GOVERNMENT OF THE REPUBLIC OF MALAWI

Health Sector Strategic Plan II (2017-2022)

ACKNOWLEDGEMENTS

The Ministry of Health expresses its profound gratitude to all stakeholders that have contributed the development of the Health Sector Strategic Plan II (2017-2022). The concerted efforts of Government institutions, development partners and other health stakeholders made this possible.

We would like to thank partners that funded or provided technical expertise to the process: DFID through Options Consultancy for funding thematic analyses, the University of York for funding and providing technical support for EHP revision, USAID for funding HSSP II costing, the World Bank for funding HSSP consultations and other activities, the WHO regional Office and WHO CHOICE for provide technical expertise and data respectively and the Health Services Joint Fund for funding the equipment survey. We would also like to thank all members of the HSSP II Core Team for driving the process.

Dr Dan Namarika
Secretary for Health
April 2017

ACRONYMS

A&E	Accident and Emergency
ACT	Artemisinin-based Combination Therapy
ADC	Area Development Committee
AIP	Annual Implementation Plan
AJR	Annual Joint Review
ANC	Antenatal Care
ARI	Acute Respiratory Infections
ART	Antiretroviral Therapy
BCC	Behaviour Change Communication
BEmONC	Basic Emergency Obstetric and Neonatal Care
BHP	Basic Health Package
BoD	Burden of Disease
BP	Blood pressure
CBHBC	Community Based Home Based Care
CDC	Center for Disease Control and Prevention
CDR	Case Detection Rate
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CH	Central Hospital
CHAM	Christian Health Association in of Malawi
CHSU	Community Health Sciences Unit
CHW	Community Health Worker
CMED	Central Monitoring and Evaluation Department
CMR	Child Mortality Rate
CMST	Central Medical Stores Trust
CoM	College of Medicine
CPR	Contraceptive Prevalence Rate
CSO	Civil Society Organisation
DALY	Disability Adjusted Life Year
DC	District Commissioners
DEC	District Executive Committee
DFID	Department for International Development
DHMT	District Health Management Team
DHRMD	Department of Human Resource Management and Development
DHO	District Health Officer
DHS	Demographic and Health Survey
DIP	District Implementation Plan
DoDMA	Department of Disaster Preparedness Management Affairs
DOTS	Directly Observed Treatment, Short Course (for Tuberculosis)
DPSM	Department of Public Sector Management
DPT	Diphtheria, Pertussis and Tetanus
EH	Environmental Health
EHP	Essential Health Package
EHRP	Emergency Human Resource Plan
EML	Essential Medicines List
EmOC	Emergency Obstetric Care
EmONC	Emergency Obstetric and Neonatal Care
EMS	Essential Medicines and Supplies
FGD	Focus Group Discussion

GBV	Gender-based violence
GDP	Gross Domestic Product
GFATM	Global Fund for the Fight against AIDS, Tuberculosis and Malaria
GoM	Government of Malawi
GVH	Group Village Headman
HCAC	Health Centre Advisory Committee
HCMC	Health Centre Management Committee
HCW	Health Care Worker
HDP	Health Development Partners
HEU	Health Education Unit
HIS	Health Information System
HMIS	Health Management Information System
HPV	Human Papillomavirus
HR	Human Resources
HRH	Human Resources for Health
HRMIS	Human Resources Management Information System
HSA	Health Surveillance Assistant
HSC	Health Services Commission
HSS	Health Systems Strengthening
HSSP	Health Sector Strategic Plan
HSWG	Health Sector Working Group
HTC	HIV Testing and Counselling
ICT	Information and Communication Technology
IEC	Information Education and Communication
IFMIS	Integrated Financial Management Information System
IHD	Ischaemic Heart Disease
IHP+	International Health Partnerships and other Initiatives
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
IPSAS	International Public Sector Accounting Standards
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
IT	Information Technology
ITN	Insecticide Treated Nets
JANS	Joint Assessment of National Strategic Plans
JAR	Joint Annual Review
KCN	Kamuzu College of Nursing
LF	Lymphatic filariasis
LLITN	Longer Lasting Insecticide Treated Net
LMIS	Logistics Management Information System
LRI	Lower Respiratory Infections
M&E	Monitoring and Evaluation
MBTS	Malawi Blood Transfusion Service
MCH	Maternal and Child Health
MDG(s)	Millennium Development Goal(s)
MDR	Multi Drug Resistant
MGDS	Malawi Growth and Development Strategy
MICS	Multiple Indicators Cluster Survey

MMR	Maternal Mortality Ratio/Rate
MoEST	Ministry of Education, Science and Technology
MoF	Ministry of Finance
MoH	Ministry of Health
MoLGRD	Ministry of Local Government and Rural Development
MoU	Memorandum of Understanding
MP	Member of Parliament
MTC	Mother To Child
MTEF	Medium Term Expenditure Framework
MTHUO	Malawi Traditional Healers Umbrella Organization
MTR	Medium Mid-Term Review
MYR	Mid-Year Review
NAO	National Audit Office
NCD	Non-Communicable Disease
NCST	National Commission for Science and Technology
NDP	National Drug Policy
NGO	Non-Governmental Organization
NHA	National Health Accounts
NHSRC	National Health Sciences Research Committee
NLGFC	National Local Government Finance Committee
NMR	Neonatal Mortality Rate
NPHI	National Public Health Institute
NSO	National Statistical Office
NTDs	Neglected Tropical Diseases
ODPP	Office of the Director of Public Procurement
OI	Opportunistic Infection
OPC	Office of the President & Cabinet
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PAM	Physical Assets Management
PBM	Performance-Based Management
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PHAST	Participatory Sanitation And Hygiene Transformation
PHC	Primary Health Care
PHIM	Public Health Institute of Malawi
PHL	Public Health Laboratory
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission of HIV
PNC	Post Natal Care
PoW	Program of Work
PPP	Public Private Partnership
QA	Quality Assurance
QM	Quality Management
RH	Reproductive Health
RTA	Road Traffic Accidents
RUM	Rational Use of Medicines
SBCC	Social Behaviour Change Communication
SDP	Service Delivery Point

SHI	Social Health Insurance
SLA	Service Level Agreement
SMT	Senior Management
SOPs	Standard Operating Procedures
SRH	Sexual and Reproductive Health
STH	Soil Transmitted Helminths
STI	Sexually Transmitted Infection
SWAp	Sector Wide Approach
TA	Technical Assistance
TA	Traditional Authority
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
TORS	Terms of Reference
TWG	Technical Working Group
U5MR	Under Five Mortality Rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VDC	Village Development Committee
VH	Village Headman
VHC	Village Health Committee
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WHS	World Health Survey
ZHSO	Zonal Health Support Office

FOREWORD

The Government of Malawi is committed to ensuring that people in Malawi attain the highest possible level of health and quality of life. This will be achieved by ensuring universal coverage of basic health care which is the obligation of Government according to the Republican constitution but also an important area for investment by development partners, private institutions and other organisations due to its catalytic effect to the economic sector.

HSSP II development started at an opportune time when the Millennium Development Goals (MDGs) had just ended and the Sustainable Development Goals were launched. The HSSP II therefore incorporates the SDG agenda and builds on the attainment of MDGs 4 and 6, reducing child mortality and combating HIV and AIDS, Malaria and other diseases respectively; reduction in maternal mortality and; high coverage of certain key interventions such as skilled attendance at birth and immunisation. The HSSP II has used latest evidence and methods to revise a Basic Health Package that is more realistic than its predecessor packages and helps the public health sector to achieve higher total population health, increase financial risk protection and client satisfaction with health care.

It is well known that health care provision in Malawi is highly dependent on external financing. The HSSP II has therefore focussed on strengthening governance of the health sector in order to improve efficiency and get the maximum out of existing resources i.e. human, financial and material. The HSSP II has also put to the fore exploration of domestic financing mechanisms, although it is still envisaged that development aid to the health sector will be critical to sustain the gains made. We therefore look forward to continued support from our development partners.

As a strategic document that we have jointly formulated, it is my sincere hope that it will henceforth become the single most important point of reference for design of service delivery programmes, resource mobilization and health financing, as it embodies our dream for a better health care delivery system for all the people of Malawi.

EXECUTIVE SUMMARY

The Health Sector Strategic Plan II (HSSP II) 2017-2022 is the health sector's medium term strategic plan outlining objectives and activities and guiding resources over the period 2017-2022. It succeeds the HSSP I (2011-2016). The aim of the HSSP II builds on the successes achieved under the previous plan while addressing areas where targets were not met and progress slow.

Under the HSSP I Malawi made substantial health gains. HSSP I targets for Under-5 mortality and infant mortality were surpassed, 63/1000 live births against a target of 78/1000 livebirths for the former and 42/1000 livebirths against a target of 45/1000 for the latter. There was also a steady decline in the maternal mortality ratio (MMR), which was estimated at 439/100,000 live births in 2016, down from 675/100,000 in 2010. Despite the progress, Malawi's MMR and neonatal mortality rate (NMR) are among the highest in Sub-Saharan Africa. The HIV prevalence among women and men age 15-49 age decreased between 2010 and 2015-16 from 10.6% CI [9.6%-11.6%] to 8.8%, CI [8.0%-9.5%].

The gains in health outcomes could partially be attributed to increased utilisation of some key services such as skilled attendance at birth which was estimated at 90% in 2016 and the percentage of pregnant women making at least one ANC visit during pregnancy was 95%. On the other hand, only 24% of pregnant women had their first ANC visit in the first trimester; only 51% had four or more ANC visits and only 42% of women and 60% of new-borns received a postnatal check 48 hours of birth. Median coverage of basic vaccinations reached as high as 95% although there was a decline in the percentage of children aged 12-23 months were fully immunized from 81% in 2010 to 71.3% in 2016.

There was mixed progress with regard to development of health systems. The MoH promoted a total of 2,438 staff to more senior positions in the 2014/2015 fiscal year (FY), across many cadres. These promotions however did not extend to health staff working in CHAM facilities, which has created inequities across the workforce. There is still a vacancy rate of 45%, however. During the HSSP I period, a total of 12 new health facilities (1 district hospital and 11 health centres) were constructed. The proportion of the population living within 8 km radius of health facility, however, declined from 81% in 2011 to 76% in 2016. This indicates that there is still a significant proportion of the population that is underserved, especially those residing in the rural and hard to reach areas.

The health care system experienced regular shortages of essential medical products and technologies. This was due to many factors including inadequate funding, weak supply chain management, irrational use of medicines and leakage and pilferage. In 2015/16 FY, only an average of 24% of health facilities could maintain enough stocks to cover 1 to 3 months for the 23 HSSP I tracer medicines and medical supplies against a national target of 60%. For health information systems, critical milestones were achieved at policy level including development of an eHealth strategy, an approved HIS Policy (October 2015), an updated handbook of national indicators and a HIS operational plan. Challenges still remain, the key one being the existence of parallel reporting systems which has created

structural challenges and weakened the mainstream monitoring and evaluation system. There was mixed progress with respect to governance of the health sector over the past five years. Weak governance structures resulted in poor coordination.

Health care financing in Malawi remains unsustainable and unpredictable. During the period 2012/13-2014/15, development partners' contributions accounted for an average 61.6% of total health expenditure (THE), Government accounted for an average of 25.5% and households 12.9% of THE. In the HIV/AIDS subsector, donor contributions average 95% of total financing. Health care financing reforms were hence explored such as feasibility of a national health insurance scheme and establishment of a health fund.

Inequalities in health outcomes and health care access persisted during HSSP 1; there were differences by wealth status, education, gender and geographical location. The 2016 MDHS shows, for example, that the prevalence of stunting in children under five years is 46% among children in the lowest wealth quintile, 37% among those in the middle wealth quintile and 24% for children in the highest wealth quintile.

The HSSP II aims to further improve health outcomes through the provision of a basic health package (BHP) and health systems strengthening for efficient delivery of the BHP. The goal of the HSSP II is to achieve universal health coverage of quality, equitable and affordable health care with the aim of improving health status, financial risk protection and client satisfaction. Objective 1 builds on the successes of the Essential Health Package (EHP), which has outlined the health care interventions available to all Malawians, free at the point of access, since 2004. Objective 2 addresses the environmental and social risk factors that impact on health care requirements and health outcomes. Objectives 3-8 focus on elements of the health system that are required for the effective, efficient and quality provision of health care interventions, namely human resources, infrastructure, medical equipment, medicines and medical supplies, information systems, governance and leadership and financing. A primary concept of the HSSP II has been the rationalisation of the health sector's objectives and activities. The design of the HSSP II has been more realistic than ambitious to ensure that that all objectives are actually achieved.

The five-year cost of the HSSP II is estimated to be USD $3,189 million. Costs increase from $629 million in 2017/18 fiscal year (FY) to $646 million in 2021/22. The total cost per capita each year ranges from $35 to $37.

The HSSP II will be implemented by DHOs, central hospitals, development partners, civil society organisations, Non-Governmental Organisations (NGOs) and other health stakeholders. It will be monitored and evaluated using a set of indicators separated into national core health indicators and program level indicators. Routine and survey data will be used to measure progress. The MoH will work towards a harmonized country-led M&E framework.

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1. Introduction

1.1. Context

Malawi is a landlocked country with a surface area of 118,484 km of which 94,276 km is water. Administratively, the country is divided into three regions, namely the northern, central and southern regions. The country has 28 districts, which are further divided into traditional authorities (TA) ruled by chiefs. The Traditional Authorities are sub-divided into villages, which form the smallest administrative units. Politically, each district is divided into constituencies that are represented by Members of Parliament (MPs) in the National Assembly and constituencies are divided into wards which are represented by local councillors in District Councils.

The country has an estimated population of 17.4 million people in 2017[1] with an average annual growth rate of 2.7%, giving an estimated population of 20.4 million people by 2022. An estimated 84% of the population lives in the rural areas as compared to 16% in urban centres. Malawi is predicted to experience an average annual urban population growth rate of 4.2% from 2013 to 2030[2], which will result in an increase in urbanization. Malawi has a young population with 64% of the total population under the age of 15, 18% under the age of 5 and only 3% above 65 years. Life expectancy is estimated at 58.4 for both sexes in 2017.

Malawi's Gross Domestic Product (GDP) per capita in 2015 was estimated at USD381.40[3]. Real GDP growth for Malawi was reported as 2.9% in 2016[4]. The economy is predominantly agro-based, with agriculture and forestry and fishing contributing to 28% of GDP[5]. Informal employment is higher than formal employment, estimated at 89% and 11% respectively[6]. The mean and median earnings per month for the total economically active population were estimated at USD114 and USD37, respectively. Development aid plays a key role in the economy and in the health sector it accounts for on average 62% of total funding[7]. In addition, diaspora remittances increasingly contribute to the country's economy, estimated at USD34 million in 2015[8].

