65%	80%	85%	90%	95%
4	**Prescription and rational Use**:- Percentage of patients receiving medicines in line with national standard treatment guidelines	80%	80%	82%	85%	85%

Priority interventions

The service areas are as follows

Figure 17: Service areas for procurement, supply and logistics management

The priority interventions and milestones each are highlighted in the table below

Table 22: Priority interventions for procurement, supply and logistics management

Service area	Priority interventions	Indicators	2017	2019	2021
LMIS	Strengthening the existing LMIS network infrastructure to truck real consumption for selection, quantification and procurement	# of computers procured	30	65	85
	strengthen stock control information system at lower health facilities	# of lower health facilities that have LMIS advocacy tools	85	90	95

	Training operators on how to operate, and maintain the LMIS system	# of trained computerized inventory control system users	150	250	400
	Train health personnel on LMIS advocacy tools	% of treatment sites that submitted complete inventory control reports on time, according to an established schedule, during a defined period.	80%	85%	90%
	Monitoring and Evaluation	% of zobas that have established a functional logistic management system -LMIS- (timely good quality data)	75%	85%	95%
	Conduct LMIS assessment and supportive supervision		2	2	2
Pharmaceutical and medical supply management (PMSM)	Strengthening pharmaceuticals and medical supplies management system	# of Zobas who have received guidelines and SOPs	0	6	
	Strengthen the quantification and procurement of pharmaceuticals and medical supplies	% of pharmacists and pharmacy technicians trained supply management	0	50%	75%
	Develop early-warning and performance indicators for procurement and supply management (PSM)	Early-warning and performance indicators developed			
		% of health facilities reporting no stock outs of essential medicines	70%	80%	90%
		% of health facilities with no overstocking of essential medicines			
	Strengthen Pharmaceutical warehouses infrastructure	Number of warehouses whose infrastructure is improved (renovation and extension)	2	2	2
Medicine Information Service (MIS)	Strengthen medicine information service at all level of hospitals	No. Of hospitals where medicine information centers have been established	20	28	

	Review ENLM, ESTGs and NF Guidelines periodically				
		ENLM, ESTGs and NF Guidelines reviewed	X		
	Conduct Rational Drug Use Survey	Appropriate medicine utilization indicators developed	X		
	Capacity building **(…. Incomplete….)**				

5.3 National Medicines and Food Administration

Goal

To establish a stringent regulatory system on pharmaceutical products and medical supplies by end of 2021

Strategic focus

The National Medicines and Food Administration will introduce new, easy and uninterrupted approaches that will help the authority to have fast track product registration system, robust product safety and quality monitoring systems, stringent inspection and quality control mechanisms to ensure medicines, vaccine and medical supplies in Eritrea are safe, effective and of good quality.

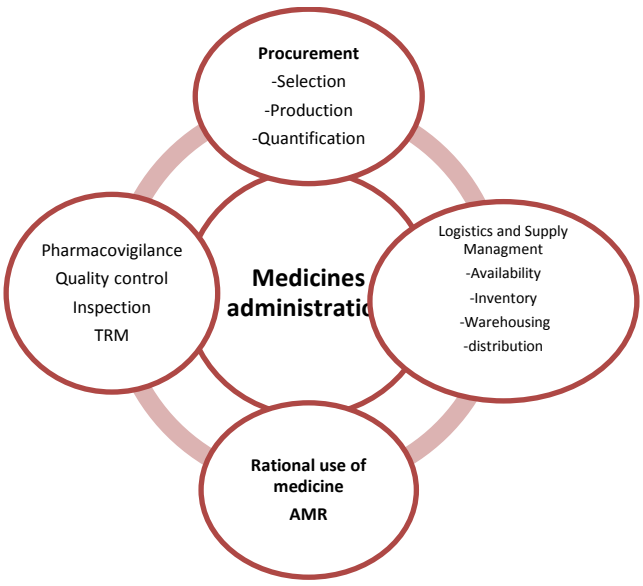
Key innovations

The National Medicines and Food Administration will adopt a common technical document (new guidelines), institute a fast track registration system, establish an SMS and free call adverse drug reaction reporting systems, go for accreditation of the national drug quality control laboratory, introduce a Mini-Lab test Kits and on-site GMP inspection as new strategies to achieve the intended targets.

Priority interventions

The service areas are as follows: regroup the areas into procurement (production. Selection, quantification) logistics and supply management (availability, inventory, warehousing and distribution) rational medicine information

Figure 18: Service areas for medicines administration



The priority interventions and milestones each are highlighted in the table below

Table 23: Priority interventions for medicines administration

No	Service area	Priority interventions				
			Indicator	2017	2019	2021
1	**Strengthening regulatory capacity**	Maximize registration of pharmaceutical products (imported & locally produced)	Number of qualified dossier assessors	**4**	**6**	**10**
			Number of dossiers assessed	20%	40%	60%
			Number of drugs registered	20%	40%	60%
		Strengthen the skill and knowledge of the NMFA staff				
			No. Of NMFA staff with post graduate qualification	1	2	2
2	**Pharmacovigilance**	Maximize detection of adverse drug reactions, adverse events following immunization, medication errors and other product related problems	Digital adverse drug reaction reporting system established	**1**		
			Percentage of adverse drug reactions subjected to causality assessment per year	**65%**	**86%**	**100%**
			Number of safety signals detected and communicated	**3**	**5**	**7**
3	**Inspection**	GMP Inspection	Number of qualified GMP inspectors	2	4	6
		Post market surveillance	Number of GMP inspections conducted	4	8	12
			Manufacturers complying with GMP	4	8	12
4	**Drug Quality Control Lab**		Number of laboratory analysts attached to accredited laboratories as a capcity building process	2	2	2
		- Establish a laboratory quality management system	Accreditation of drug quality control laboratory			1
		- Improve skills of laboratory analysts				

		-Equip the laboratory				
5	**Traditional Medicines Regulation**	Legal working documents for TM practices	Traditional Medicine Council established at national level	1		
			TM survey report		1	
		Establish a TMPs data base	Registry for qualified Traditional Health Practitioners			1
6	Build capacity for Antimicrobial Resistance (AMR) detection	Develop national strategic plan to combat AMR?	National AMR strategic plan developed	1		
			Sentinel sites established	1	2	1
		Establish inter sectoral partnerships	National lab. able to detect 8 WHOpriority pathogens	2 pathogens	3 pathogens	3 pathogens
		Establish a surveilance system				
		Advocacy for strengthening labarotory capacity to detect & report AMR				
7	Ensure food safety		Number of food lab analysts	2	2	1
		Establish Food safety monitoring systems	Functional food analytical lab			1
		Strengthen the food laboratory (Upgrade, equip, train analysts)				

5.4 Infrastructure and Support Services

Goal

By 2021, Eritrea will have quality assured infrastructure meeting the norms and standards supported by efficient and effective systems to ensure that the health sector offers affordable and accessible health services.

Strategic focus

The strategic focus of the next five years will be in the following areas

1. Procurement of different materials according to the demands pertinent to the work activities in the whole Ministry.
2. Developing new stock management system database by introducing to six Zobas
3. Strengthening the fixed asset controlling system by carrying out inventory every six months.
4. Carrying out general supervision and disposal of stock out items yearly.
5. Ensure that new and existing fixed assets are tagged
6. Capacity building of staff on management materials, transport , as well as ICT skills
7. Support infrastructural development of health facilities
8. Strengthening communication capacity between MoH headquarter, the zonal Medical offices, health facilities through expansion and appropriate utilization of the LAN and WAN Strengthening the local resources sharing platform.
9. Supporting the automation of processes and systems within the Ministry of Health

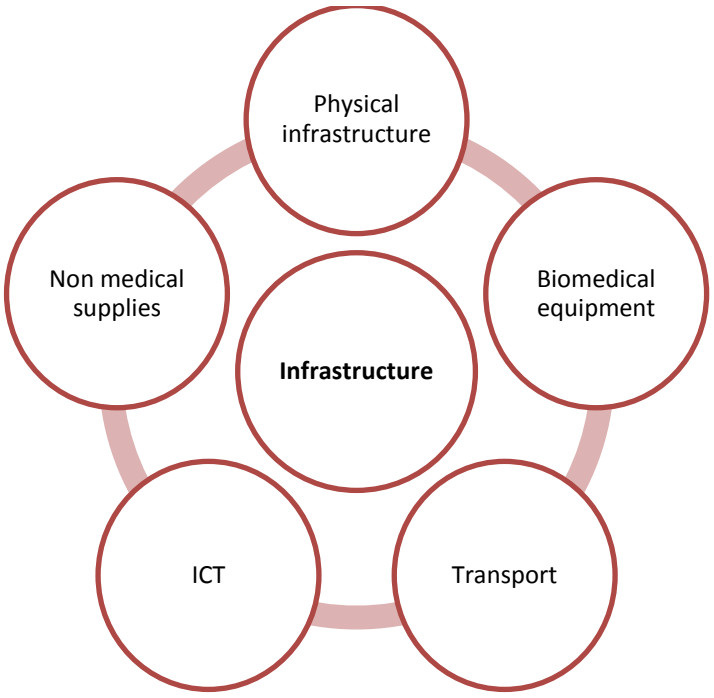
Key innovations

1. Introduction of a computerized stock management system including tagging fixed assets at all levels.
2. Introduction of Planned Preventive Maintenance (PPM) of Medical and utility equipment in all Zoba health facilities.
3. Improve the information and communication technology infrastructure of the health sector by networking all health institutions and providing adequate ICT tools for service delivery and management.
4. Establishing a high speed and reliable National backbone infrastructure and MoH intranet
5. Establishing National Electronic medical records (EMR)
6. Setting up National data centre
7. Develop MoH Web Portal – based health information portal for health consumers.