Literacy is higher among men (83%) than women (72%)[9]. The median number of schooling years completed has increased significantly over time; in 1992 it was estimated at 0.4 years for women and 4.3 years for men compared with 5.6 years for women and 6.6 years for men. This shows that Malawi has also made significant strides in narrowing gender disparities in education. The 2015-16 Malawi Demographic and Health Survey has demonstrated increased women empowerment over time by various attributes. For example, the percentage of women involved in decisions about their health care increased from 55% in 2010 to 68% in 2015-16 and women's involvement in decisions about major household purchases increased from 30% to 55% over the same period.

[1] National Statistical Office in 2016 Population Projections
[2] Unicef 2015
[3] Audit Report – Global Fund Grants for Malawi – October 2016
[4] National Accounts and Balance of Payments Technical Committee, Ministry of Finance, Economic Planning and Development and National Statistics Office, Sept. 2016
[5] ibid
[6] The Malawi Labour Force Survey 2013
[7] National Health Accounts for 2012/13-2014/15
[8] World Development Indicators 2017
[9] Malawi Demograhic and Health Survey 2015-2016

1.2. The Malawi health care system

Health services in Malawi are provided by public, private for profit (PFP) and private not for profit (PNFP) sectors. The public sector includes all health facilities under the Ministry of Health (MOH), district, town and city councils, Ministry of Defence, Ministry of Internal Affairs and Public Security (Police and Prisons) and the Ministry of Natural Resources, Energy and Mining (Ministry of Health, 2008b). Public provision of health care is enshrined in the republican constitution which states that the State is obliged "*to provide adequate health care, commensurate with the health needs of Malawian society and international standards of health care*" (Ministry of Justice, 2006). Health services in the public sector are free-of-charge at the point of use. The PFP sector consists of private hospitals and clinics. Traditional healers are also prominent and would be classified as PFP. The PNFP sector comprises of religious institutions, non-governmental organisations (NGOs), statutory corporations and companies. The major religious provider is the Christian Health Association of Malawi (CHAM) which provides approximately 29% of all health services in Malawi (MSPA 2014). Most private and private-not-for-profit providers charge user fees for their services. Table 1 shows the distribution of health facilities by type and ownership.

Table 1: Health Facilities in Malawi

	Government	CHAM	Private	NGO	Company	Total
Hospital	51	44	22	2	0	119
Health Centre	360	112	5	5	7	489
Dispensary	46	2	2	0	5	55
Clinic	25	11	223	52	58	369
Health Post	27	1	0	0	0	28
Total	509	170	252	59	70	1060

Source: Ministry of Health and ICF International (2014)

Malawi's health care system is organised at three levels namely: primary, secondary and tertiary. These different levels are linked to each other through an established referral system. Primary and secondary level care fall under district councils. The District Health Officer (DHO) is the head of the district health care system and reports to the District Commissioner (DC) who is the Controlling Officer of public institutions at district level.

1.2.1. Primary level

At primary level, health services are provided by health surveillance assistants (HSAs) in communities, health posts, dispensaries, maternity clinics, health centres and community hospitals. Each HSA is responsible for about 1,000 people and there are currently about 11,000 HSAs in post. HSAs mainly provide promotive and preventive health care through door-to-door visitations, village clinics and mobile clinics (Ministry of Health, 2011). Health centres offer outpatient and maternity services and are meant to serve a population of 10,000. Community hospitals are larger than health centres. They offer outpatient and inpatient services and conduct minor procedures. Their bed capacity can reach up to 250 beds (Ministry of Health, 2011).

1.2.2. Secondary level

The secondary level of care consists of district hospitals and CHAM hospitals of equivalent capacity. Based on Table 6, secondary level health care facilities account for 9.5% of all health care facilities. They provide referral services to health centres and community hospitals and also provide their surrounding populations with both outpatient and inpatient services.

1.2.3. Tertiary level

The tertiary level consists of central hospitals. They ideally provide specialist health services at regional level and also provide referral services to district hospitals within their region. In practice, however, around 70% of the services they provide are either primary or secondary services due to lack of a gate-keeping system (Ministry of Health, 2011).

1.2.4. Ministry of Health headquarters

The functions of the central level include policy making, standards setting, quality assurance, strategic planning, resource mobilisation, technical support, monitoring and evaluation and international representation. Five Zonal Health Support Offices (ZHSOs) are an extension of the central level and provide technical support to districts.

1.3. HSSP II development process

The Ministry of Health instituted a steering committee that was chaired by the Director of Planning and Policy Development in MoH and had representation from all key stakeholders in the health sector to guide and coordinate the development of the HSSP II. The Directorate of Planning and Policy Development then developed a concept paper which outlined the framework for HSSP II development. The Steering Committee prepared a roadmap for developing the HSSP II detailing the key activities to be undertaken and the time frame for implementation.

The HSSPII development process involved a broad range of stakeholders and this was done through consultative workshops, technical working groups and visits to institutions. Departments and disease control programmes at Ministry of Health headquarters, District Health Offices, Central Hospitals, regulatory bodies, other Ministries, Departments and Agencies (MDAs), the private sector, development partners and Civil Society Organizations(SCOs) were consulted. The document was then subjected to a Joint Assessment of National Strategies (JANS) process to strengthen its quality.

A Consultant undertook an initial review of HSSP (2011-2016) and then DPPD lead problem tree analysis was undertaken to identify the root causes of poor health outcomes and health care system challenges. Health care system problem analysis was done with respect to access, efficiency and quality. The HSSP II process benefited from problem analysis that was undertaken as part of the development of the quality of health care strategy which happened parallel to the HSSP II process. Consultants undertook more detailed analyses in the areas of medical products, human resources for health, medical infrastructure and equipment. From these processes, a situation analysis of health and the health care system in Malawi was drafted. A workshop was then held with a wide range

of health sector actors to agree on HSSP II priorities based on the situation analysis. The process of revising the essential health package (EHP) was undertaken simultaneously with a series of inclusive meetings and workshops taking place.

2. Situation Analysis

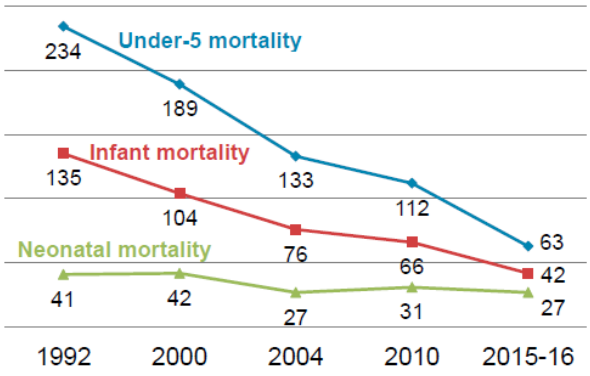
From 2011-2016, the Health Sector Strategic Plan (HSSP I) guided the Ministry of Health and all stakeholders. The goal of the HSSP I was '*to improve the quality of life of all the people of Malawi by reducing the risk of ill health and the occurrence of premature deaths, thereby contributing to the social and economic development of the country*'[10]. In achieving this, the HSSP would contribute to the attainment of the Malawi Growth and Development Strategy (MGDS II) and the Millennium Development Goals (MDGs). Substantial progress was made during the implementation of the plan over the last five years, while many challenges also remain. This chapter first looks at progress made with respect to health outcomes and then the health care system.

2.1. Health Status

2.1.1. Progress at impact level and attainment of MDGs

There have been improvements in health status indicators over the HSSP 1 period. Figure 1 shows a steady decline in child mortality estimates over time. HSSP I targets of 78/1000 for Under-5 mortality and 45/1000 for infant mortality were surpassed. There is a steady decline in the maternal mortality ratio (MMR), which was estimated at 439/100,000 live births in 2016, down from 675/100,000 in 2010. Despite the progress, Malawi's MMR and neonatal mortality rate (NMR) are among the highest in Sub-Saharan Africa.

FIGURE 1: TRENDS IN CHILD HEALTH INDICATORS



Source: MDHS 2016

Malawi achieved four out of eight Millennium Development Goals (MDGs). Two of the goals that were met were reducing child mortality and combating HIV and AIDS, Malaria and other diseases. Table 2 shows progress against MDG targets that the health sector has influence over.

[10] Malawi Health Sector Strategic Plan 2011-2016

TABLE 2: STATUS OF MDG TARGETS IN MALAWI AT ENDLINE

GOAL	INDICATOR	BASELINE	MDG TARGET	ACHIEVEMENT	REMARK
Eradicate extreme poverty and hunger	Prevalence of Underweight children (%)	25.4	14	16.7	NOT MET
Reduce child mortality	Under five mortality rate (per 1000)	189	78	85	MET
	Infant mortality rate	103	44.7	53	
	Proportion of 1 year children immunised against measles	83.2	95.3	85	
Improve maternal health	Maternal mortality ratio (per 100,000)	1120	155	574	NOT MET
	Proportion of births attended to by skilled health personnel	55.6	100	87.4	
Combat HIV and AIDS, Malaria and other diseases	HIV prevalence among 15-24 year old pregnant women (%)	24.1	0	10.6	MET
	Prevalence and death rates associated with Malaria (%)	3.6	0	3.3	
	Access to Malaria treatment within 24h of onset of symptoms (%)	8		31	
	Proportion of households with at least one ITN	31		71	
	Death rates associated with Tuberculosis	22		8	
	Proportion of TB cases under DOTS (%)	57	100	84	

Source: Malawi Millennium Development Goals Endline report 2016
Note: Malawi Demographic and Health Survey (2016) has latest estimates for some of the indicators in the table

Despite making progress over the period of the last HSSP, Malawi continues to hold a high burden of disease, including HIV/AIDS, respiratory infections, malaria, diarrhoeal diseases and perinatal conditions. Furthermore, while Malawi continues to struggle with reducing its communicable disease burden, it is now faced with growth in non-communicable diseases and the double burden this brings.

According to the latest burden of disease estimates in the Global Burden of Disease report (2013), communicable diseases remain the leading causes of Disability Adjusted Life Years (DALYs) in Malawi. Table 3 shows the top 10 causes of DALYs in Malawi in 2011.

TABLE 3: LEADING CAUSES OF DALYS IN MALAWI, 2011

	Condition	% total DALYS
1.	HIV/AIDS	34.9
2.	Lower Respiratory Tract Infections	9.1
3.	Malaria	7.7
4.	Diarrhoeal Diseases	6.4
5.	Conditions arising during perinatal period	3.3
6.	Tuberculosis	1.9
7.	Protein Energy Malnutrition	1.6
8.	Road Traffic Accidents	1.5
9.	Abortions	1.4
10.	Hypertensive Heart Diseases	1.2

2.2. Service Provision

2.2.1. Reproductive, Maternal, Neonatal, Child and Adolescent Health conditions

2.2.1.1. Reproductive and Adolescent Health

Adolescent health indicators remain poor while there was progress with respect to some key reproductive health indicators during the HSSP 1 period. The MDHS (2016) reported that median age at first sexual intercourse for women age 25-49 has not changed between 2000 and 2016, 16.8 years for both years. Nineteen percent of women age 25-49 had first sex before age 15[11]. Consequently, the proportion of teenage pregnancies is high; 29% of adolescents aged 15-19 years have begun child bearing[12]. Adolescent pregnancies account for 25% of all pregnancies annually[13]. Malawi thus has a high adolescent birth rate of 143/1,000 live birth[14]. The minimum legal age marriage was increased from 16 to 18 years in the Marriage, Divorce and Family Relations Act of 2015 to address this problem.

The health burden resulting from adolescent pregnancies is significant. Adolescent pregnancies also account for 20% of maternal deaths while approximately 70,000 women have abortions every year

[11] MDHS 2016
[12] MDHS 2016
[13] MDHS 2010
[14] MoH (2015) National Youth Friendly Health Services Strategy 2015-2020

of which 33,000 are treated for subsequent complications annually. Unsafe abortions cause 17% of maternal deaths in Malawi. 50% of women presenting for post-abortion care are under the age of 25 years.

Attempts have been made to offset early pregnancies and the subsequent high population growth rate. The contraceptive prevalence rate (CPR) has significantly increased, from 42% in 2010 to 58%[15] in 2016 (targeted 60% for 2016). This trend has contributed to the decline in Total Fertility Rate from 5.7 births per woman in 2010 to 4.4 births per woman in 2016[16]. There is, however, still significant unmet need for contraception, with 19% of women wanting to delay pregnancy or not wanting to have any more children. Unmet need for family planning among unmarried sexually active women, mainly adolescents and young people, is higher at 40% and the contraceptive prevalence rate is only 44%[17], leading to high fertility rates for this demographic group.

2.2.1.2. Maternal and Neonatal Health

Section 2.1.1 showed progress made in this area at the impact level. This is partially attributable to high skilled attendance at birth at 90% in 2016[18] and high percentage of pregnant women making at least one ANC visit during pregnancy, at 95%. On the other hand, only 24% of pregnant women had their first ANC visit in the first trimester and only 51% had four or more ANC visits. Only 42% of women and 60% of newborns received a postnatal check 48 hours of birth.

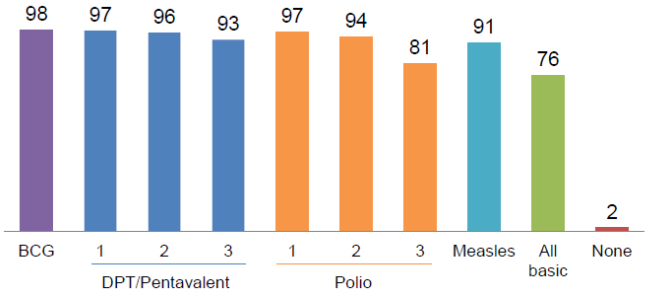
The numbers of health facilities that can provide a full package of comprehensive and basic emergency obstetric and neonatal care services are few. Only 45 (53%) hospitals and 29 (5%) health centres can provide a full package of comprehensive and basic emergency obstetric and neonatal care (CEmONC and BEmONC) services respectively and an additional 32% of hospitals and health centres provide partial CEmONC and BEmONC services respectively[19]. In addition to shortages of midwives and doctors to provide obstetric and neonatal services, there are also shortages of supplies and logistics in most health facilities and inadequate transport for referral of emergencies.

2.2.1.3. Child Health

Malawi adopted the Integrated Management of Childhood Illnesses (IMCI) approach for comprehensive and integrated management of common childhood illnesses. Nearly 70% of health facilities offer basic child health interventions using the IMCI approach. At community level, child hood illnesses are managed through the integrated community case management (iCCM) approach. The coverage of most childhood interventions has always been high and national immunization coverage of most antigens is over 85% as shown in Figure 2[20]. The 2010 MDHS report shows that 81% of children aged 12-23 months were fully immunized, but this has declined to 71.3% in 2016 (Figure 3). Therefore, a renewed push for full immunization coverage is required.

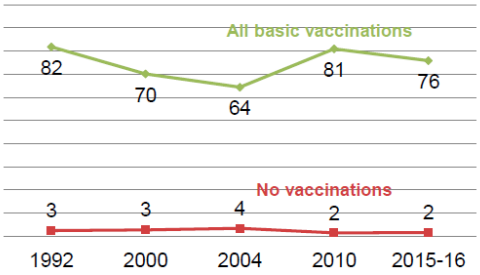
[15] MDHS 2016
[16] MDHS 2016
[17] MDHS 2016
[18] MDHS 2016
[19] Emergency Obstetric and New Born Care Needs Assessment – 2014 MoH
[20] EPI Comprehensive Multi-Year Plan, 2016-2020

FIGURE 2: COVERAGE OF BASIC VACCINATIONS AMONG CHILDREN AGE 12-23 MONTHS



Source: MDHS 2016

FIGURE 3: PERCENTAGE OF CHILDREN AGE 12-23 MONTHS WHO RECEIVED ALL BASIC VACCINATIONS



Source: MDHS 2016

Acute respiratory Infections (ARIs) are still significant causes of morbidity and mortality especially among children under five years. Overall, ARIs are the second leading cause of DALYs in Malawi and the leading cause of mortality. According to the MDHS 2016, mothers reported that 5% of children Under-5 had symptoms of ARI 2 weeks before the survey, 29% had fever and 22% had a diarrhoeal episode.

2.2.2.HIV/AIDS and sexually transmitted infections (STIs)

Malawi continues to make progress in the fight against HIV and AIDS response. The HIV prevalence among women and men age 15-49 age has decreased between 2010 and 2015-16 from 10.6% CI [9.6%-11.6%] to 8.8%, CI [8.0%-9.5%][21]. The national HIV incidence for both women and men age 15-49 years is 0.32% CI [0.16-0.48]. Malawi is a global pioneer of the "Option B+" programme, which automatically puts HIV+ pregnant and breastfeeding women on life-long antiretroviral therapy (ART)[22]. Eighty percent of pregnant women infected with HIV were on ART by May 2015 through the Option B+ programme. Malawi aims to achieve the 90-90-90[23] targets and it is estimated in 2016 that 72.7% of people living with HIV and AIDS (PLHIV) age 15-64 know

[21] MDHS 2016
[22] UNAIDS 2016. UNAIDS in Malawi. Shaping a fast track agenda to end AIDS: 2014-15 biennium report.
[23] By 2020, 90 percent of all PLHIV will know their HIV status; 90 percent of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 90 percent of all people receiving ART will have viral suppression.

their status, 88.6% are on ART, while among those who are on ART, 90.8% are virally suppressed[24]. By end of 2015, more than half of the 1.1 million HIV positive people (795,144) had been initiated on ART, with a sustained reduction of the newly infected every year from 120,000 in 1999 to 33,000 in 2015. Approximately 80% of HIV infected TB patients were receiving ART. There is a gradual decline in AIDS deaths estimated at 31,000 in 2015 and projected to fall below 25,000 by 2020 with a gradual increase in the number of patients on ART.

MDHS (2016) reported that 15% of women and 10% of men age 15-49 who responded that they ever had sex, reported having an STI or symptoms of an STI 12 months before to the survey.

While there has been a clear success in the treatment of HIV and AIDS, there is unsatisfactory and inconsistent utilization of HIV preventive measures. Condom use at last sex with a non-marital, non-cohabiting partner was estimated at 54% among young women and 76% among young men. Misconceptions and lack of women's negotiating power have contributed to this low and inconsistent condom use. In addition to this, sexual violence is high; 20% of women have experienced sexual violence since the age of 15[25].

2.2.3.Tuberculosis

Malawi has registered significant progress in the prevention, control and management of TB over the last five years. Strategies put in place to strengthen TB/HIV collaboration are further enhancing efforts in the control and management of TB. The number of TB cases notified has decreased to just below 18,000 cases recorded in 2014. The death rate associated with TB has also decreased from 19% in 2005 to 8% in 2014. TB treatment success rate is reported at 86% (above the WHO target of 85%). A total of 106 Rifampicin resistance (RR)/multi-drug resistant MDR cases were reported, of which 19 were confirmed and 17 were put on second line treatment.

Preliminary results from the national TB Prevalence Survey conducted in 2014, however, indicate that there is still a high TB burden in Malawi with an estimated prevalence of 451/100,000 among the adult population with an adjusted prevalence for all age groups at 286/100,000. This is twice the 2014 WHO target of 140/100,000.

2.2.4.Malaria

Malaria is endemic throughout Malawi and continues to be a major public health problem with an estimated 6 million cases occurring annually. It is a leading cause of morbidity and mortality in children under five years and pregnant women. Malaria accounts for over 30% of outpatient visits[26] and is ranked 3rd on the list of conditions that result in Years Lost to Disability[27].

Malaria control efforts have focused on scaling up interventions for prevention and treatment of malaria. Long Lasting Insecticide Nets (LLINs) were distributed to pregnant women and children through routine channels and mass distribution campaigns to scale up vector control measures. There are mixed results with respect to coverage of malaria prevention interventions during the HSSP I period. The percentage of pregnant women who received at least one dose of the

[24] Malawi Population-Based HIV Impact Assessment MPHIA 2015–2016
[25] MDHS 2016
[26] MoH, 2012 HMIS data
[27] Global Burden of Disease, 2013

recommended IPTp dosage during ANC visit increased from 60.4% in 2010 to 89% in 2016, however only 63% reported taking two or more doses[28]. The percentage of children under five years who slept under an ITN decreased from 55.4% in 2010 to 45% in 2016, while for pregnant women, it decreased from 50.8% to 47% in the same period[29]. The coverage of Indoor Residual Spraying (IRS) however is very low due to lack of financial resources and resistance to chemicals. Treatment of malaria cases has greatly improved with the rolling out of the use of rapid diagnostic tests (RDTs) to all facilities and ensuring that every suspected malaria case has to be confirmed before prescribing any antimalarial.

Mortality due to malaria has reduced, as demonstrated by a reduction of malaria case fatality rate (CFR) from 46% in 2011 to 24% in 2014, representing a reduction of 50%. However, a number of districts still record high incidence and case fatality rates, where focused approach to address high incidence and case fatality rates of malaria is required.

2.2.5.Non Communicable Diseases Prevention and Control

Non-Communicable Diseases (NCDs) are increasingly contributing to the burden of disease in Malawi. NCDs are the second leading cause of deaths in adults after HIV/AIDS in Malawi. They account for 16% of all deaths with 17% in males and 14% in females. Malawi has very high levels of hypertension at 32.9% in adults, which is much higher than many countries in the region. Malawi also has a very high burden of cervical cancer (age standardized incidence of 75.9 per 100,000[30]) which accounts for 9,000 DALYs per year in women.

TABLE 4:PREVALENCE OF COMMON NON-COMMUNICABLE DISEASES IN MALAWI

Disease/condition	Prevalence	Data source
Hypertension	32.9%	NCD STEPS Survey 2009
Cardiovascular Disease (using cholesterol as a marker)	8.9%	NCD STEPS Survey 2009 N=3910, age 25-64 years)
Injuries other than RTA	8.5%	WHS[31]Malawi 2003 (N=5297, age>=18years)
Diabetes	5.6%	NCD STEPS Survey 2009
Asthma	5.1%	WHS Malawi 2003 (N=5297, age >=18 years)
Road Traffic Accidents (RTA)	3.5%	WHS Malawi 2003 (N=5297, age >=18 years)

*WHS - World Health Survey, World Health Organization Report 2005

In Malawi there are many people with mental disorders, a majority of whom seek medical care at health facilities but are misdiagnosed with a physical diagnosis due to the presenting physical symptoms. Common disorders such as depression and anxiety whose prevalence is estimated at 10-20% are often missed or not treated[32]. A link between ART treatment and the development of psychosis has been noted. In addition to depression and anxiety, alcohol and substance use or abuse of cannabis and other substances are very common with practically no drug treatment centre at primary, secondary or tertiary levels.

[28] MDHS 2016
[29] MDHS 2016
[30] GLOBOCAN 2012
[31] World Health Survey, World Health Organization Report 2005
[32] National Action Plan for Prevention and Management of NCDs in Malawi – 2012-2016

Several initiatives are being implemented to address some of the NCDs in Malawi. These include: World Diabetes Foundation project to improve access, care and prevention of NCDs and scaling up of Human Papilloma Vaccine (HPV) project targeting 9-13 year girls to prevent cervical cancer. An Alcohol Policy was approved in 2017 which will help regulate alcohol distribution and sales as a measure of addressing alcohol consumption; a mental health policy is currently under review to include emerging issues.

A national Dental & Oral Health Survey conducted in 2014 showed that 50% of school going children (6-9 years) had tooth decay and the prevalence of tooth decay among 12-17 years old was about 78%. A national Oral Health Week that focuses on oral health preventive and control measures such as dental health education, screening and treatment and tooth fluoridation was instituted as an annual event for the past five years. Over 3 million school going pupils were educated, screened and fluoridated over the last five years.

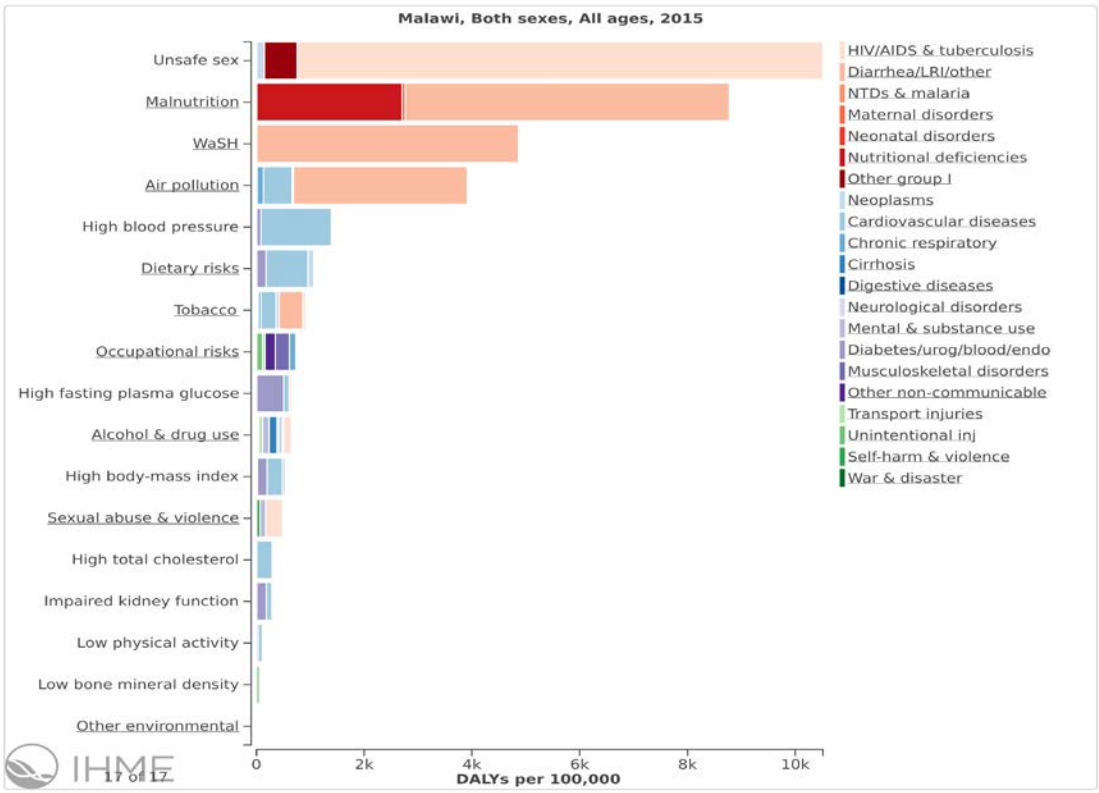
Poor health seeking culture/behavior, unhealthy lifestyles among the population, inadequate human and financial resources, poor reporting on DHIS2 NCDs and Mental Health data by health facilities and poor infrastructure for chronic care clinics remain key challenges to the prevention, control and care of NCDs.

2.3. Social Determinants of Health

The high burden of disease responsible for the high premature loss of life arises largely because of the conditions in which people are born, grow, live, work and age[33]. Figure 4 shows key risk factors and their contribution to the burden of disease based on 2015 burden of disease analysis for Malawi.

[33] 2008 Commission on Social Determinants of Health: *Closing the gap in a generation: Health equity through action on the social determinants of health*

FIGURE 4: MAJOR RISK FACTORS AND THEIR CONTRIBUTION TO BURDEN OF DISEASE



Source: Institute for Health Metrics and Evaluation. http://www.healthdata.org/malawi

One of the leading determinants of health is the level of education. Education influences almost all the risk factors in Figure 4. National surveys show that health indicators are worse among people who have no or little education than those who have received secondary education or higher. For example, the 2016 MDHS shows that more than 4 in 10 children born to mothers with no education (43%) are stunted compared with 38% of children born to mothers with primary education, 30% of children whose mothers have a secondary education and 12% of children born to mothers with more than a secondary education[34].

Living conditions is also another key determinant of health. The proportion of households who obtain drinking water from an improved source has increased from 80% in 2010 to 87% in 2016[35]. 52% of households usually use an improved and not shared toilet facility and proportion of households with no toilet facility at all has decreased from 13.5% in 2008 to 6% in 2016[36]. Household access to safe water and use of toilet are key in the control of water borne diseases. The majority of households in 2016 were using solid fuels (96%) which puts children at higher risk of respiratory infections if the rooms are not well ventilated.