Priority interventions

The service areas are as follows

Figure 19: Service areas for infrastructure



The priority interventions and milestones each are highlighted in the table below

No	Service area	Priority Intervention	Indicator Description	2017	2019	2021
1	Infrastructure development (Engineering)	Conduct of mapping of health facilities Construction of 2 Hospitals	# of hospitals constructed	0	0	2
		Upgrading of 8 health centres to community hospitals	# of community Hospital upgdared	0	0	8
		Construction of 20 Health Station	# of health station constructed	0	10	20
		Maintenance of health stations and health centres	Percentage of facilities where preventive maintenance is carried out	10%	25%	50%
2	General Service	Development of annual procurement plan for MoH	Annual Procurement plan developed	1		
		Procurement of goods and services for the MoH as per the procurement plan				
		Capacity building of staff on stock management system	Number and percentage of staff trained on stock management	35(100 %)	100%	100%
		Implementation of stock management system at National level and Zobas	Number and percentage of implementing units utilizing the stock management system	10(50%)	20(100%)	20(100%)
		Capacity building of stock management system (consult Solomon)	Number and percentage of staff trained on materials and transport management	120(33 %)	240(67%)	360(100%)
		Carry out monitoring mission to the implementing sites	Number and % of implementing sites visited twice a year	21(100 %)	21(100%)	21(100%)
		Provide adequate vehicles to for health center and hospitals and remote health stations	No. Of vehicles procured		100 for HC and hospitals; 15% for remote HS	100 for HC ; 30% for remote HS
3	Biomedical Engineering	Planned Preventive Maintenance (PPM) of Medical equipment.	Number and percentage of health facilities which received PPM in a year	2(15%)	(12)70%	(16)95%
		Introduction of medical equipment management system				

		Procurement of medical equipment spare parts and distribute to Zobas	Number of Zobas stores supplied with spare parts	0	6	6
		Strengthen the skill of M.E.E.D and Zoba technicians	Number of M.E.E.D technicians trained	45	120	210
		Strengthen user know how of medical equipment.	Number of users of medical equipment's trained on appropriate use.	60	250	500
		Train users on operation of medical equipment, and equipment maintenance.				
		Update ME Inventory system in all Zobas	% of Zobas with an updated ME Inventory system		80%	100%
4	ICT	Integration of electronic communication systems	MoH set up with one common national backbone ICT infrastructure		1	
		Setting up of MoH mailing system				
		Capacity building of staff on ICT Skills				
		Develop MoH Website	MoH website in place		1	

5.5 Legal and regulatory framework

Goal

By 2021 Eritrea will have a comprehensive national health act with its implementation framework in place.

Strategic focus

The main strategic focus in the period 2017-2021 will be to develop a new National Health Law, while ensuring the enforcement and amendment of existing health related National Legal instruments. Further, during this period National legal instruments will be reviewed and new ones developed if needed to meet international requirements.

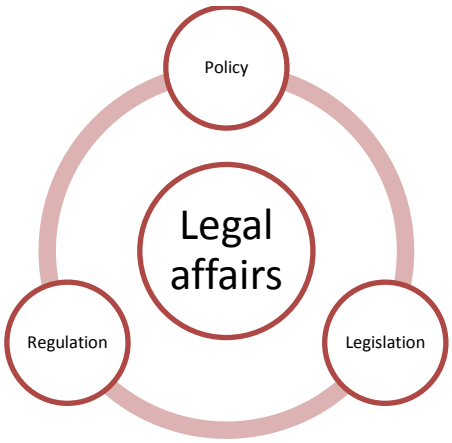
Key innovations

- Development of a new National Health law/National Health Act
- Reinforcement of regulatory mechanisms

Priority interventions

The service areas are as follows

Figure 20: Service areas for legal affairs and regulatory framework



The priority interventions and milestones each are highlighted in the table below

No	Service area	Priority interventions	Milestones			
			Indicator Description	*Baseline target*	*Mid-term target*	*End term target*
1	Policy	Revision and updating of existing proclamations and policy documents				
2	Legal Framework	Development of a comprehensive health law/act	Comprehensive health act developed	0	1	
		Disseminate and raise awareness on thehealth law/act				
		Capacity building of staff in Medical law	# number if staff trained in medical law	0	3	3
		Carry out benchmarking among the peer countries on health law				
		Monitoring enforcement of various health laws				
	Legislations	Development of code of practice	Code of practice developed		1	

5.6 Governance and principles

Goal

To strengthen the right institutions for effective governance and service delivery in line with principles of decentralization where by the lower levels take more authority and responsibilities.

Strategic focus

- *Development of appropriate guidelines and standards for quality assurance and evaluations*
- *Enhancing effective leadership and management*
- *Strengthening the regulatory system*

Key innovations

- *Active community participation*
- *Establishment of effective district level health system*
- *Institutionalization of effective regulatory system*
- *Initiation of hospital autonomy*

Priority interventions

The service areas are as follows

Figure 21: Service areas for governance and principles

The priority interventions and milestones each are highlighted in the table below

No	Service area	Priority interventions	Milestones			
			Description	*Baseline target*	*Mid-term target*	*End term target*
1	Leadership and management	Strengthen capacity for leadership and management in the health sector	# of MoH staff trained on health leadership and management		100	100
		Management guidelines development/updated	% of facilities using management guidelines	-	50	100
		Strengthen partnerships in health development. Establish and ensure functionality of partnership fora	Develop a partnership framework (Compcat, memorandum ofunderstanding)			
			A functional partnership coordination forum in place	-	1	1
2	Organization of services	Establishment of functional district level management system	# of districts with effective management system in place		6	20
3	Community involvement	Ensuring community involvement in health planning, monitoring and evaluation	# of zobas involving communities in health planning, monitoring and evaluation.	2	4	6
			# of districts involving communities in health planning monitoring and evaluation	10	30	58
		Strengthening capacity community health workers in all zobas	% of community health workers trained and retrained in each zoba	25	75	100
4	Control of misuse/ corruption	Development of code of conduct	Availability of code of conduct		Y	
		Establishment of disciplinary committees	% of facilities with effective and functional discipline committees		50%	100%

5.7 Partnership arrangements

Goal: By 2021, establish a strong partnership with key stakeholders including government line ministries, local communities, faith based health institutions, Civil Service Organizations and the private sector in planning, implementation, monitoring and evaluation of the strategic plan.