[34] 2016 MDHS
[35] 2016 MDHS
[36] 2016 MDHS

Road traffic related injuries and death is becoming a big public health problem in Malawi. The total number of road traffic accidents increased by 11 percent from 7,390 in 2013/14 to 8,194 in 2015/16 and the number of people seriously injured and killed increased by 8% and 9% respectively[37]. Road traffic fatality rate in Malawi is 35 deaths per 100,000 population, which is above the African regional average of 26.6 deaths per 100,000 population, and twice the global average of 17.4 deaths per 100,000 population[38]. The majority of the road traffic accident (RTA) victims are pedestrians and cyclists due to mainly to poor visibility on roads and lack of use of reflector jackets.

2.4. Health Systems

2.4.1. Human Resources for Health

Persistent gaps in human resource capacity exist across all cadres, districts and health care levels within Malawi's public sector. The MoH has an estimated 23,188 personnel (out of a total of 42,309 positions that exist in the MoH staff establishment) working in the public health sector, a 45% vacancy rate (See Annex 1). For selected eight frontline categories of clinical staff only 17,298 positions are filled of 25,755 for both CHAM and MoH. Table 5 provides the summary.

TABLE 5: VACANCY RATE OF CLINICAL STAFF AGAINST ESTABLISHED POSITION FOR MOH AND CHAM

Cadre	Establishment	Filled	Vacant	% Vacant
Medical Officer	398	284	114	29%
Clinical Officer	3,135	1,159	1,976	63%
Nursing Officer	3,275	1,098	2,177	66%
Nurse Midwife Technician	8,626	3,475	5,151	60%
Medical Assistant	1,506	1,199	307	20%
Pharmacy Technician	1,063	218	845	79%
Lab Technician	1,053	397	656	62%
Health Surveillance Assistants	6,699	9,468	(2,769)	-41%
Total	25,755	17,298	8,457	33%

Source: HRH Assessment Report, June 2016

There is a 100% vacancy rate for clinical psychologist and consultant psychiatrist positions. Although the GoM trains at least 20 psychiatric nurses and psychiatric clinical officers every year, the number of psychiatric staff actively doing mental health activities is very low due to general shortage of nurses in the health system. There are no mental health counsellors in public health system.

The MoH promoted a total of 2,438 staff to more senior positions in the 2014/2015 fiscal year (FY), including, Medical Specialists, Medical and Clinical Officers, Nurses, Allied Health Professionals,

[37] Health Financing in Malawi: Fiscal Space Analysis and Prospects for Introducing Earmarked Taxes for Health – September 2016

[38] Health Financing in Malawi: Fiscal Space Analysis and Prospects for Introducing Earmarked Taxes for Health – September 2016

Administrative Officers and Medical Assistants. A number of HSAs were interviewed for promotion to Senior HSAs. These promotions however did not extend to health staff working in CHAM facilities, which has created inequities across the workforce.

Challenges in HRH include discrepancy between the establishment and need; for example, although HSAs have exceeded their establishment, the target of 1 HSA/1000 population requires about 16,000 HSAs and this is far from met; outdated and sometimes lack of job descriptions; mal-distribution of the available staff across cadres, levels of care, districts and urban versus rural; no national guidelines for in-service training or continuous professional development (CPD) leading to uncoordinated in-service trainings within and across Government, donors and NGOs and exacerbating the existing staff shortages in facilities; declining government preservice training budget over the last 3 years; limited quality of training in health training institutions particularly CHAM schools that have inadequate teaching staff and; poor quality of internship of health workers due to inadequate qualified supervisors.

2.4.2. Health Infrastructure and Equipment

During the HSSP I period, a total of 12 new health facilities (1 district hospital and 11 health centers) were constructed. MoH policy is that every Malawian should reside within an 8km radius of a health facility. The proportion of the population living within 8 km radius of health facility stands at 76% in 2016, a decrease from 81% in 2011. This indicates that there is still a significant proportion of the population that is underserved, especially those residing in the rural and hard to reach areas. There are also shortages of transport and communication infrastructure. The Malawi Service Provision Assessment Survey (MSPA) 2014 showed that of the 509 government health facilities in Table 1, only 63% had regular electricity, 91% had an improved water source, 22% had a client latrine and 69% had communication equipment. CHAM facilities performed slightly better in all categories. Only 24% of health facilities have a functioning ambulance. The state of maintenance of most vehicles is poor, especially in remote areas with bad roads[39]. There is also a critical shortage of staff houses at almost all health facilities. Most of the health facility infrastructure across both Government and CHAM is dilapidated due to long periods of lack of maintenance.

There are a number of challenges regarding medical equipment. The quantity and quality of equipment in Government and CHAM health facilities is low and 20-25% is out of service[40]. There are inadequate functional vehicles for both referral of patients and for general transport in the health sector. The status of medical equipment is not routinely tracked. Information was previously collected in the Planning and Management of Assets in the Health Sector (PLAMAHS) software which has not been updated since 2007. Equipment donations, or procurement with donated funds, are not in line with national needs and standards, and rarely include budgets for maintenance, infrastructure needs or training. There are insufficient qualified technical staff at all levels (DHOs and Regional Maintenance Units (RMUs). The capital investment rate has been very low, at only 5.4

[39] Service Provision Assessment – MoH, 2014e
[40] Inventories performed by PAM Q3/Q4 2016

percent of total health expenditure (THE) and not in tandem with the increased level of health spending[41].

2.4.3.Medical Products and Technologies

The health care system in Malawi has experienced regular shortages of essential medical products and technologies. This situation is due to many factors including inadequate funding, high disease burden, high purchasing prices, weak supply chain management, lack of drug storage spaces, unreliable information systems, irrational use of medicines, leakage and pilferage (Ministry of Health, 2011; Mueller et al., 2011; WHO, 2007). In 2015/16 FY, an average of 24% of health facilities could maintain enough stocks to cover 1 to 3 months for the 23 HSSP I tracer medicines and medical supplies against a national target of 60%.

There are numerous parallel supply chains for health products in Malawi, managed by different stakeholders. CMST, the body responsible for the procurement of drugs in the public sector, has been implementing the recommendations of the 2012 joint supply chain integration strategy, which outlined 36 benchmarks[42]. Warehousing and storage of health products continue to pose significant challenges across all levels of the health system. A new pharmaceutical warehouse is in the final stages of construction. CMST is not adequately capitalised which prevents it from purchasing sufficient medicines for the country and operating a revolving fund to ensure sustainability.

It is estimated that Malawi loses about 30% of the national drug budget to pilferage[43]. A health commodity leakage study[44] led to the establishment of the Drug Theft Investigation Unit (DTIU) and an 'Action Plan for Drug Availability and Security'. The DTIU is has demonstrated huge success in its inception period auditing, investigating and reaching a successful prosecution rate of 66%. The DTIU, however, faces the challenge of limited staff.

There is limited little quality control testing done to assess the safety and efficacy of medicines. The country receives a significant supply of donated drugs. Drug donation guidelines of 2008 are not enforced by the PMPB and this has resulted in proliferation of medicines, some short-dated and not aligned to the essential medicines list. The National Quality Control Laboratory is under-resourced in personnel and equipment[45]. As such, about thirty percent of medicines registered in Malawi are not assessed for full pharmacopoeial specification. The capacity of Drug and Therapeutic Committees (DTCs) in most health facilities is still weak.

2.4.4.Health Information System

The MoH continues to strengthen the collection and reporting of data through a harmonized Health Management Information System (HMIS), which includes the District Health Information Software (DHIS2). The DHIS2 is the central data repository, which aggregates routine health management information data emanating from health facilities. At the policy level critical milestones have been achieved in the area of health information systems (HIS), including an eHealth strategy, an approved

[41] National Health Accounts 2015
[42] Implementation of the 2012 Joint Strategy for Supply Chain Integration in Malawi - Evaluation Report: USAID. UKAID - March 2016.
[43] Nkhata, 2015
[44] Health Commodity Leakage in Malawi - Royal Norwegian Embassy - October 2013.
[45] Assessment Report of the Malawi Pharmacy, Medicines and Poisons Board – USAID - October 2015.

HIS Policy (October 2015), an updated handbook of national indicators and a HIS operational plan with budget. The new handbook of national indicators updates the 110 indicators of the health sector defined in 2003, aligned to the monitoring and evaluation (M&E) master plan developed by the Ministry of Finance, Economic Planning and Development (MoFEP&D).

The HIS, however, still has many weaknesses. The existence of parallel reporting systems has created structural challenges and weakened the mainstream monitoring and evaluation system. There are programme-specific M&E frameworks in addition to the HSSP M&E framework. Data quality is still poor due to challenges in recording, extracting and reporting data, with most facilities not able to collect and submit the required data on time. The MoH HIS relies on manual data collection and reporting processes, which makes it difficult to record, extract, share and use the data. Although some systems have been computerized there is no interoperability in their current state. There is inadequate human resource capacity and poor ICT infrastructure at all levels. Most of the research activities undertaken in the country are commissioned, conducted and funded externally and do not align with national health priorities included in the HSSP. Many gaps also exist in the management and sharing of research results at the local level, due to lack of a documentation system that supports the sharing of research reports and data in order to inform decision-making.

2.4.5.Leadership and Governance

2.4.5.1. National level

There has been mixed progress with respect to governance of the health sector over the past five years. In 2015, the MoH revised the structure of technical working groups (TWGs) that are responsible for providing leadership and guidance on thematic health issues at the central level. The activity and quality of guidance provided by TWGs has varied considerably with some meeting monthly while others have been inactive.

The Office of the President and Cabinet (OPC) introduced Organisational Performance Agreements (OPAs) and Individual Performance Agreements (IPAs) in order to increase effectiveness and accountability in the civil service. The MoH has produced and signed contracts with the OPC since the 2015/16 FY. The MoH has however not rolled the system to all its Directorates as required.

There is limited coordination within the MoH. There are Departments or institutions that have overlapping responsibilities which creates inefficiency and there is little or no communication amongst them. There is also poor coordination between MoH and some partners and between partners themselves which contributes to duplication and inefficiency. There is lack of clarity over entry point of donors/NGOs with some going through MoH and others going through DHOs exacerbating accountability challenges.

The MoH, ZHSOs and District Health Offices (DHOs) are required to conduct quarterly Integrated Support Supervisions (ISS) to central hospitals, district hospitals and lower level facilities respectively. Since 2012, the paper-based checklists were abolished and electronic ones developed and uploaded on smart phones that were procured for supervisors. There have been challenges to conduct regular supervision that emanate from inadequate resources.

Financial management capacity is still weak. A Financial Management Improvement Plan (FMIP) was formulated in 2012 with planned actions at various levels to strengthen financial management systems and build capacity. The MoH finance department, however, has inadequate capacity, in terms of numbers and skilled staff and ICT equipment. The Internal Audit Unit (IAU) conducts regular audits and prepares audit reports that are followed up by the Independent Audit Committee for Health. It, however, receives insufficient Government funding to conduct field visits and has inadequate capacity in terms of numbers and skilled staff, transport and ICT equipment. MoH prepares procurement plans every year but the plans are rarely followed during implementation resulting in ad hoc procurements and accumulation of arrears. There is also limited capacity in procurement.

2.4.5.2. District Level

District Health Management Teams (DHMTs) are located within district hospitals but have dual responsibilities of managing both the district hospitals and wider district health services. The functional roles and responsibilities of DHMT members are not entirely clear and there is a lack of terms of reference (TORs) and job descriptions for individual positions. Further, turnover within DHMT members is high which limits continuity and institutional memory.

DHMTs produce District Implementation Plans (DIPs) to guide implementation at district level. Guidelines for DIPs were developed in 2013 and are due for revision due to developments happened during the HSSP 1 period. A number of local oversight institutions exist in order to ensure accountability and transparency of health facilities. These bodies rarely exist and when they do, they perform their roles ineffectively. Civil society organisations (CSOs) at district level have limited capacity to hold public servants accountable.

DHOs have instituted stakeholder coordination mechanisms to address lack of coherence and coordination of resources. These mechanisms work better in some districts than others. Some local partners have not subscribed to these mechanisms.

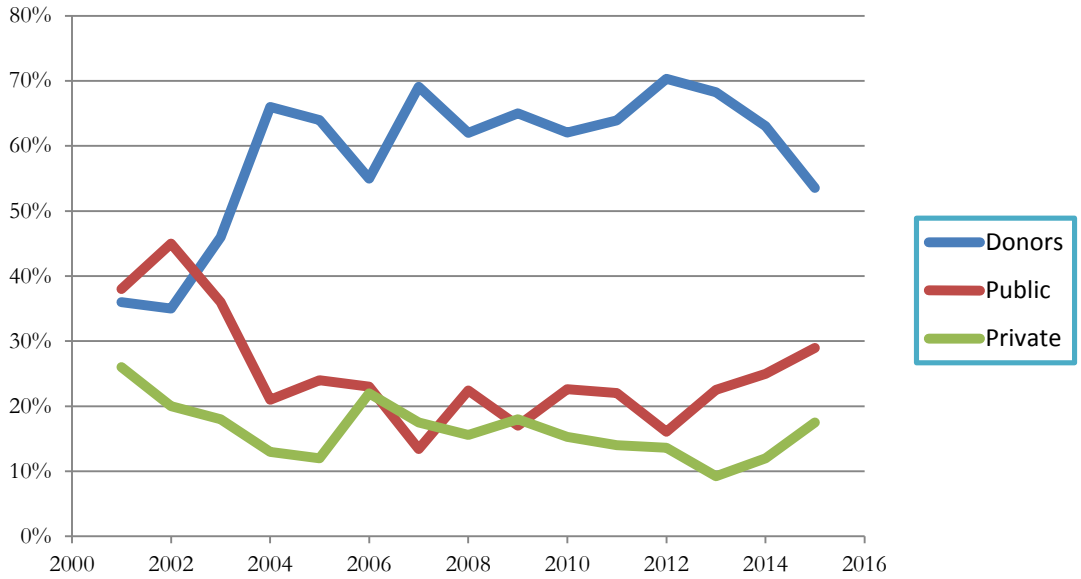
2.4.6. Health Financing & Payment

2.4.6.1. Health Financing

Malawi's health sector financing comprises general revenue, donor funding and household expenditures in terms of direct payments by patients and private health care insurance. Figure 5 shows that since the 2012/13 FY donor financing is declining while public and private expenditures are rising. During the period 2012/13-2014/15, development partners' contributions accounted for an average 61.6% of total health expenditure (THE), Government accounted for an average of 25.5% and households 12.9% of THE[46]. In the HIV/AIDS subsector, donor contributions average 95% of total financing. With such heavy donor reliance, the health financing system in Malawi is unsustainable and unpredictable. Furthermore, planning is made increasingly difficult due to the fragmented system of donor funds and lack of on-budget or pooled funds.