Strategic focus

The sector will focus in strengthening the coordination and harmonization of partners support in view of seizing the opportunity to implement health in all policies and progressing towards Sustainable Development Plan. This will involve the following:

- leverage of financial, technical, material and logistical support to the sector from partners
- strengthen coordination mechanism where the key stakeholders shall be requested to align their support to the national health sector priorities as specified in the HSSDP II

- Enhance public-public and public-private partnership in different programs
- Fostering strategic participatory partnership with civil society organizations and professional bodies
- reinforcing international partnerships with external training institutions

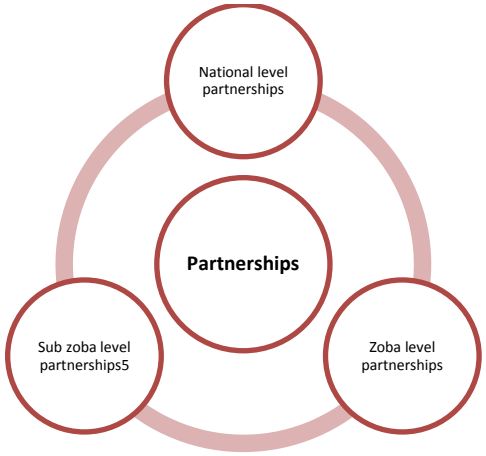
Key innovations

- adopt the Sector Wide Approach (SWAp) to sector coordination
- Strengthen country-led platforms for information and accountability
- Seek membership to International Health Partnerships and related initiatives (IHP)

Priority interventions

The service areas are as follows

Figure 22: Service areas for partnerships



The priority interventions and milestones each are highlighted in the table below

No	Service	Priority interventions	Milestones			
			Description	2017	2019	2021
1	National partnership	Development guidelines for the partnership forum				
		Establish a national health sector coordination forum	Coordination forum established	-	Y	Y
		Conduct regular bi-annual partner's forum meeting	Number of meetings conducted	-	2	2
		Ensure that partner's support plans are aligned with the HSSDP				
2	Zoba level partnership	Establishment of coordination mechanism at zoba level	No. Of Zobas with a oordination mechanism in place	-	6	6
		Conduct regular quarterly partner's forum meeting at zoba level	Number of Zobas conducting quaterly partners forum	-	6	6
3	Sub zoba level	Establishment of coordination mechanism at sub- zoba level	% of sub-zobas with a coordination mechanism in place	-	50%	100%
		Conduct regular quarterly partner's forum meeting at zoba level				

CHAPTER 6: HEALTH SECTOR PLANNING, MONITORING AND EVALUATION

6.1 Introduction

Goal

By 2021, the sector will have a consolidated and harmonized planning, monitoring and evaluation process that guides informed strategic decision making.

Strategic focus

The sector will focus on putting in place an extensive infrastructure to facilitate availability of data for evidence generation and planning at all levels of the health system. This will involve the following;

- Setting up of a robust monitoring and evaluation system
- Supporting the establishment of a common data architecture
- Enhancing sharing of data and statistics, and
- Improving the performance monitoring and review processes

Key innovations

- Development of DHIS2
- Establishment of National Electronic Medical Records (EMR)
- Development of MoH web portal
- Strengthen the existing process of inclusive and transparent planning with increased stakeholder involvement at all levels.
- Functional MOH website and mailing system
- Ensuring sustainable financing of health research by setting up a national health research fund in Eritrea
- Institutionalize regular annual data quality audit for selected key indicators

Indicators and targets

These are shown below

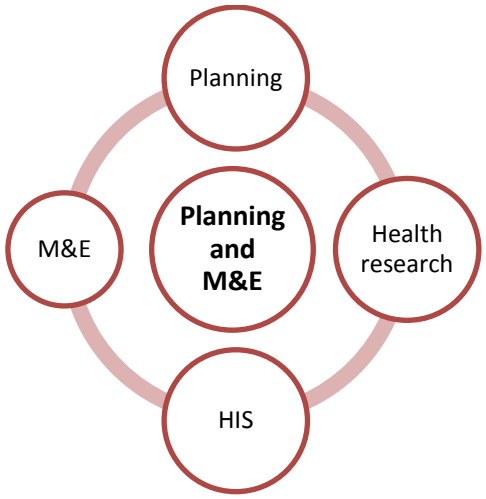
Table 24: Coverage targets for Planning, HMIS, M&E and Research

	Coverage Indicator description	Indicator targets				
		2017	2018	2019	2020	2021
1	Percent of facilities submitting complete and accurate reports in a timely manner	90	95	100	100	100
2	Percent of hospitals with functional Electronic Medical Record System	25	50	100	100	100
3	Percent of district (sub zoba) with their own annual operational plans	25	50	75	90	100
4	Percent of program and zoba managers trained in M&E skills.	25	50	75	90	100
5	Number of health related researches/surveys conducted	10	15	20	25	30

Priority interventions

The service areas are as follows

Figure 23: Service areas for planning, research and M&E



The priority interventions and milestones each are highlighted in the table below

Table 25: Priority interventions for Planning, HIS, M&E and Research

No	Service area	Priority interventions	Milestones			
			Indicator Description	*2017*	*2019*	*2021*
1	HIS	Development of DHIS2	Percent of regions and hospitals with DHIS2 installed	0	100	100
		Quality of data received from health facilities	Percent of timely and complete reported received	90	95	100
		Electronic Medical Record developed	Percent of hospitals with EMR	0	75	100
2	Planning	Strengthen planning capacity	Percent of health managers trained in planning skills	25	75	100
		Improve staffing and skill mix in planning at headquarter level	Number of staff with diversified skills in planning	4	6	8
		Compilation and consolidation of zoba and program annual plans	Number of annual operational plans compiled	1	2	2
3	M&E	Institutionalize regular annual data quality audit for selected key indicators	Number of data quality audit conducted	6	6	6
		Improve M&E skills of health workers (particularly program and zoba managers)	Percent of program managers trained in M&E skills	25%	75%	100%
4	Research capacity	Empower the health research division to coordinate and monitor research.	Revised research policy		1	
			Research guidelines			1

No	Service area	Priority interventions	Milestones			
			Indicator Description	*2017*	*2019*	*2021*
		Establish partnership with relevant institutions	Number of staff mentored by external researches	4	6	6
		Establish national health Research center		0	1	**1**
		Cascade training on health research methodology to health workers	Number of trained HWs	25	120 HWs	250 HWs
		Assure quality and relevance of research in the country	Number of research proposals funded	-	10	15

6.2 Planning, performance monitoring and review

6.2.1 Harmonized Planning and budgeting process

The health sector stewardship will focus on assuring overall sector budgeting, operational planning, implementation follow up and performance monitoring and evaluation is being carried out. The aligned timeline for budgeting, planning and reporting is shown in the figure below.

Aligned Annual Planning and Monitoring Timelines for Health

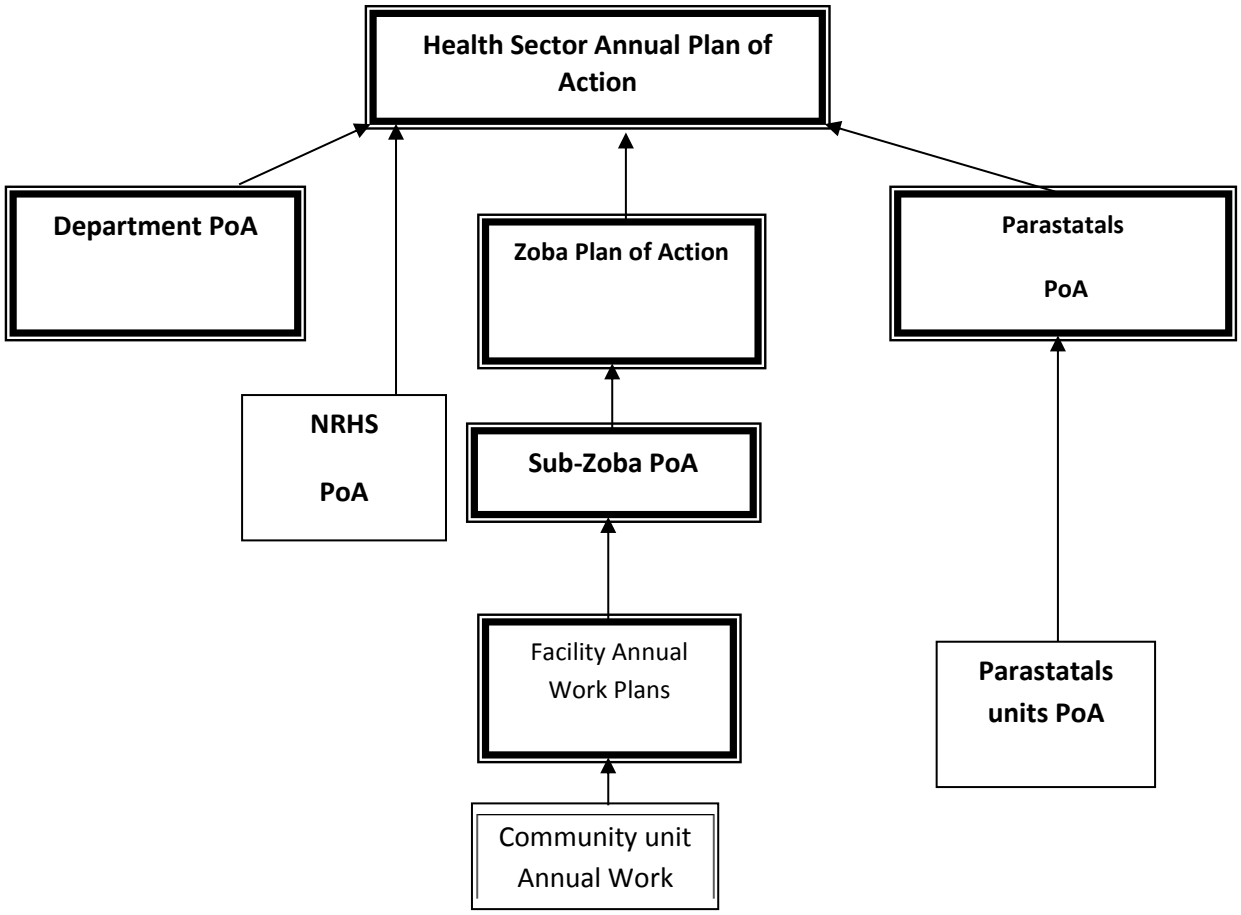
Month	National Budget Timeline	MoH timelines
January	Implementation	Implementation
February		
March		
April		Progress assessment of implementation of plan
May	Budget Call	Policy guidelines update and HMIS information sent to Zobas and all planning entities
June	Budget preparation	All planning units develop plans
July	Budget preparation	Review of plans by planning division
August	Budget Submission	
September		
October	Budget hearing	Planning division defends and rationalizes plan during budget hearing
November	Cabinet discussion on budgets	
December	Budget Release	Implementation plans finalized