[46] The Malawi National Health Accounts Report 2012/13-2014/15

FIGURE 5: HEALTH CARE FINANCING TRENDS BY SOURCE



Source: National Health Accounts, 2002 -2015.

Total Health Expenditure (THE) during fiscal years 2012/13, 2013/14 and 2014/15 increased in nominal terms, but there was a fall in USD terms as shown in Table 16 below[47].

TABLE 6: SUMMARY OF HEALTH EXPENDITURES DURING FISCAL YEARS 2012/13-2014/15

Indicator	2012/13	2013/14	2014/15	Average
Total Health Expenditure (THE) (MWK billion)	235.2	253.0	302.7	263.6
Total Health Expenditure (USD million)	696.7	623.3	669.6	663.2
Per capita Total Health Expenditure (USD)	43.5	37.6	39.2	40.1
Government THE as a % of total government expenditure	10.9%	9.5%	10.8%	10.4%
Household expenditure on health as a % of THE	6.8%	8.3%	10.9%	8.7%

Source*: NHA 2015*

Malawi's average per capita spending on health over the period, USD40.1 per capita, was the lowest in the Southern Africa Development Community (SADC) region, compared to SADC region average of USD228.8 in 2014. Government THE as a percentage of total government expenditure increased from 6.5% (FY 2009/10) to an average of 10.4% between 2012/13-2014/15 showing a growing commitment from government to the health sector.

[47] The Malawi National Health Accounts (NHA) Report – 2012/13-2014/15

There is almost a middle split in total health sector resources between pooled and non-pooled resources. During the fiscal years 2012/13-2014/15, an average of 49.5% of the total health resources were pooled under central and local government schemes and 2.6% was pooled under voluntary health insurance schemes[48]. A significant proportion of the funds, almost 50%, were therefore not effectively pooled (39.8% of funds in the numerous and fragmented pools of Not for Profit Institutions Serving Households (NPISH/NGOs), 8.5% of out of pocket expenditures (OOPs) with no risk pooling and 2.6% with private pools).

A large proportion of health sector financing is programmatic donor financing and fragmented which calls for alignment and coordination. The MoH, UK DFID, Norway, Germany and Flanders set up a Health Services Joint Fund (HSJF) in December 2015 in order to pool and better coordinate donor resources with the ultimate goal of eventually moving back to on-budget funding.

Malawi has a large informal sector that does not contribute to the general revenue stream through direct taxation. There is therefore a horizontal equity problem as workers in the formal sector contribute to the financing of the health sector while their comparable counterparts in the informal sector do not, while still receiving the benefits. The lack of contribution from the informal sector also means Malawi does not have the fiscal capacity to meet the desired levels of health expenditure in the health sector.

2.4.6.2. Health Care Payment

The allocation of health resources is a multilevel process. Resource allocation to districts is supposed to be guided by the Intergovernmental Fiscal Transfers Formulae (IGFTF) controlled by the National Local Government Finance Committee (NLGFC). The parameters for the Health Resource Allocation Formula were agreed in 2008. However, the formula is not actively used in district resource allocation decisions with historical allocation remaining the method used.

Payment for drugs is centralized and handled by the MoH for central hospitals and the National Local Government Finance Committee (NLGFC) for DHOs. Orders to CMST are placed at cost centre level with limited communication among the key stakeholders. This has created accountability and transparency challenges between CMST and central hospitals and DHOs.

District allocations are managed by DHOs. Health centres and clinics are not designated as cost centres and hence not explicitly allocated financial resources. They do not control or manage financial resources but order supplies from the DHOs. Government uses an input-based payment system which provides limited incentive to pay attention to health outcomes and patient satisfaction. This results in an attempt to provide every service when it is not possible to do that given the available resources. Performance Based Budgeting (PBB) is being rolled out but is still some way from being properly implemented.

The situation is different from the way DHOs pays CHAM facilities under Service Level Agreements (SLAs). MoH has signed 92 SLAs with CHAM in order to remove the financial barrier

[48] The Malawi National Health Accounts Report 2012/13-2014/15

faced by populations in CHAM catchment areas since CHAM facilities charge user fees[49]. In the SLA arrangement, EHP interventions at CHAM health facilities are provided free at the point of access and MoH/District Health Offices reimburse CHAM the cost of services based on per case reimbursement rates agreed in the contract. Since the introduction of SLAs, there has been an increase in the number of people receiving health care in CHAM facilities[50].

Besides the CHAM payment for results model, a number of pilots have been undertaken exploring results-based financing, notably the 'Results Based Financing for Maternal and Neonatal Health' and the 'Performance Based Financing' projects, led by Options and SSDI[51]. Experience from the 'Performance Based Incentive' pilot, implemented in 17 health facilities has shown that when facilities are given resources according to the needs and that resources are linked to performance, access to services has increased as health workers are motivated to work harder to improve performance to thus earn more resources for their facilities. The RBF4MNH pilot had 3 key components: Performance Agreements (PAs) with health facilities offering maternity services as well as DHMTs (the supply-side component); a conditional cash transfer (CCT) for women delivering at RBF facilities to contribute to the costs associated with delivery (the demand-side component); and investments in infrastructure and equipment. The experiences demonstrated that supply-side financing is indeed one of the strategic purchasing arrangements that can enhance performance as opposed to line budget and salary payments, while also indicating CCTs can improve demand for health care.

There have been challenges with the results-based payment systems. For SLAs, these have included late payment of bills, poor communication among stakeholders, inadequate human and material resources and lack of systems to monitor performance of SLAs[52]. For performance based financing schemes, there is no national framework to guide these them and they are not integrated within overall Government reforms on performance management.

2.4.7. Health sector reforms

The MoH made progress with respect to its reform agenda. Revision of the Public Private Partnerships with CHAM was completed and the memorandum of understanding between Government and CHAM was signed on 18 January 2016. In addition, MoH in collaboration with CHAM established a designated SLA Management unit within the CHAM Secretariat with HSJF funding. Central Hospital reform, which aims to increase efficiency through decentralising the management of central hospitals was presented to Cabinet. It will be presented to Cabinet again after addressing issues that Cabinet raised during the first presentation. With respect to decentralisation of the district health system, the MoH developed a Concept Note after background studies which will be presented to the MoH Senior Management for their endorsement before

[49] Number of signed SLAs as of 30th March 2017

[50] Manthalu et al. (2016). The effect of user fee exemption on the utilization of maternal health care at mission health facilities in Malawi

[51] "Ministry of Health/Support for Service Delivery Integration (MoH/SSDI) Performance Based Incentive" and "The Initiative for Result Based Financing for Maternal and Neonatal Health (RBF4MNH)" (MoH)

[52] Chirwa et al., 2013;

presenting to the MoLGRD for final approval [53]. Because Malawi's health financing is not sustainable, Government is exploring alternative financing mechanisms. These include establishment of a health fund and introduction of a national health care insurance scheme. Creation of the health fund awaits agreement among key stakeholders and approval by the Treasury. Assessment of the feasibility of a national health insurance scheme was completed and recommendations are being deliberated by relevant authorities.

2.4.8. Quality of Care and Safety

Given the improvements in many service delivery indicators over time, for example immunisation coverage and skilled birth attendance, the MoH realises that further improvements can only be made by strengthening the quality of health care. The MoH developed the first Quality Assurance Policy in 2005 with the aim of providing guidance on the establishment and implementation of Quality Assurance (QA) and Quality Improvement (QI) in all health care facilities, both public and private. The Policy was, however, limited both in scope and impact and did not adequately guide the HSSP I on issues of quality. The MoH has therefore established a Quality Management Department (QMD) to spearhead holistic quality improvement in the public health sector. QMD is developing a policy and strategic plan to guide and coordinate all partners with a particular focus on health care quality improvement. There processes have happened in synchrony with HSSP II development and have fed into each other. QMD successfully facilitated the launch of a network to improve quality of care for mothers, newborns and children involving nine countries including Malawi in February 2017[54].

Health care quality is hampered by the cross-cutting health care system inputs outlined in this section. Worth of mention, however, are factors such as poor clinical practices, insufficient client safety systems as well as lack of patient feedback mechanisms on the quality of care received in both public and private facilities.

2.4.9. Blood Transfusion

Malawi Blood Transfusion Services (MBTS) has improved the processing and supply of quality and safe blood. 100% of blood donations are screened for at least HIV before transfusion. Annual collection of blood has increased from 50,000 units of blood in 2014/15 to an average of 57,000 units of whole blood in 2016 against an estimated annual demand of 80,000 units. 65% of the country's blood need is collected from voluntary non-remunerated blood donors.

There are still gaps in blood transfusion services. There is weak legislation, regulatory and supervisory environment and outdated guidelines on the practice of blood transfusion. 35% of blood units are collected from donors, who supply direct to hospitals to cover gaps, thereby compromising on safety and quality of blood. MBTS has inadequate capacity in terms of infrastructure, human resources, equipment and commodities to set up sentinel sites at all major hospitals as one way of decentralizing blood collection, screening and distribution. There is widespread use of inappropriate cross-match techniques and weak systems for maintaining an uninterrupted supply of essential reagents and supplies. There is inadequate formal collaboration between MBTS and the institutions that provide voluntary non-remunerated blood donors. Even though innovative revenue generating schemes are being implemented, the sustainability of MBTS remains an important challenge.

[53] Details of these reforms and their objectives can be accessed from the Malawi Health Sector Reforms Brief
[54] http://www.who.int/maternal_child_adolescent/topics/quality-of-care/malawi-network/en/

2.4.10. Laboratory and Imaging Services

Besides challenges in cross cutting health systems requirements such as human resources, equipment and infrastructure, the delivery of laboratory and medical imaging services to has been affected by weak quality assurance and accreditation systems and inadequate bio-safety and bio-security mechanisms for both laboratories and imaging services. There is also no provision for the disposal of radiological waste and equipment for monitoring radiation is not available which poses a serious threat to the environment and to health. There are no laws governing the disposal of radiological waste.

2.4.11. Emergency Medical Services and Referral Services

In Malawi, emergency medical services (EMS) and referral services are weak and not well streamlined. There are limited resources and logistics for referral of emergencies. Almost all DHOs and Central Hospitals face critical shortages of standardized ambulances for emergency referrals. There is a serious lack of capacity to deal with any pre-hospital care in terms of available paramedics and ambulances. Training for paramedics in EMS is currently not available. A dedicated emergency response phone number and a coordinated call centre to respond to emergency calls do not exist.

The Government of Malawi refers abroad cases for which specialist care is not available within the country. Referrals are primarily recommended for five main categories of care: cancer (radiotherapy), cardiac conditions, eye conditions (retinal detachment), renal transplant and orthopaedic conditions (knee replacement). The external referral programme is an interim measure with the long-term solution being developing capacity of central hospitals or courting investors to establish a national referral hospital.

2.5. Conclusion

The analysis in the Chapter has demonstrated the progress that Malawi has made in improving health outcomes and health care delivery. For example, Malawi achieved MDGs on reducing child mortality and combating HIV and AIDs, Malaria and other diseases, skilled birth attendance is very high, maternal mortality declined, immunisation rates are and HIV prevalence declined. There are, however, inequalities in health outcomes and health care access by wealth status, education, gender and geographical location. The 2016 MDHS shows, for example, that the prevalence of stunting in children under five years is 46% among children in the lowest wealth quintile, 37% among those in the middle wealth quintile and 24% for children in the highest wealth quintile[55]. The ownership of ITNs increases by wealth quintile from 45% in the lowest quintile to 69% in the highest quintile. This chapter also showed that financing of health care is not sustainable in Malawi. The implications of these findings are that: to further improve health outcomes, there is need to focus more on quality of health care, there is need for action on social determinants like wealth and education hence the importance of the sustainable development goals (SDG) agenda; there is need to further analyse and address inequalities and there is need to keep exploring sustainable health care financing mechanisms.

[55] 2016 MDHS.

3. HSSP II overarching agenda

3.1. Vision

The Vision of the health sector is to achieve a state of health for all the people of Malawi that would enable them to lead a quality and productive life.

3.2. Mission

The Mission of the Ministry of health is to provide strategic leadership for the delivery of a comprehensive range of quality, accessible, and efficient health services to all Malawians through the creation and sustenance of a resilient health system.

3.3. Goal

The goal of the HSSP II is to achieve universal health coverage of quality, equitable and affordable health care with the aim of improving health status, financial risk protection and client satisfaction.

Universal Health Coverage (UHC) is defined as a situation where everyone – irrespective of their ability-to-pay – gets the health services they need in a timely fashion without suffering any undue financial hardship because of receiving the care. The UHC package in Malawi is the basic health package which Government and its development partners will endeavour to make accessible to every Malawian free at the point of care.

3.4. The Sustainable Development Goals

The HSSP II is designed to contribute to the sustainable development goals through interventions in the basic health package and action on social determinants of health. The UN launched the SDGs which build upon MDGs in September 2015. Seventeen SDGs were agreed and of these SDG 3, "*Ensure healthy lives and promote well-being for all ages"* is directly relevant to health. Other SDGs related to health are: Goal 1: End poverty in all its forms everywhere; Goal 2: End hunger, achieve food security and improve nutrition and promote sustainable agriculture; Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all; Goal 5: Achieve gender equality and empower all women and girls; and Goal 6: Ensure availability and sustainable management of water and sanitation for all. SDG 3, has the following targets:

Target 1:	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.
Target 2:	By 2030, end preventable deaths of newborns and under five children.
Target 3:	By 2030, end the epidemics of AIDS, TB, malaria and Neglected Tropical Diseases, and combat hepatitis, water-borne diseases and other communicable diseases.
Target 4:	By 2030, reduce by one-third premature mortality from NCDs through prevention and treatment, and promote mental health and wellbeing.
Target 5:	Strengthen prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
Target 6:	By 2020, halve deaths and injuries from road traffic accidents.
Target 7:	By 2030, achieve universal access to sexual and reproductive health care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Target 8: Achieve universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.

Target 9: By 2030, substantially reduce the number of deaths and illness from hazardous chemicals and air, water and soil pollution and contamination

3.5. National Policy Context

The HSSP, as the national health sector medium term strategy, contributes to a national development strategy as the country's overarching medium-term strategy to guide national development. The Malawi Growth and Development Strategy (MGDS) II (2011-2016) expired and the next national development strategy (2017-2022) will be the final medium term strategy completing the Vision 2020. The national development strategy is the means of achieving goals in the Vision 2020. The Vision 2020 states that:

> "By the year 2020, Malawi as a God-fearing nation will be secure, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and being a technologically driven middle-income economy.[56]"

The Constitution of the Republic of Malawi states that the State is obliged "*to provide adequate health care, commensurate with the health needs of Malawian society and international standards of health care*". guarantees all Malawians adequate health care and ensures equality of access to health services. Malawi is also a signatory to a number of international conventions and the policy took cognizance of the country's international commitments. These include: the 2005 Abuja Declaration; the 2008 Ouagadougou Declaration on Primary Health Care (PHC); and the Paris Declaration on Aid Effectiveness, the Accra agenda for action and the Busan partnership for effective development cooperation which call for harmonisation and alignment of aid.