Based on the defined strategic priorities for investment and the available budget, the management teams need to determine priorities for investment across the different strategic priority areas. Budgeting is for all resources available to the area of responsibility, and not only public resources.

Prioritization of investments for the resource envelope needs to be done basing on a Resource Allocation Criteria that considers the health sector principles: Equity and gender; participation; people centeredness; efficiency; social accountability; and multi sectoral focus. The Ministry for Health shall set out the annual Service delivery targets to be attained by each of the management units. This shall guide their investment prioritization process.

With budget information available, each management unit in the sector will develop Annual Work plans. These outline what activities will be implemented, with the available budgets based on a common framework.

Annual Plan of Action Planning Linkages



The follow up of the planned activities is a responsibility of the management unit. Monthly management team meetings shall be held, to follow up on activity support. Quarterly management team meetings shall also be held to monitor performance.

6.2.2 Joint assessments of progress

Joint Assessments at the National Level

The joint annual review is a national forum for reviewing sector performance. The annual reviews will focus on assessing performance during the previous fiscal year, and determining actions and spending plans for the year ahead (current year+1). The joint reviews will be bottom-up not just in terms of information generation, but also in information dissemination and linkage with other processes, particularly the quarterly monitoring review process. In addition, specific technical assessments in problem hot spot areas could be carried out during the year, to feed into the JRM process as opposed to having these all done at the JRM. Annual Sector Reviews should be completed in time to ensure that the

findings feed into the planning and budget process of the coming year. The JRM will be organized by MOH in collaboration with partners.

Joint Assessments at the Zoba level

The forum will use regional data to discuss performance within the region, and agree on priorities to guide sub-zoba levels in their respective planning and implementation processes. These stakeholders will include representatives of all the health sector actors.

The meeting will discuss the quarterly performance review report for the sub-zobas in the Zoba. Standardized planning and reporting formats are available from the Ministry of Health. Other tools and process shall be provided through the health sector M&E guidelines and to all the regional coordinators, to guide them in their stakeholders meeting.

These forums will also conduct the joint annual review and produce an annual performance report for the Zoba. This report will be transmitted electronically to the planning unit at the national level for aggregation. The Zobas will hold an annual performance review meeting each year. This meeting will go over the performance of the Zoba against the indicators and targets outlined by the HSSDP II as well as the recommendations implementation plan for the year. The forum will identify performance gaps and jointly agree on actions to mitigate these.

Joint Assessments at the Sub Zoba level

Similar to the Zoba forum, the sub-Zoba forum will consist of health actors operating in the sub Zoba. The HSSDP I Mid-term review recommended strengthening policy dialogue structures at subnational level with the establishment of appropriate structures to improve engagement of partners in the planning and sector review processes. The forum will use the data collated at the sub-zoba level to discuss performance within the sub Zoba and agree on priorities to guide the sub Zoba in the next planning cycle.

Joint Assessments at the Community level

In line with the community health guideline from the ministry of health, data will be collected from the health stations and health centres by CHEW, who will submit the same vertically to Facility Health Record & Information Officers. From here information is submitted to the sub-zoba level. From the sub-zoba level, required information is submitted vertically to the Zoba level.

A community units stakeholder forum shall be coordinated through the facility that the community unit reports to. The meetings like all the fora above shall be in line with the sector planning and performance review cycle. Quarterly meetings will be held to review the performance of the units against the indicators and targets outlined in HSSDP II. The M and E results are expected to be used to sensitise the community and accountability through existing community systems.

6.2.3 HSSDP II Evaluations

Evaluations will be used to facilitate assessment of progress, and make attributions and predictions of implications of trends across the different indicator domains – inputs/processes; outputs; outcomes and impact. Two evaluations will be carried out during the life of the HSSDP II.

- Mid -term review – to review progress with impact attained at the Mid Term of the strategic plan and End term review – to review final achievements of the sector, against what had been planned.

CHAPTER 7: HEALTH CARE FINANING, FUNDING AND BUDGETING

Goal

By 2021, the sector shall have sustainable financing for the health care service delivery through mobilizing sufficient financial resources while ensuring equity and efficiency in resource mobilization, allocation and utilization.

Strategic Focus

The strategic focus will be to mobilize resources to fund the health care services, whilst ensuring equity and efficiency in resource mobilization, allocation and utilization.

Key innovations

- Introduce a prepayment mechanism in the form of a social and/or community based health insurance scheme;
- Introduce mechanisms for linking financing across programs, to improve coordination, harmonization and alignment of health resources from all sources;
- Put in place innovative advocacy mechanisms within government to increase government spending on health care towards the target set in the Abuja declaration;
- Explore pre-payment options to improve the revenue generation from community participation, and so ensure equitable but sustainable out of pocket health care contributions;
- Introduce health care service resource tracking tools, focusing on national health accounts, public expenditure reviews, and public expenditure tracking surveys;
- Develop and apply a resource mobilization strategy to facilitate mobilization of resources from development partners and so increase their contribution to financing of health sector

Indicators and targets

These are shown in the table below

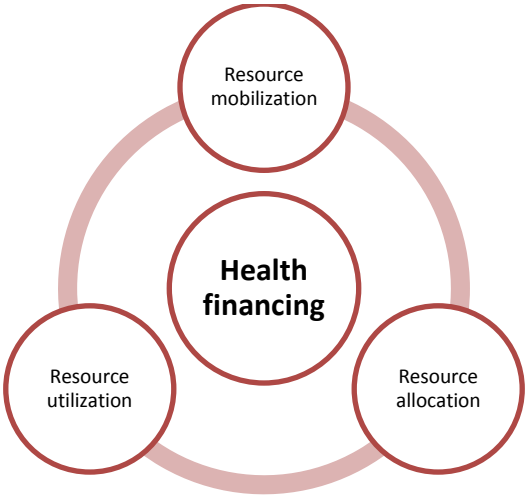
Table 26: Coverage indicators for Health care financing

Indicator	Year				
	2017	2018	2019	2020	2021
Headcount ratio of catastrophic health expenditure					
Headcount ratio of impoverishing health expenditure					

Priority interventions

The service areas are as follows

Figure 24: Service areas for health financing



The priority interventions and milestones each are highlighted in the table below

Table 27: Priority interventions for Health financing

No	Service area	Priority interventions	Milestones			
			Indicators	2017	2019	2021
1	Resource mobilization	Develop a national health financing strategy that assesses appropriate financing options for health including the role of private sector	Health financing strategy developed	1		
		Implement a pre-payment mechanisms, focusing on social or community based health insurance mechanism	Report on feasibility of different prepayment mechanisms	1		
			Roadmap towards introduction of pre-payment	1		
			% of population enrolled in pre-payment scheme		5%	20%
		Review out of pocket expenditure mechanism to improve exemption and other mechanisms for assuring equity	Out-of-pocket payment for health (% of current expenditure on health)		1	

		Institutionalise costing approach to make available up to date information on costs of services	% Current government expenditure on health as a % of total health expenditure		1	
		Advocacy and communication strategy to government, and external partners on increased funding for health	Total expenditure on health as % of gross domestic product	3%		
2	Resource allocation	Conduct public expenditure reviews, to inform resource allocation	Annual public expenditure review reports	1	1	1
		Introduce program based budgeting in health	Report on feasibility of program based budgeting	1		
			Roadmap towards introduction of program based budgeting	1		
3	Resource utilization	Put in place mechanisms for coordination and harmonization of resources from all sources across programs				
		Institutionalize National Health Accounts	National Health Accounts reports	1		1
		Conduct expenditure tracking and utilization surveys				
		Conduct health resource efficiency studies	Report on health sector efficiency		1	

CHAPTER 8: COSTING OF THE STRATEGIC PLAN

CHAPTER 8: COSTING OF THE STRATEGIC PLAN

8.1 Methodology and costs assumption

Eritrea National Health strategy (NHS) costs estimation was facilitated by the UN OneHealth tool, a unified costing template that estimates the cost of health services and system inputs required to achieve desired health outcomes and impacts. Further details on the tool are provided in Annex 1.