3.6. Objectives of HSSP II

The objectives of the HSSP II focus on two main aspects: strengthening health systems for the delivery of a basic health package and tackling social determinants of health. They are as follows:

1) Increase equitable access to and quality of health care services
2) Reduce environmental and social risk factors that have direct impact on health
3) Improve availability, retention, performance and motivation of human resources for health for effective, efficient and equitable health service delivery
4) Improve the availability, quality and utilization of medicines and medical supplies
5) Generate quality information and make it accessible to all intended users for evidence-based decision-making, through standardized and harmonized tools across all programs
6) Improve leadership and governance (particularly setting direction and regulation) across the health sector and at all levels of health system
7) Increase health sector financial resources and improve efficiency of their allocation and utilization

[56] Vision 2020. http://www.sdnp.org.mw/malawi/vision-2020/index-org.htm

3.7. Guiding Principles/Core Values

The guiding principles/core values demonstrate government's commitment towards attainment of equitable, accessible, affordable and sustainable high quality evidence-based health care. The following are the guiding principles/core values for the HSSP II:

i. *National Ownership and Leadership:* in the interest of national development and self-reliance, all partners in the health sector shall respect national ownership and Government leadership will remain central in guiding the implementation of the HSSP II;

ii. *Primary Health Care:* Provision of health services shall be based on the principle of Primary Health Care (PHC) as a basic philosophy and strategy for national health development.

iii. *Human Rights-Based Approach and Equity*: All the people of Malawi shall have the right to good health and equitable access to health services without any form of discrimination, whether it is ethnicity, gender, age, disability, religion, political belief, geographical location, or economic and/or other social conditions;

iv. *Gender Sensitivity:* Gender mainstreaming shall be central in the planning and implementation of all health policies and programmes;

v. *Ethical Considerations:* The ethical requirement of confidentiality, safety and efficacy in both the provision of health care and health care research shall be adhered to;

vi. *Efficiency and Effectiveness*: All stakeholders shall be expected to use available resources for health efficiently and effectively to maximize health gains. Opportunities shall be created to facilitate integration of health service delivery to leverage on efficiency and effectiveness in addressing health needs of the people of Malawi;

vii. *Transparency and Accountability:* Stakeholders shall discharge their respective mandates in a manner that is transparent and takes full responsibility for the decision they make;

viii. *Inter-sectoral and Intra-Ministerial Collaboration:* Collaboration shall be strengthened between Ministries, Departments and Agencies (MDAs), the private sector and Civil Society Organizations in the development and implementation of health and health-related policies and programmes;

ix. *Community Participation:* Community participation shall be central in addressing health needs of the people of Malawi;

x. *Evidence-based decision-making:* All health interventions shall be based on proven and cost-effective national and international best practice;

xi. *Decentralisation:* Health service provision and management shall be in line with the Local Government Act 1998, which entails devolving health service delivery to Local Government structures; and

xii. *Appropriate Technology:* Health care providers shall use health care technologies that are safe, appropriate, relevant and cost-effective and beneficial to Malawi.

4. The Basic Health Care Package (BHP) & Basic Health Care Package Plus (BHP+)

4.1. Introduction

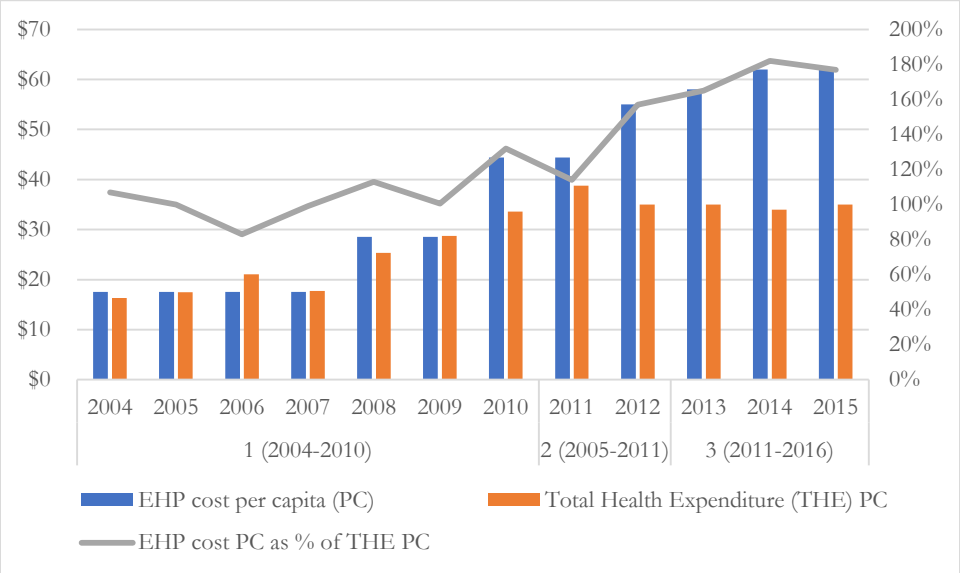
Since 2004 Malawi has implemented an Essential Health Package (EHP), containing cost effective interventions delivered free of charge at the point of use to Malawians. The aim of the EHP has been to address the burden of disease by delivering cost-effective interventions that target the top diseases and conditions in terms of burden of disease. Diseases and conditions were clustered under the categories of Reproductive, Maternal, Neonatal and Child Health conditions; Communicable Diseases and Non-Communicable Diseases.

4.2. Review of the EHP 2004-2016

While the EHP is supposed to guide free health care provision in an attempt to achieve universal health coverage (UHC)[57], there have been a number of related problems since its inception which have hampered this objective.

First, the EHP has consistently been financially unobtainable and unsustainable as shown in Figure 6. EHP provision is also becoming more unachievable as more interventions have been added while the resources available have remained almost the same.

FIGURE 6: PER CAPITA EHP COST AND ACTUAL PER CAPITA HEALTH EXPENDITURE



Note: EHP cost PC as % of THE PC is read off the secondary axis, on the right-hand side of the chart. The numbers 1 to 3 before the year categories represent revisions i.e. 1 (2004-2010) was the first EHP package.
Sources:

(a) A Joint Programme of Work for a Health Sector Wide Approach (SWAp) 2004-2010, Republic of Malawi
(b) Ministry of Health, Malawi
(c) WHO Global Health Expenditure database, downloaded 21 March 2016

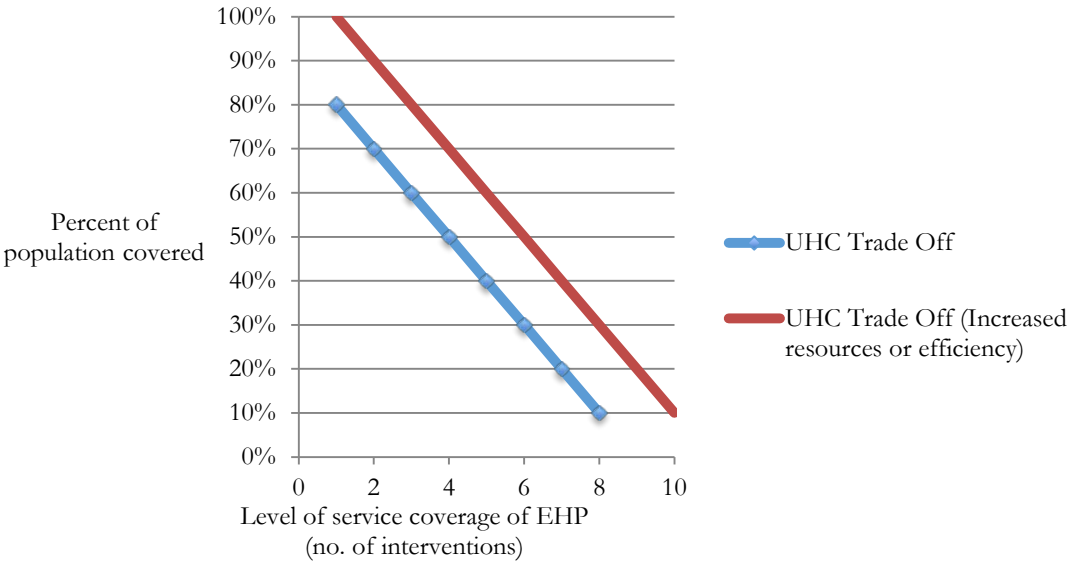
[57] UHC is 'a situation where *everyone – irrespective of their ability-to-pay – gets the health services they need in a timely fashion without suffering any undue financial hardship as a result of receiving the care' (World Bank, 2016)*

(d) Health Sector Resource Mapping 2011-2015

Second, given that the broad objective of the EHP has been to provide an explicit set of interventions free at the point of access to the population of Malawi, EHP provision has been inequitable in practice because, failure to fully fund it has meant varying degrees of coverage for different interventions, by level of health care system and geographical location.

The above issues arose because previous EHPs did not take into account the inherent trade-off between population covered and interventions included. With a fixed budget there is an unavoidable trade-off that must be considered in the definition of any package. This is illustrated in Figure 7 where, for the blue line, if the EHP has two interventions about 70% of the population is covered and when the EHP has eight interventions only 10% is covered.

FIGURE 7: TRADE-OFF BETWEEN COVERAGE OF PACKAGE & POPULATION COVERAGE



Third, using a burden of disease (BoD) cut-off point for diseases and conditions whose interventions would be included in the EHP meant cost-effective interventions for excluded lower burden diseases and conditions could not be part of the EHP. Instead cost-ineffective interventions for diseases and conditions that were above the BoD threshold were included in the EHP trading-off a potential significant quantity of health.

Fourth, the generalised cost-effectiveness threshold that was used for determining whether an intervention would be included in the EHP or not did not reflect did not reflect the opportunity cost of health spending in Malawi[58]. Interventions were deemed cost-effective if the cost was under

[58] For an in depth exploration of this issue see 'Toward the Development of an EHP for Malawi', Ochalek et al. (2016)

$1050/DALY[59]. Recent estimates of the cost-effectiveness threshold for Malawi put it between $3-$116/DALY[60], much lower than previously thought.

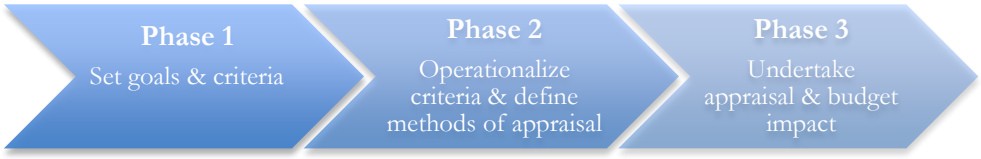
4.3. The Basic Health Care Package (BHP) & Basic Health Care Package Plus (BHP+)

In revising the EHP, the intention was to address the above outlined issues as well as account for changes in disease patterns, available resources and new interventions that would have been introduced. The Senior Management of the MoH tasked the EHP TWG to revise the EHP. The EHP TWG in turn formed a taskforce to drive the process.

4.3.1. Process of BHP development

The first step in revising the health benefits package was to outline the process required as shown in Figure 8:

FIGURE 8: HEALTH BENEFITS PACKAGE REVISION PROCESS



Key Question	• What is the objective of the health benefits package? • What criteria should be used in defining the package? • Which stakeholders should have input on objective and criteria?	• What data exists to measure criteria? • How to collect & collate new and existing evidence? • How to ensure issues identified in review are addressed?	• How to compare evidence collected? • How to ensure package makes clinical sense?
Activities	• Review previous EHP & identify challenges • Engage Senior Management & EHP-TWG • Establish EHP Task Force	• Develop tool for data collection and analysis • Collect and quality check data • Appraise tool & data	• Undertake analysis using criteria • Validate clinical aspect with front line health worker input
Outputs	• Defined Objective & Criteria	• Cost-effectiveness tool developed & populated	• BHP & BHP+ defined

One of the first decisions taken was to rename the Essential Health Care Package (EHP) to the Basic Health Care Package (BHP). This was based on the understanding that many interventions and services that could be deemed 'essential' are excluded from the package due to resource

[59] WHO-CHOICE employs a cost-effectiveness threshold of 1-3x GDP per capita. $1050/DALY represents 3x GDP per capita for Malawi in 2011

[60] Ochalek (2016)

constraints. Additionally, it was agreed that two packages should be developed. The Basic Health Care Package (BHP) will be used to guide current free service provision in the health sector. The Basic Health Care Package Plus (BHP+) will be used to indicate priority areas for expansion of the BHP should additionally financing become available. The BHP is primarily concerned with the purchasing and provision of health care to individuals. The BHP+ is concerned with resource mobilisation and pooling of resources to indicate where future funding should be directed. Should the commitment of resources to health care increase – from either Government or donors – the BHP+ provides the list of interventions any increase in such resources should be directed towards.

4.3.2. Objective

The aim of the BHP is to ensure timely universal free access to a quality Basic Health Package, irrespective of ability-to-pay, to all the people in Malawi.

4.3.3. Criteria for defining package

The EHP task force assessed a number of criteria to guide intervention inclusion & exclusion decisions. The criteria used in defining the package were:

- Health Maximisation
  This criterion is consistent with the goal of the HSSP II in Section 3.3. In order to maximise health, cost-effectiveness analysis (CEA) is usually used. This enables the prioritization of interventions in a way that maximizes population health under a constrained budget.

  A CEA Framework[61] was developed which ranks interventions by their cost-effectiveness in Malawi[62]. In assessing cost-effectiveness both the costs and clinical effects of interventions are considered. Interventions were deemed cost-effective if their Incremental Cost-Effectiveness Ratio (ICER) – which represents value for money – was below US$61. After considering cost-effectiveness, the CEA Framework also accounted for BoD by accounting for the case numbers in Malawi, then interventions were ranked by their impact on total population health (measured in DALYs averted). The framework also accounts for health system constraints that prevent interventions from full (100%) implementation. This informs the maximum investment that should be spent to improve an interventions implementation level.

- Equity
  Another consideration was whether an intervention targeted at risk or marginalised demographic groups. Interventions targeting women and children under-five were prioritised. Additionally, if an intervention was easily delivered at community level, thereby largely targeting rural populations this was also considered. Largely, equity considerations were considered informally as part of the process due to a lack of substantive and informative data on intervention equity implications.

[61] For further insight into the CEA Framework see '*Supporting the Development of an Essential Health Package: Principles and Initial Assessment for Malawi*', CHE Research Paper 136, Ochalek et al., 2016.

[62] Ochalek et al. (2016).

- Continuum of Care

  The concept of the continuum of care was considered important. An example of where this played a role in inclusion/exclusion decisions was where it was deemed unreasonable to include screening or testing in the package if treatment was not also included. Conversely, it was considered that if the package included first-line treatment this did not always necessitate the inclusion of second-line treatment.

- Complementarities
  Whether complementarities exist between interventions was also considered due to the potential for efficiency savings. If an intervention was regularly delivered as part of a package of care, for example, vaccines and ANC, this was taken into consideration.

- Exceptional donor funded interventions
  Donor funding was not an explicit criterion for inclusion due to its unpredictability. Therefore, to avoid circumstances where an intervention was included in the BHP on the basis that it was financed by donors but this financing was withdrawn in future, only very exceptional cases were considered.

  The case of the Global Alliance GAVI funding essential vaccines and Global Fund financing ART were considered exceptions, as it was considered highly probable that donor financing of these interventions will remain largely stable in the medium term.

It is important to note that the CEA alone maximizes total health, while the incorporation of other considerations that change resource allocation decisions results in lower total health.

4.3.4.BHP

The below table outlines the interventions included in the BHP:

TABLE 7: LIST OF INTERVENTIONS IN BHP

Category	Intervention Package	Intervention	Level of Care
RMNCH	ANC Package	Tetanus toxoid (pregnant women)	Primary/Secondary
		Deworming (pregnant women)	Primary/Secondary
		Daily iron and folic acid supplementation (pregnant women)	Primary/Secondary
		Syphilis detection and treatment (pregnant women)	Primary/Secondary
		IPT (pregnant women)	Primary/Secondary
		ITN distribution to pregnant women	Primary/Secondary
	Modern Family Planning	Injectable	Primary/Secondary
		Pill	Primary/Secondary
		Female sterilization	Primary/Secondary
		Male condom	Primary/Secondary
	Delivery Package	Clean practices and immediate essential newborn care (in facility)	Primary/Secondary

Category	Intervention Package	Intervention	Level of Care
		Active management of the 3rd stage of labour	Primary/Secondary
		Management of eclampsia/pre-eclampsia (Magnesium sulphate, Methyldopa, Nifedipine, Hydralazine)	Primary/Secondary
		Neonatal resuscitation (institutional)	Primary/Secondary
		Cesearian section with indication	Secondary
		Cesearian section with indication (with complication)	Secondary
		Vaginal delivery, skilled attendance	Primary/Secondary
		Newborn sepsis - full supportive care	Primary/Secondary
		Antenatal corticosteroids for preterm labor	Primary/Secondary
		Maternal sepsis case management	Primary/Secondary
		Cord Care Using Chlorhexidine	Primary/Secondary
		Hysterectomy	Primary/Secondary
		Treatment of antepartum hemorrhage	Primary/Secondary
		Treatment of postpartum hemorrhage	Secondary
		Antibiotics for pPRoM	Primary/Secondary
Vaccine Preventable diseases	Essential Vaccines Package	Rotavirus vaccine	Primary/Secondary
		Measles Rubella vaccine	Primary/Secondary
		Pneumococcal vaccine	Primary/Secondary
		BCG vaccine	Primary/Secondary
		Polio vaccine	Primary/Secondary
		DPT-Heb-Hib / Pentavalent vaccine	Primary/Secondary
Malaria	First Line uncomplicated Malaria treatment	Uncomplicated (adult, <36 kg)	Primary/Secondary
		Uncomplicated (adult, >36 kg)	Primary/Secondary
		Uncomplicated (children, <15 kg)	Primary/Secondary
		Uncomplicated (children, >15 kg)	Primary/Secondary
	Complicated Malaria treatment	Complicated (adults, injectable artesunate)	Primary/Secondary
		Complicated (children, injectable artesunate)	Primary/Secondary
	Malaria Diagnosis	RDTs	Primary/Secondary
		Microscopy for Malaria	Primary/Secondary
Integrated management of childhood illnesses (IMCI)	IMCI Package	Pneumonia treatment (children)	Primary/Secondary
		Treatment of severe pneumonia (Oxygen)	Primary/Secondary
		ORS	Primary/Secondary
		Zinc	Primary/Secondary
		Treatment of severe diarrhea (IV Fluids)	Primary/Secondary
		Community management of nutrition in under-5 - Plumpy Peanut	Primary
		Community management of nutrition in under-5 - micronutrient powder	Primary
		Community management of nutrition in under-5 - vitamin A	Primary
		RDTs for under-5	Primary
Community Health	Community Health Package	Growth Monitoring	Primary
		Vermin and Vector Control & Promotion	Primary
		Disease Surveillance	Primary
		Community Health Promotion &	Primary

Category	Intervention Package	Intervention	Level of Care
		Engagement	
		Village Inspections	Primary
		Promotion of hygiene (hand washing with soap)	Primary
		Promotion of Sanitation (latrine refuse, drop hole covers, solid waste disposal, hygienic disposal of children's stools)	Primary
		Occupational Health Promotion	Primary
		Household water quality testing and treatment	Primary
		Home-based care of chronically ill patients	Primary
		Child Protection	Primary
NTDs		Schistosomiasis mass drug administration	Primary
HIV/AIDS	HIV Prevention	Cotrimoxazole for children	Primary/Secondary
		PMTCT	Primary/Secondary
	HIV Testing	HIV Testing Services (HTS)	Primary/Secondary
	HIV Treatment	HIV Treatment for all ages – ART & Viral Load	Primary/Secondary
Nutrition		Vitamin A supplementation in pregnant women	Primary/Secondary
		Management of severe malnutrition (children)	Primary/Secondary
		Deworming (children)	Primary/Secondary
		Vitamin A supplementation in infants and children 6-59 months	Primary/Secondary
TB		Isonized Preventive Therapy for children in contact with TB patients	Primary/Secondary
		First line treatment for new TB Cases for adults	Primary/Secondary
		First line treatment for retreatment TB Cases for adults	Primary/Secondary
		First line treatment for new TB Cases for children	Primary/Secondary
		First line treatment for retreatment TB Cases for children	Primary/Secondary
		Case management of MDR cases	Primary/Secondary
NCDs		Treatment of Injuries	Primary/Secondary
		Basic psychosocial support, advice, and follow-up	Primary/Secondary
		Anti-epileptic medication	Primary/Secondary
		Treatment of depression (first line)	Primary/Secondary
Oral Health	Tooth pain treatment	Management of severe tooth pain, tooth extraction	Primary/Secondary
		Management of mild tooth pain, tooth filling	Primary/Secondary

Although Malawi is currently undergoing an epidemiological transition in which the prevalence of non-communicable diseases is rising, the resource constraints prevent many curative interventions targeting non-communicable diseases from being included in the BHP. While in future curative interventions tackling the NCD disease burden can be included, the only feasible interventions for

addressing them now is health promotion and education to address their socio-economic determinants.

The resources available to Malawi for the provision of the drug, medical supplies and commodity inputs into the BHP totalled USD162m for the FY 2015/16[63]. If the package was provided to all of the population in need, the total drugs, medical supplies and commodities cost of providing the BHP is USD238m and averts a total of 23 million DALYs.

Although the total cost of the package is larger than the current resources available for its provision, the cost of providing the BHP is 41.65% less that the cost of providing its predecessor package (USD408m). Additionally, if the resources were available to provide the previous EHP to the whole population in need it would only avert 20 million DALYs. Therefore, given resource availability, the BHP provides larger population health gains for less money.

The above indicates that although further steps are required to ensure planning and allocation is undertaken within the resource envelope available, significant progress has been made in this area, with planning becoming more realistic and less aspirational.

4.3.5.BHP+

As stated, while the BHP is the package of interventions delivered free at the point of access to all Malawians, the BHP+ is the aspirational package intended to guide any future increase in resources towards desired interventions which are currently unaffordable.

TABLE 8: LIST OF BHP+ INTERVENTIONS

Category	Intervention Package	Intervention	Level of Care
Malaria	Second Line Uncomplicated Malaria Treatment	Uncomplicated – 2nd Line (adult, >36kg)	Primary/Secondary
		Uncomplicated – 2nd Line (adult, <36kg)	Primary/Secondary
		Uncomplicated – 2nd Line (child, <15kg)	Primary/Secondary
		Uncomplicated – 2nd Line (child, >15kg)	Primary/Secondary
	Prevention	IRS	Primary/Secondary
		Households owning at least one ITN	Primary/Secondary
NCDs		Hypertension treatment	Primary/Secondary
		Diabetes I treatment	Primary/Secondary
		Diabetes II treatment	Primary/Secondary
		Asthma treatment	Primary/Secondary
Nutrition		Testing for salt iodisation	Primary/Secondary
		Management of moderate acute malnutrition (children)	Primary/Secondary
		Nutrition care and support program for individuals who have TB or have other chronic diseases	Primary/Secondary
		Management of moderate acute malnutrition (pregnant and lactating women)	Primary/Secondary
		Complementary feeding - education only	Primary/Secondary

[63] Health Sector Resource Mapping Round 4, FY 2014/15 – 2018/19

HIV/AIDs	Prevention	Male Circumcision	Primary/Secondary
Vaccine Preventable diseases	Essential Vaccines Package	HPV vaccine	Primary/Secondary
	Modern Family Planning	Male sterilization	Primary/Secondary
		IUD	Primary/Secondary
		Implant	Primary/Secondary
		Female Condom	Primary/Secondary

The total cost of the BHP+ (including the BHP) is US$440m averting a total of 65m DALYs. As can be seen, although the BHP+ contains many interventions tackling a high burden of disease, the current resource envelope is not large enough to include these interventions. Should resources become available in future they should be directed towards the inclusion of these interventions in the BHP.

4.3.6. Outstanding BHP Issues

While the re-definition of the BHP has attempted to address many of the issues that faced its predecessor package, there are many issues that remain outstanding and will need further attention to resolve.

- Inadequate resources

As shown above, despite the cost of the BHP being closer to the resources available for its provision than before, the cost continues to outstrip resources. The result of this is that, even assuming no health system constraints, it will not be possible to deliver the BHP to the entire population in need. It is important that ongoing discourse around the BHP focusses on the budgets available for its provision.

- Lack of awareness about BHP among stakeholders

Only 33% of managers for health centres knew about existence of the EHP[64]. Clearly, there are many issues related to the provision of the package that this re-definition does not address. It is vitally important that the revision of the package is complemented with a wider BHP strategy encouraging its promotion and implementation.

- Lack of BHP policy enforcement

Relatedly, simple awareness of the policy is a necessary but not sufficient condition for its implementation. EHP policy has consistently lacked the enforcement necessary to translate the policy decisions into implementation. This constrains delivery of the BHP. Similarly, greater attention needs to be given to the health system constraints to delivering the BHP. Removal of these constraints should receive much priority.

Lastly, currently financing and payment is not explicitly linked to BHP interventions. This means that, in effect, BHP interventions are treated in the same way as non-BHP interventions. A system of financing and payment to providers that separates BHP interventions from non-BHP interventions must be developed for the package – and health care in general – to be delivered effectively.

[64] Mueller et al. (2011)

- Inequalities in BHP utilization

While the BHP is theoretically available to all Malawians free at the point of access, there remain large variations in its utilization. Rural, uneducated and poor populations continue to underutilize health care services. DHOs and partners must strengthen or introduce initiatives for increased access for the poor, rural and uneducated women in Malawi.

- Linking health systems inputs to BHP provision

To the extent possible, health systems inputs and standards should be explicitly linked to the BHP. The Malawi Standard Treatment Guidelines and the Essential Medicines List (EML) should also reflect the interventions included in the BHP.

4.3.7. Delivery of the BHP

The BHP the health services will be delivered at different levels, namely primary, secondary and tertiary. These different levels are linked to each other through a comprehensive referral system that has been established within the health system. At the primary level, health services are provided by community-based cadres such as HSAs, community-based distributing agents (CBDAs), Village Health Clinics (VHCs) and other volunteers, mostly from NGOs. HSAs provide promotive and preventive health services including HIV testing and counselling (HTC) and provision of immunization services. Some HSAs have been trained and are involved in community case management of acute respiratory infections (ARIs), diarrhoea and pneumonia among children under five years of age. Services at this level are conducted through door-to-door visits, village clinics and mobile clinics. Community health nurses and other health cadres also provide health services through outreach programs. VHCs promote PHC activities through community participation and they work with HSAs on preventive and promotive health services such as hygiene and sanitation. Health centres support HSAs. Each health centre has a Health Centre Advisory Committee which helps communities to demand the quantity and quality of services that they expect by monitoring the performance of health centres in collaboration with VHCs. Health centres are responsible for providing both curative and preventive EHP services[65]. At a higher level there are community hospitals which provide both primary and secondary care, and each has an admission capacity of 200 to 250 beds. Complicated BHP cases will be referred to the secondary and tertiary levels as necessary. CHAM facilities at both primary and secondary levels will continue to be part of the system that provides BHP. MoH will continue to implement the new MOU with CHAM to increase coverage of the BHP in catchment areas of CHAM facilities.

4.3.8. Conclusion

The provision of a basic package of health care services is essential to achieving the targeted health gains in Malawi over the next five years. It is essential to continue to move towards a consistent, transparent and accountable process for both the development and delivery of the current and

[65]MoH (2004) *Handbook and guide for health providers on the Essential Health Package in Malawi* Lilongwe: MoH

future packages. Key to the success of the BHP will be the enforcement and monitoring of its delivery to ensure the proper and full implementation of the prioritised interventions. The designing and adjustment of systems is still required to allow the package to be properly delivered and realize the full potential health gains i.e. linking health financing to the delivery of the package.

5. Strategies for the HSSP II

This chapter outlines strategies for the objectives listed in Section 3.6. these objectives focus on strengthening the health care system for the delivery of the EHP. They also tackle social determinants of health. The corresponding activities for each strategy are detailed in Annex 2.