The scope of the costing exercise included estimating all costs related to delivering the package of health interventions identified in the NHS for the period 2017 to 2021; estimation of the impact of the impact of health services that will be included in plan as well as projection of scenarios for investment based on different assumptions on scale-up. Health programs costed include: Reproductive Health Maternal Newborn and Child Health; Immunization; Malaria; TB; HIV/AIDS; Nutrition; Environmental Health and WASH; Non-communicable diseases; Health Promotion, Mental Health and Worker' Health. Costs related to health system investments include: Human Resource, Infrastructure, Governance, Health Information System, and Logistics.

Eritrea NHS costing exercise is the result of a consultative and iterative process of data collection, targets setting and quality assurance to ensure alignment with Government's strategy and accuracy of estimates. It was conducted in five phases: (i) capacity building of Ministry of Health; (ii) calibration of the tool to specific needs of Eritrea; (iii) meetings for data collection; (iv) data cleaning and validation; and (v) costing and scenarios development. It is also important to note that the NHS cost estimate was projected using the 2016 population of 3,600,076 as baseline and currency of ERN15 to the US$. Likewise baseline data on the Eritrea Health system was obtained from the HMIS, while coverage estimates for health service were obtained both from HMIS and opinions of key program expert.

The products of the assessment include Projection files of the OneHealth Tool for all three scenarios costed. These files have the input data of the interventions by programmatic area including the target populations, population in need and the coverage rate (baseline and targeted) for each intervention prioritized. They also include the input data for the costs for program support. In addition, 2 Microsoft excel Excel documents are included. One called "Eritrea 2017 -2021 NHS Harmonization tool" is a harmonization file that collates the entire program costing for the programs and pillars. The second called "Intervention Coverage for the ENHS Policy Scenarios (Baseline Moderate and Aggressive)" is an extract from the One Health Tool of coverage rates for all the program interventions prioritized by the Ministry.

8.2 Key assumptions for the costing scenarios

Three scenarios were defined to assess how cost and impact differ for alternative scenarios of packages, targets and activities. This allows examining alternative scenarios for reaching targets to make informed decision and select the policy option scenario and targets to incorporate for final estimation of activities and budgets.
The Eritrea National Health Strategy 2017 - 2021 provides a comprehensive plan aimed at achieving universal health coverage as the overarching thrust of the strategy. This ambitious plan with key emphasis on scaling services addressing NCD's, focusing on primary referral services and improving financial risk protection corresponds to the "NHS3 costing scenario" or "aggressive" scenario that was modeled using a front-loaded interpolate profile.
Nevertheless, the prioritization exercise enabled to develop a robust, concise yet feasible NHS within reasonable anticipated resource envelope: this is the NHS2 costing scenario or "Moderate" scenario. A "baseline scenario" or NHS1 was also costed in which the coverage of key interventions was kept at the same baseline coverage rate throughout the time horizon of the projection. In addition, efforts to improve service coverage and uptake like training of health workers were not included for the "baseline" or "do-nothing" scenario.

The policy direction informing the prioritization centered on the need to address health system gaps such as the required investment in infrastructure and human resources identified during the development of the NHS as health services are brought to scale using the exponential interpolated profile.

8.3 Overall costs per capita for the HSSDP II across the three Scenarios

The entire plan would cost $635.19, $967.16 and $1,006.22m for NHS1, 2 and 3 respectively (Table 1) for the 5 years. At the end of the period, the mean per capita cost would be $52.79, $62.39, and $68.52 for NHS 1, 2 and 3 respectively.

Table 28 Total cost for the three scenarios USD)

Scenario	2017	2018	2019	2020	2021	Total
Baseline	132,627,921	133,434,469	132,006,793	119,763,178	117,365,208	635,197,571
Moderate	440,123,066	136,727,966	137,039,555	126,733,432	126,538,951	967,162,970
Aggressive	445,126,309	143,987,170	145,563,334	135,860,395	135,684,481	1,006,221,688

It should be noted, however, that the main difference between the three projections was the intervention coverage rates. Programmatic costs such as training etc. were the same throughout for both the moderate and aggressive scenarios (hence the marginal increment). In the baseline scenario, however, as indicated above, these were not considered for the baseline scenario as the intervention coverage is remaining the same.

8.4 Cost by health service priority for the Moderate Scenario

Table 29 Summary costs by program area for the NHS 2 scenario (USD)

Summary costs	2017	2018	2019	2020	2021	Total
Maternal/newborn and reproductive health	113,249,616	24,104,610	22,345,882	18,734,409	17,284,122	195,718,639
Child health	111,581,595	22,021,103	20,111,747	16,951,753	15,235,171	185,901,369
Immunization	13,077,404	4,414,447	3,749,276	3,709,514	3,004,626	27,955,267
Malaria	8,777,100	4,693,435	4,516,343	3,869,093	3,626,261	25,482,233
TB	6,826,906	3,094,039	2,836,068	2,682,557	3,297,035	18,736,604
HIV/AIDS	13,377,517	10,573,699	9,931,379	9,562,780	9,657,363	53,102,738
Nutrition	42,294,783	11,408,626	13,847,895	10,701,843	10,927,360	89,180,507
WASH	19,360,618	10,019,649	9,146,098	8,939,335	8,079,639	55,545,339
Non-communicable diseases	23,315,288	11,706,528	12,775,140	12,989,207	13,534,710	74,320,873
Mental, neurological, and substance use disorders	59,154,259	13,790,900	17,165,289	18,057,585	20,608,812	128,776,845
Adolescent health	25,704,271	17,644,975	17,567,860	17,601,571	18,080,925	96,599,601
Workers' health	511,680	392,573	265,605	243,681	243,681	1,657,221
Health Promotion	810,620	692,992	701,899	627,333	833,482	3,666,327
Neglected Tropical Diseases (NTD)	2,081,408	2,170,390	2,079,074	2,062,770	2,125,764	10,519,406
Grand Total	**440,123,066**	**136,727,966**	**137,039,555**	**126,733,432**	**126,538,951**	**967,162,970**

As can be seen from table 2 above, HIV/AIDS is by far the biggest driver of costs followed by Non-communicable diseases and Adolescent health. The cost driver for the HIV/AIDS is the scale-up of ARVs and PMTCT.

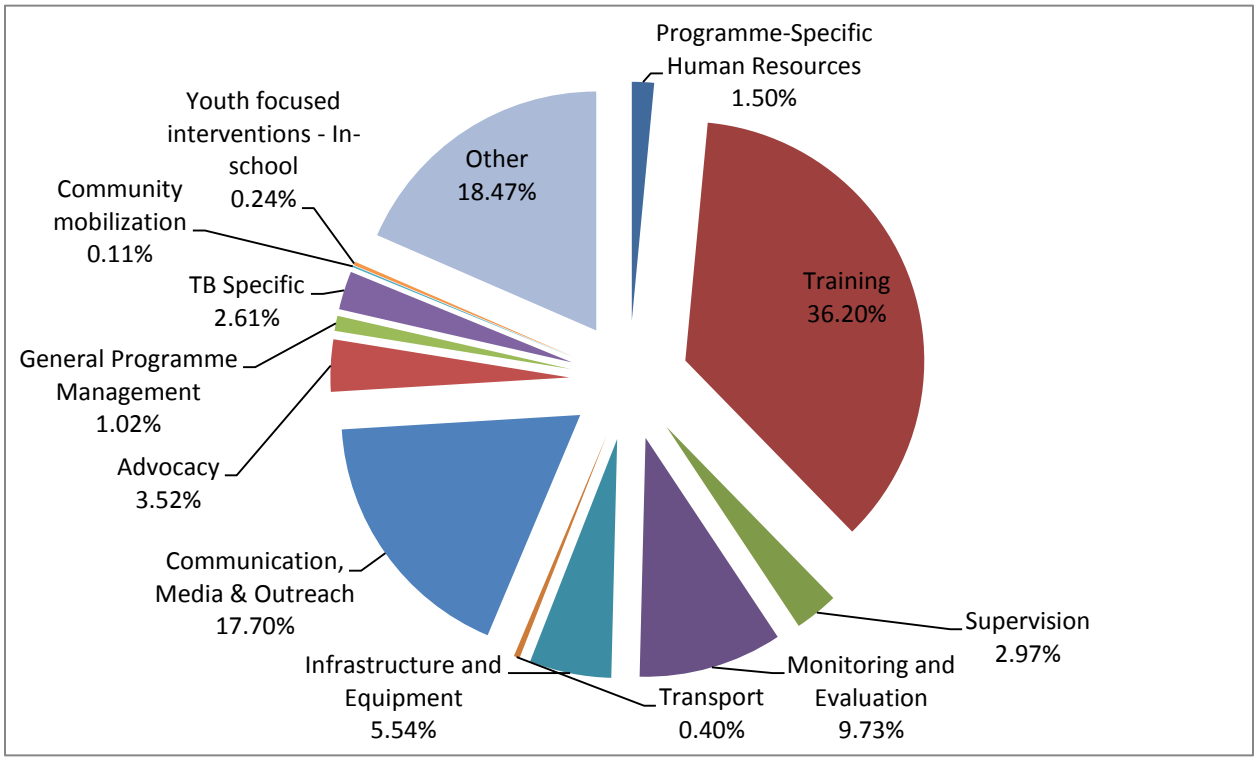
8.5 Cost by health system area for the Moderate Scenario

Table 30 *Cost per major inputs USD*

Total costs		2017	2018	2019	2020	2021	Total
Programme Costs	50,936,778	43,257,841	42,688,137	40,472,228	41,303,705		218,658,689
Human Resources	328,137,263	23,117,123	28,632,323	25,027,846	30,503,097		435,417,652
Infrastructure	19,641,379	26,741,535	19,046,237	12,138,135	1,481,770		79,049,057
Logistics	6,376,376	6,712,870	7,165,992	7,632,065	8,409,399		36,296,702
Medicines, commodities, and supplies	34,453,365	36,392,887	39,059,338	41,177,905	44,379,512		195,463,007
Health Financing	45,945	21,994	9,580	0	0		77,520
Health Information Systems	220,978	284,121	240,476	186,628	367,217		1,299,420
Governance	310,982	199,596	197,470	98,625	94,251		900,924
Grand Total	**440,123,066**	**136,727,966**	**137,039,555**	**126,733,432**	**126,538,951**		**967,162,970**

The table 3 above shows the costs of the plan by investment or input area i.e. health system pillar. Programmatic costs cater for over 50% of the plan costs which is far above the normal range of 15-25% of total investment. As can be seen from the breakdown of the programmatic costs from figure 1 below, this is driven mainly by planned training costs. This is exceedingly high especially given that no new interventions are being introduced across the sector in the strategic period and therefore a degree of skills for service delivery already exists in the sector.

Figure 25 Distributing of Program Cost (Million USD) for the Moderate Scenario



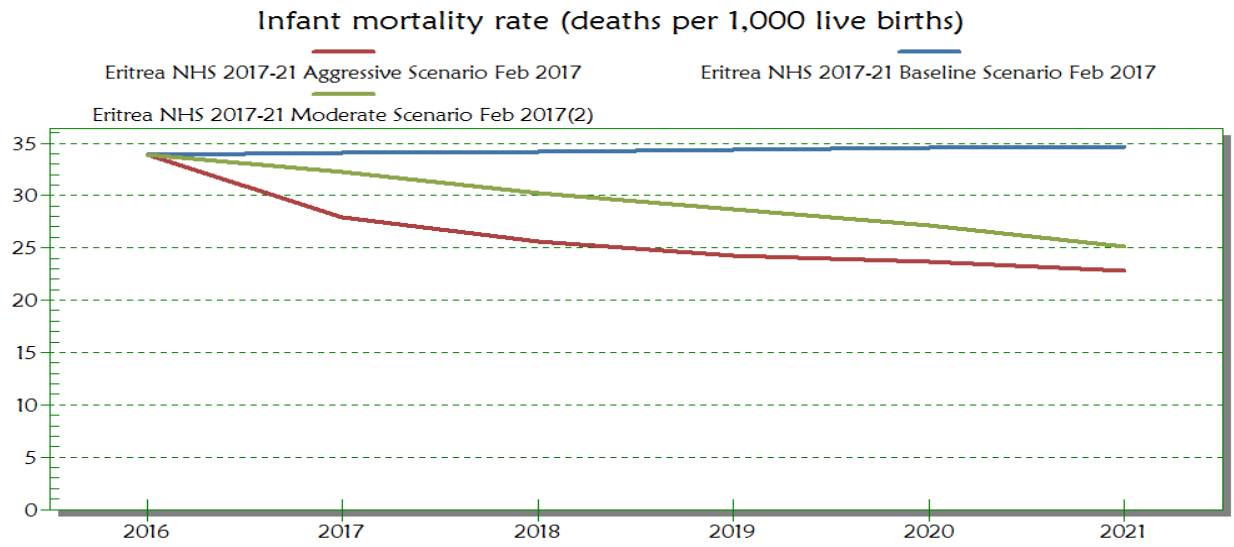
8.6 Impact of cost scenarios

The figures below provide estimates of the potential impact of the investments in the plan. It should be noted that the underlying assumptions are that:

a) The efficacy of interventions is similar to the actual effectiveness of interventions once implemented and that;
b) The program support activities planned enable the countries to achieve 100% uptake of the interventions.

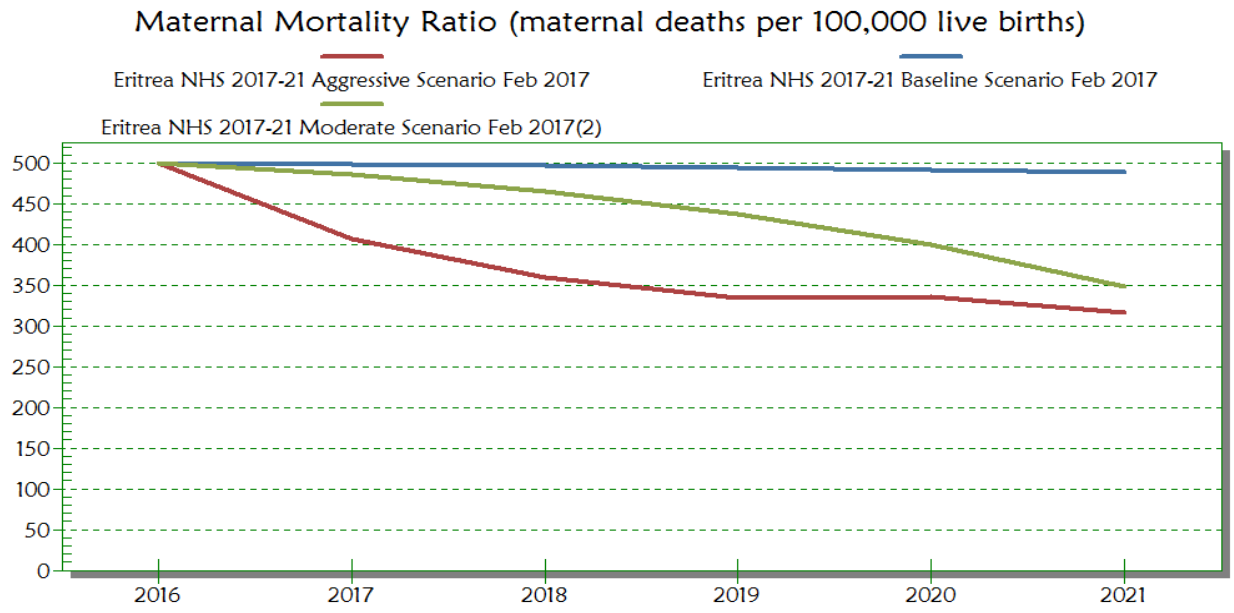
As can be expected, the baseline scenario does not result in a decline in infant mortality rate or maternal mortality. On the other hand, a reduction from 34 to 25 deaths per 1000 live births and 23 death per 100 live births for the moderate and aggressive scenarios respectively (Figure 2). The aggressive scenario achieves much earlier reductions than the moderate because interventions are frontloaded i.e. the interventions are scaled up much more rapidly from the start than the latter scenario.

Figure 26: Impact on Infant mortality rates by scenario



The figure3 below shows the effect of investments on maternal mortality rate. Overall, the moderate and aggressive scale-up scenarios show that if the interventions are implemented as planned, MMR will be reduced from 500 deaths per 100,000 live births to 350 deaths per 100,000 live births and 310 deaths per 1000,000 live births for the moderate and aggressive scenarios respectively in the 5 year period.

Figure 27: Impact on Maternal Mortality rates by scenario



The figures below show the impact on the Total Fertility rates (Figure 4) and contraceptive rates (figure 5). As expected the aggressive scenario achieves much faster and larger reductions in total fertility rates and contraceptive rates.

Figure 28 Impact on total fertility rates by scenario

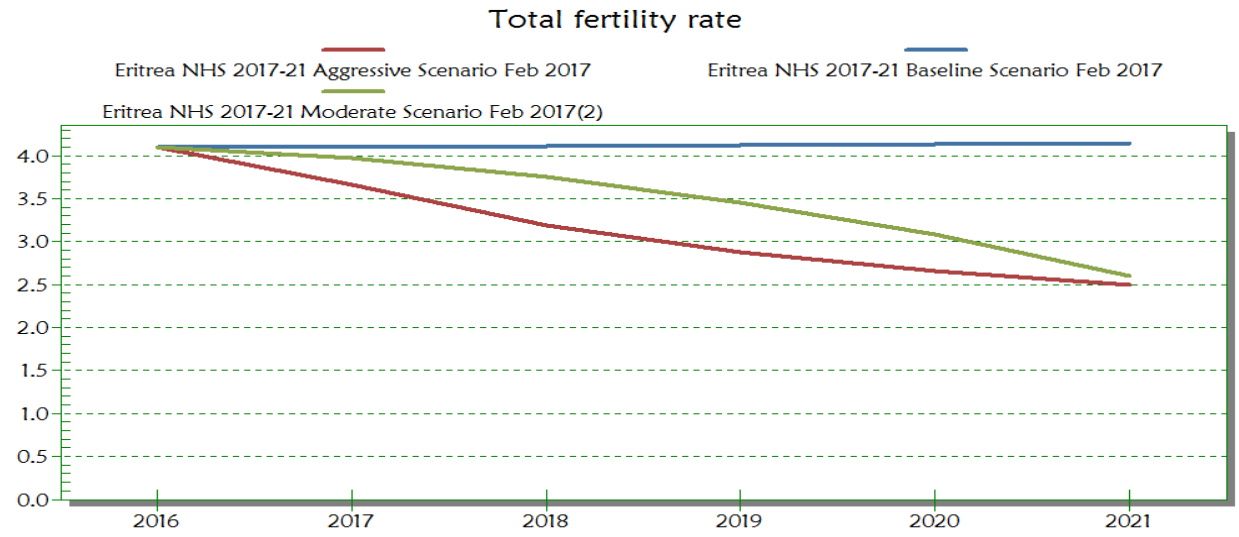
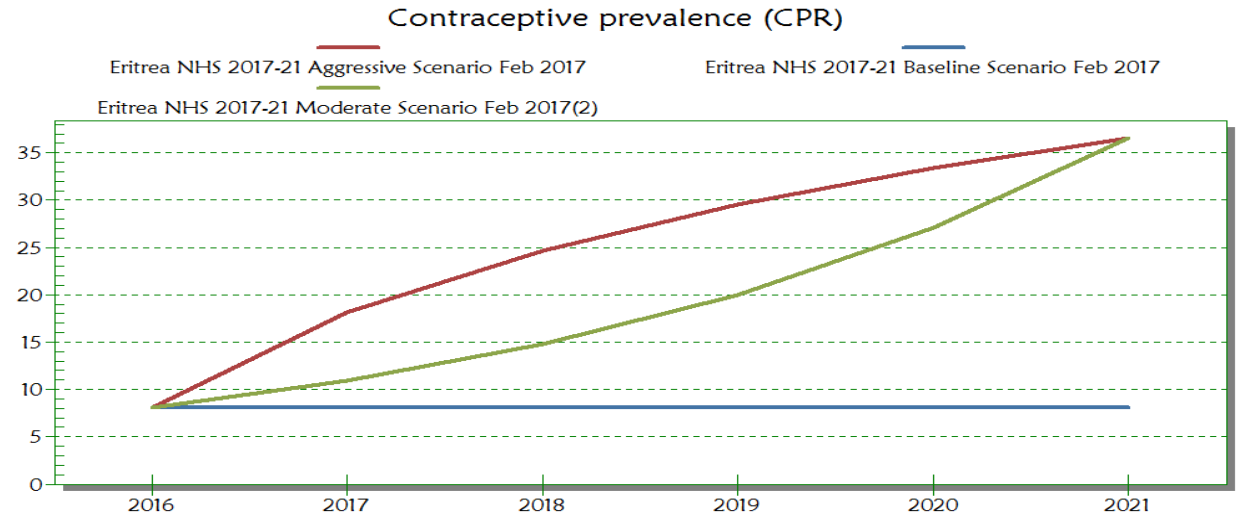
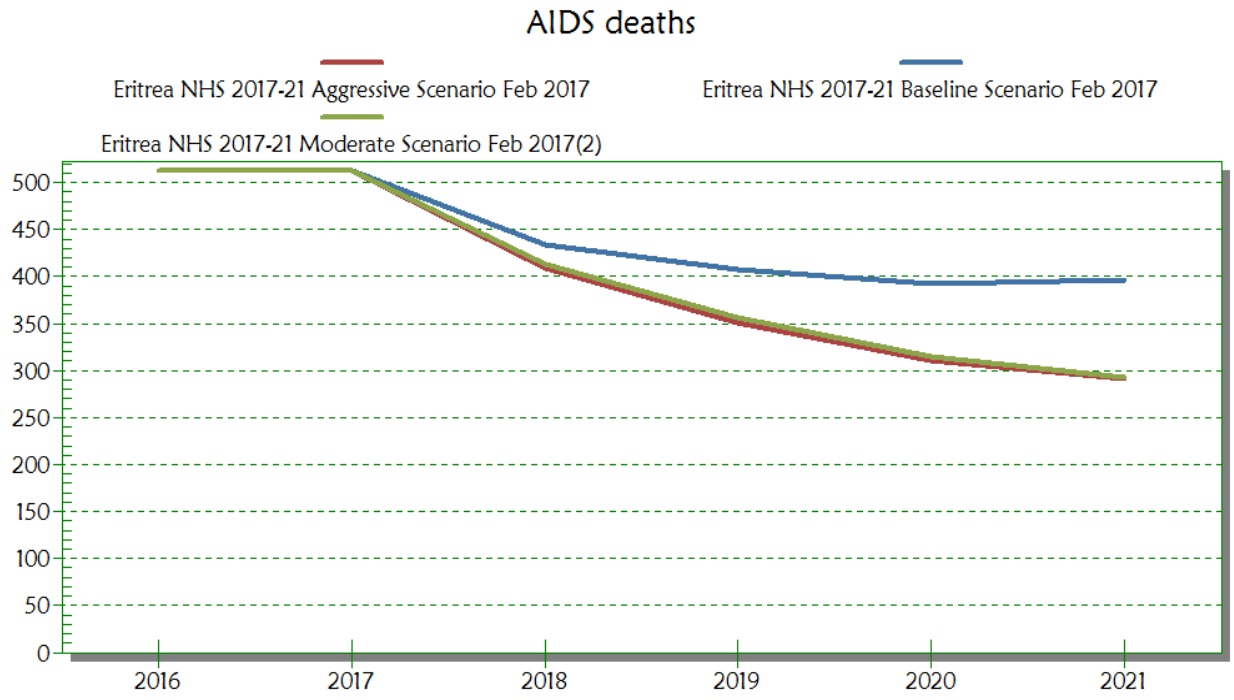


Figure 29: Impact on Contraceptive Prevalence Rates



The figure 6 below shows the number of death averted by HIV/AIDS interventions. As can be seen the baseline scenario reduces infections from 500 deaths per annum in 2017 to 400 deaths per annum by 2021. On the other hand the reduction realized under the moderate and the aggressive scenarios is twice that realized in the baseline scenario by the end of the strategic period. There is no difference between the aggressive and moderate scenarios.

Figure 30: Impact on AIDS deaths by scenario



8.7. Financial Sustainability

A financial sustainability analysis compares the costs of the plan and the available funding in order to assess the affordability of the plan given available sources. It also enables the country to determine whether there is need to scale down and at what point in the planning horizon this should be done. It also acts as a basis for resource mobilization.

Table 31: Estimation of Public expenditure on health

Assumptions	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP growth rate (AEO)	1.17%	1.70%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
GDP in millions USD (WB 2013)	3,440	3,498	3,558	3,569	3,579	3,590	3,600	3,611	3,622
THE% GDP (GHED)	3%	3%	3%	3%	3%	3%	3%	3%	3%
THE					107.38	107.70	108.03	108.35	108.67
GGE% THE		46%	46%	46%	46%	46%	46%	46%	46%
GoE Expenditure					49.39	49.54	49.69	49.84	49.99

The projections for sustainability were based on projections of:

- The estimates for Eritrea for GDP growth rate using data from the African Economic Outlook (2016).
- The world Bank estimates for GDP for Eritrea
- The estimates of Total Health Expenditure as a proportion of GDP projections from the Global Health Expenditure database.

Based on these estimates the estimates for Government of Eritrea expenditure were estimated and projected as in the Table 4 above. A conservative assumption that there would be no growth in Total health expenditure as a proportion of GDP was made.

Table 32: Funding gap for the Health sector Plan (Moderate Scenario)

Million USD	2017	2018	2019	2020	2021	Total
Total Cost	440.9	136.72	137.04	126.73	126.538	967.16
Govt of Eritrea	49.39	49.54	49.69	49.84	49.99	248.46
GAVI (*only HSS Grant*)	2.4	1.92	1.92	1.92	1.92	10.08
GFATM *(Current ATM grant*)	19.13	0	0	0	0	19.13
UN Agencies for health	9.02	9.02	9.02	9.02	9.02	45.1
Total available	79.94	60.48	60.63	60.78	60.93	322.77
Funding gap	$360.96	$76.24	$76.41	$65.95	$65.61	$644.39
Funding gap %	82%	56%	56%	52%	52%	67%

Based on these estimates, a funding gap was calculated using the projections of funding available from the government and the partners as in the Table 5 above. Based on this, the funding gap for the plan averages out to 67% ranging from 52% to 82% in the first year of the plan.

8.8. Costing Summary

The analysis above shows that the government of Eritrea will have to spend just under 1 billion dollars for investments in the health sector and health to realize a 40% reduction in MMR and a 35% reduction in IMR by the end of the strategic period amidst other intermediate gains such as reduction in HIV mortality and total fertility rates.

The biggest drivers of the costs are Human Resource costs and the programmatic management which jointly account for up to 70% of total costs. This is likely to undermine allocative efficiency since more

expenditure is going to HR and training (36.2% of the program costs) and much less to other critical inputs to service delivery like drugs and supplies and infrastructure.

Even though the moderate and aggressive scenarios achieve similar absolute mortality rates in the final year of the strategic period, the cumulative deaths averted, infections averted and other benefits are greater in the aggressive scenario than the moderate scenario. Judgment on the relative cost-effectiveness of the moderate scenario compared to the aggressive scenario is required.

Finally, the financial sustainability analysis, though constrained by the assumptions used, shows that the current plan is likely to be unaffordable given the available resources. Thus a resource mobilization plan will be necessary to effectively implement the plan.

CHAPTER 9: IMPLEMENTATION ARRANGEMENTS

9.1 National, Zoba and sub zoba institutional framework

All three levels, annual operational plans should be guided by the HSSDP. Coordinating mechanisms will be put in place, to ensure that implementations are carried out in the spirit of the over arching national health sector strategic plan. At national level the Minister of Health or its delegated body will provide an oversight and guidance of implementation arrangements of plans of all levels. At zoba level the Zoba Medical Officer on behalf of the Minister of Health will take the responsibility of coordinating implementation arrangement of plans specific to his/her level of authority.

9.2 Roles and responsibilities in implementing the plan

Health is one aspect of the National Development Agenda. In this context all line Ministries, and other stakeholders concerned are expected to play complementary role in promoting the health agenda based on their comparative advantage. The Ministry of Health will play its lead role in coordinating with all stakeholders of joint planning, implementation, monitoring & evaluation of projects and programs designed within the context of the HSSDP II.

9.5 Communication plan

Once the development of the HSSDP reaches its final phase it will be subjected to a National validation and consensus building workshop where all stakeholders will be made to participate. After the plan secures endorsement and approval by relevant authorities it will be widely disseminated to all zobas, and development partners. Subsequently during the period of implementation annual progress reports, MTR reports and end term evaluations reports will be communicated through an appropriate platform to all relevant all partners concerned.

9.6 Partnership and coordination framework

As clearly outlined in the National Health Policy, development partners shall be encouraged to contribute technical and financial support with an emphasis on untied and predictable aid, while efforts are being made to move towards self sufficiency and sustainability. Efforts will be made to ensure that all resources will be aligned to NHP and HSSDP and avoid parallel implementation structures by use of coordinated sector wide approach. Joint partners Government and Development Partners will undertake mutual assessments of progress in implementing agreed commitments on aid effectiveness.

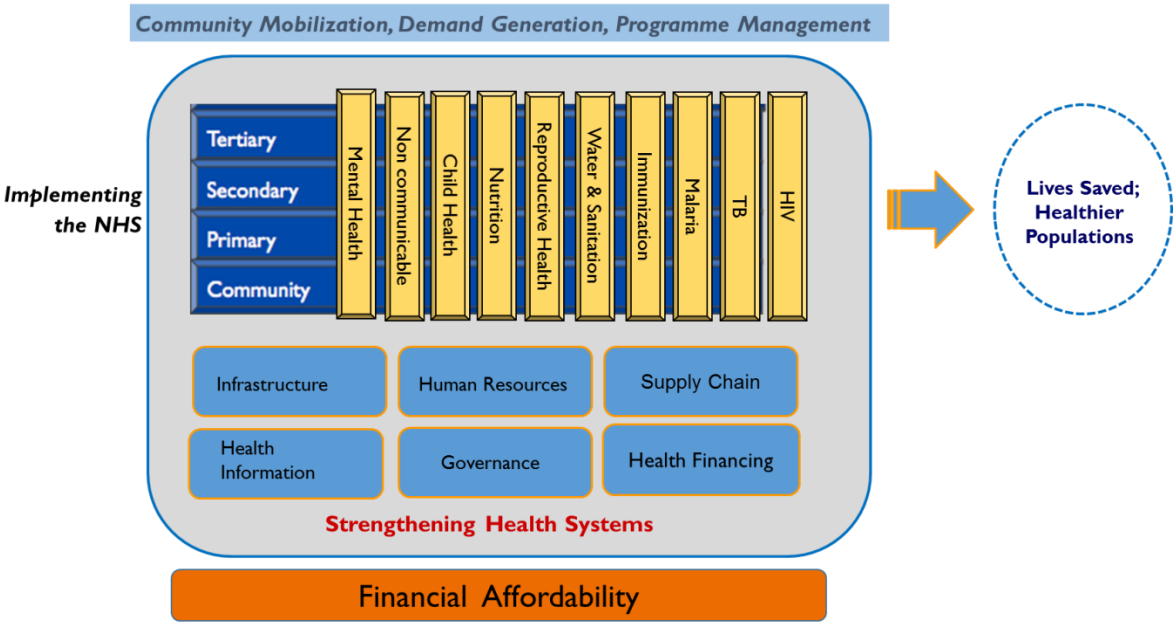
References

World Health Organization. (2016). World health statistics 2016: Monitoring health for the SDGs, sustainable development goals.

Annex 1: Brief overview of the OneHealth tool

The OneHealth Tool (OHT) was developed by the Interagency Working Group on Costing (WHO, WB, UNICEF, UNFPA, UNNAIDS) together with Futures Institute in the USA. This tool was developed in response to response by countries at the World Health Assembly. The aim of the tool is to provide a joint platform for costing of all disease program and health system requirements so as to reduce the 'tool burden' on countries for costing. Its additional advantages are that it provides a platform that allows ongoing interaction between planning and costing. It is also able to provide estimates of the likely return on investment in the health system in terms of the likely effect of investment on maternal mortality rate, infant mortality rates, deaths averted and the gain in life years.

The OneHealth tool has two main interfaces as shown in Figure 3. These include the Costing interface and the Impact module.



The ***costing interface*** in the tool has two components. These include the *health services module* and the *health system module*. The Health Services module can be configured to determine costs within each program. The program mode includes 8 default programs but can be configured to include other programs or modified programs. It can be configured to determine costs by delivery channel. The costing approach used the ingredients approach. This approach identifies the inputs necessary for an activity or service. Once the inputs are identified, the quantities of the inputs are determined. Unit costs for each input are imputed to the inputs and a total cost for the input is determined according to the equation: $cost\ of\ services = number\ of\ service * unit\ cost\ of\ the\ service$

Where the number of services required in the tool are determined using the formula: $number\ of\ services = target\ population * population\ in\ need * coverage$