5.1. Objective 1: Increase equitable access to and quality of health care services

The HSSP II will prioritize increasing equitable access to and quality of health service delivery through providing the basic health package free at the point of access to all who need it and ensuring defined quality standards are adhere to. While the Malawi health care system provides a wider range of services than the BHP, the focus of the public health care system will be to ensure universal coverage of the BHP. The HSSP II thus continues the tradition of the HSSP I (2011-2016) and Program of Work (PoW) (2004-2010) in which Malawi defined a package of interventions to be delivered free at the point of access. However, as previously noted, further health system reforms will be required to ensure the BHP is delivered as intended. The strategies are as follows:

5.1.1. To ensure timely universal free access to a quality Basic Health Package, irrespective of ability-to-pay, to all people in Malawi

5.1.2. Move towards the provision of interventions in the BHP+

5.2. Objective 2: Reduce environmental and social risk factors that have a direct impact on health

The health sector will work with responsible Ministries, Departments and Agencies (MDAs), private sector, Civil Society Organizations (CSOs), Development Partners and the community to reduce environmental and social risk factors that have a direct impact on health. The health sector will strengthen community health education and promotion to enable people to make informed and healthy decisions, improve health seeking behaviours and adopt preventive measures. Well-implemented community health interventions will also assist in reducing demand for expensive curative care. The health sector will also aim at strengthening inter-sectoral collaboration and partnerships to address the key determinants of health. The following are the priority strategies that will be implemented in each of the focus areas to address the social determinants of health.

5.2.1. Promote healthy behaviours and lifestyles

5.2.2. Adopt and enforce protective health policies

5.2.3. Promote use of safe water and good sanitation practices

5.2.4. Improve food safety and hygiene and nutrition services

5.2.5. Promote planned and safe housing and urbanization practices

5.2.6. Promote safe working and living environments

5.2.7. Participate in road safety campaigns

5.2.8. Strengthen vector and vermin control services at community and in public institutions

5.2.9. Strengthen epidemic preparedness and response

5.2.10. Strengthen partnership and collaboration with other sectors and key stakeholders

5.3. Objective 3: Improve the availability and quality of health infrastructure and medical equipment

Health infrastructure comprises buildings (both medical and non-medical); equipment (medical equipment, furniture and hospital plant); communications (ICT equipment); and transport systems (ambulances, pickups, vans, trucks, motorcycles, bicycles etc. as required for healthcare at different levels). Priority will be given to the completion of unfinished projects and rehabilitation and upgrading of existing facilities in terms of additional staff housing, utilities, theatres, storage space among others. The following are the priority strategies.

5.3.1. Ensure availability of quality infrastructure
5.3.2. Ensure availability of quality, safe and functional medical equipment
5.3.3. Explore options of leasing high cost medical equipment and using Public Private Partnerships for operating and managing high cost medical equipment in major hospitals
5.3.4. Strengthen transport system at all levels
5.3.5. Strengthen communication systems

5.4. Objective 4: Improve availability, retention, performance and motivation of human resources for health for effective, efficient and equitable health service delivery

The following are the priority strategies for Human Resources for Health.

5.4.1. Improve retention of properly deployed and motivated health workforce
5.4.2. Improve recruitment capacity of health workers
5.4.3. Enforce implementation of performance based management
5.4.4. Enforce public service policies, regulations and procedures
5.4.5. Improve quality of training

5.4.6. Strengthen the human resource planning process to incorporate evidence-based planning

5.5. Objective 5: Improve the availability, quality and utilization of medicines and medical supplies

The following are the priority strategies:

5.5.1. Review and strengthen policy and regulatory framework for quality assurance of medicines and medical products
5.5.2. Strengthen post-marketing surveillance and pharmacovigilance for medicines and medical products
5.5.3. Promote an interrupted supply of quality essential medicines and medical supplies to end-users
5.5.4. Improve the infrastructure for storage at national, district and facility levels
5.5.5. Improve the national Logistics Management Information System
5.5.6. Strengthen systems for medicines and medical products distribution
5.5.7. Monitor and support adherence to treatment and dispensing guidelines
5.5.8. Regularly update treatment and dispensing guidelines and essential medicines list
5.5.9. Strengthen Medicines and Therapeutic Committees (MTCs) in hospitals

5.6. Objective 6: Generate quality information and make it accessible to all intended users for evidence-based decision-making, through standardized and harmonized tools across all programmes

The MoH aims to establish a strong base of high quality, routinely available data for use in decision making by technicians and policy makers in the health sector. To achieve this a comprehensive knowledge management approach is needed in the health sector. The health sector will continue building a harmonized and coordinated national health information system with the Central Monitoring and Evaluation Department (CMED) as the national custodian. The following are the priority strategies.

5.6.1. Strengthen national capacity for planning, coordination and implementation of health information systems
5.6.2. Improve alignment of fragmented programmatic M&E approaches and data sources around a single country-led monitoring and evaluation platform
5.6.3. Improving data quality at all levels
5.6.4. Harmonize routine data systems
5.6.5. Enhance adoption of ICT systems for routine data management (data collection, data analysis, use and dissemination)
5.6.6. Strengthen monitoring and evaluation of HSSP II implementation
5.6.7. Strengthen expenditure analysis at national and subnational levels to monitor effective allocation of resources
5.6.8. Enhance local capacities to conduct research (people, skills, funding)
5.6.9. Enhance routine data and research reporting and utilization at all levels

5.7. Objective 7: Improve leadership and governance across the health sector and at all levels of the health care system

Given limited resources in the health sector and prevailing inefficiencies, good governance will be central over the HSSP II period to ensuring effective delivery of the BHP. It is envisaged that improved leadership and governance will generate additional fiscal space specifically through reduced leakage of essential medicines and medical supplies, increased availability of health workers

at their duty stations, reduced duplication of efforts at both national and implementation levels, more efficient and transparent procurement processes and strengthened financial management capacity at all levels. The following are the priority strategies.

5.7.1. Strengthen leadership and management functions and structures at national, district and community levels
5.7.2. Enhance capacities in leadership and management
5.7.3. Strengthen accountability mechanisms and performance management across the system
5.7.4. Enhance pro-active risk assessment and management especially in finance and procurement
5.7.5. Strengthen the functionality of country-led joint HSSP planning and implementation at central and district levels
5.7.6. Establish systems and procedures for aligning and approving all partner inputs into the HSSP II priorities
5.7.7. Enhance opportunities for, and strengthen efficiency and effectiveness of, Public Private Partnerships
5.7.8. Strengthen implementation and monitoring of financial management improvement plans
5.7.9. Establish the means for improving central and district financial management and audit (infrastructure, equipment, personnel and connectivity)
5.7.10. Strengthen adherence and compliance to Public Procurement Act and health sector procurement plans
5.7.11. Strengthen health sector policy, legal and regulatory frameworks
5.7.12. Support effective decentralization of health care delivery
5.7.13. Enhance implementation of hospital autonomy

5.8. Objective 8: Increase health sector financial resources and improve efficiency in resource allocation and utilization

While efficiency savings must be made, it is also clear that the resources currently available, even if used completely efficiently are not sufficient. The health sector will therefore strive to mobilize sufficient financial resources to fund the health sector while ensuring efficiency, equity, transparency and mutual accountability in their use. The following are the priority strategies for health financing.

5.8.1. Raise additional resources from existing funding sources

5.8.2. Introduce domestic financing mechanisms for health such as a Health Fund
5.8.3. Design options for pooling health financial resources and implement sustainable and risk-based financing schemes
5.8.4. Institutionalize performance based financing
5.8.5. Improving efficiency in resource allocation and utilization

6. HSSP II financing

Estimates of the financial resources required and available in the health sector are needed to guide implementation of the HSSP II. This section presents estimated costs and fiscal space from 2017/18 to 2021/22.

6.1. Methodology

The Ministry of Health selected the One Health Tool, a model for medium- to long-term strategic planning in the health sector, to estimate the costs of the HSSP II. The tool estimates the costs of health programmes, comprising of commodity costs needed for BHP service delivery and programme support costs, such as program-specific training, supervision, and M&E. The tool also estimates the resource needs of health system components, including infrastructure, human resources for health, logistics, health information systems, health financing, and governance. The costing team used Excel for activity-based costing of specific strategies in the HSSP II. All costs were mapped to the HSSP II objectives. MOH program staff, clinicians, and development partners provided all cost assumptions. Data from individual strategic plans, DHIS2, demographic and health surveys, and other health and disease-burden studies informed the development of assumptions. HSSP II cost results are compared to Round 4 Resource Mapping results to estimate the HSSP II funding gap.

6.2. Total resource needs

The five-year cost of the HSSP II is estimated to be USD $3,189 million. Costs increase from $629 million in 2017/18 to $646 million in 2021/22. The total cost per capita each year ranges from $35 to $37. HSSP II costs by objective are shown in Table 1 below.

Table 1. HSSP II Resource Needs by Objective

Objective		Cost (USD) per year				
		2017/18	2018/19	2019/20	2020/21	2021/22
1	**Increase equitable access to and quality of health services**	**$274,534,686**	**$268,263,673**	**$272,150,862**	**$280,172,513**	**$275,538,793**
	Commodity costs for BHP service delivery	*$155,290,715*	*$164,333,587*	*$168,372,546*	*$170,282,597*	*$170,822,544*
	Program management costs	*$119,243,971*	*$103,930,086*	*$103,778,316*	*$109,889,916*	*$104,716,249*
2	**Reduce environmental and social risk factors that have a direct impact on health**	**$13,513,103**	**$14,913,209**	**$16,344,148**	**$17,864,933**	**$19,391,192**
3	**Improve the availability and quality of health infrastructure and medical equipment**	**$168,881,282**	**$169,499,848**	**$169,319,753**	**$169,555,557**	**$169,759,772**
4	**Improve the availability, retention, performance and motivation of human resources for health by 2022 for effective, efficient and equitable health service delivery**	**$120,965,687**	**$125,341,187**	**$128,662,500**	**$132,001,365**	**$134,957,247**
5	**Improve the availability, quality and utilization of medicines and medical supplies**	**$32,993,603**	**$34,450,564**	**$35,215,981**	**$33,431,980**	**$31,161,314**
6	**Generate quality information and make them accessible to all intended users for evidence-based decision-**	**$15,361,160**	**$14,947,813**	**$14,714,759**	**$14,573,791**	**$14,595,332**

	making, through standardized and harmonized tools that avoids duplication across all programmes					
7	**Improve leadership and governance (particularly setting direction and regulation) across the health sector and at all levels of the health system**	**$2,220,287**	**$1,307,180**	**$644,491**	**$644,491**	**$638,870**
8	**Increase health sector financial resources and improve efficiency in resource allocation and utilization**	**$44,822**	**$18,198**	**$10,198**	**$10,198**	**$10,198**
Total		**$628,514,628**	**$628,741,670**	**$637,062,691**	**$648,254,827**	**$646,052,717**

The costing assumes a constant exchange rate of 714 MWK to 1 USD. Inflation is not accounted for in the cost results.

Objective 1 represents the largest proportion of HSSP II costs, with BHP service provision accounting for approximately 43% of the total HSSP IV financing requirement. Objective 1 costs include commodity costs (60% of Objective 1 costs) and programme management costs (40%).

Commodity cost requirements increase from $155 million in 2017/18 to $171 million in 2021/22, driven by increases in coverage of BHP interventions. HIV has the highest commodity resource requirements; across all five years of the HSSP II, HIV commodities represent 61% of total commodity costs. Provision of antiretroviral treatment accounts for $394 million of the $508 million needed for HIV commodities from 2017/18 to 2021/22. The second highest-cost programme area for commodities is reproductive, maternal, neonatal, and child health (RMNCH), which represents 17% of the total HSSP II commodity costs. The programme areas with the largest growth in commodity resource needs from 2017 to 2022 are oral health (111% increase in cost from 2017/18 to 2021/22), mental health (79%), and TB (20%). Commodity costs for some programme areas, such as immunization and malaria, are estimated to decline from 2017/18 to 2021/22. This is a result of anticipated declines in the need for these types of interventions, either through reductions in disease prevalence or incidence in the case of malaria or through changing demographics as the modern contraceptive prevalence rate increases over time, as in the case for immunization.

Programme management costs are highest in 2017/18, reflecting investments in program-specific training, supervision, M&E, and other activities at the onset of the HSSP II. The highest-cost programmes in terms of programme management are HIV ($238 million from 2017/18 to 2021/22), TB ($71 million), and RMNCH ($61 million).

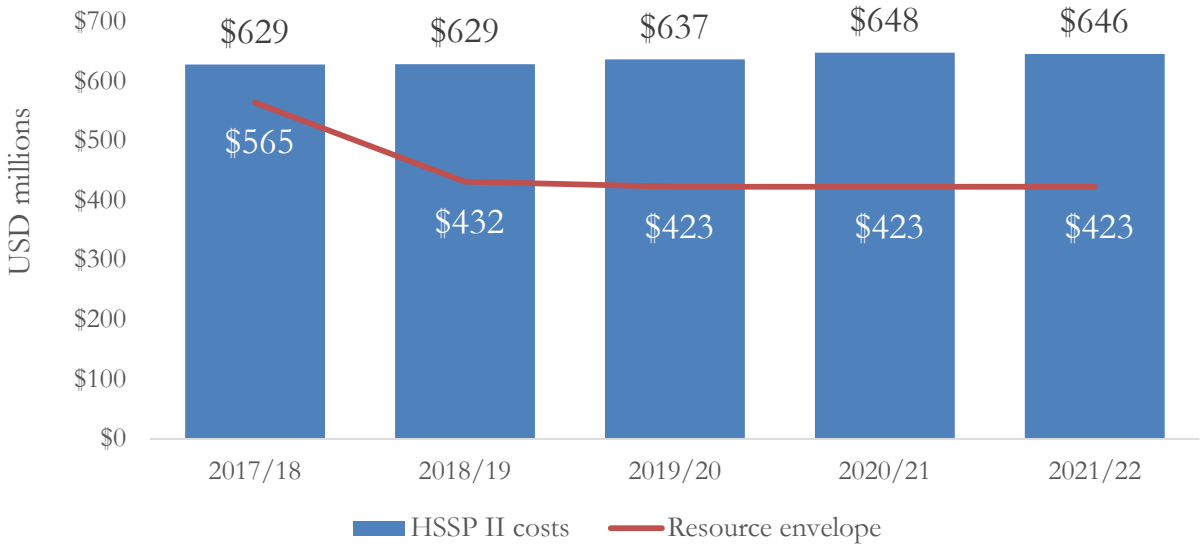
Objective 3 represents 27% of the HSSP II resource requirements. This is mostly due to the costs of constructing, renovating, and operating facilities under the infrastructure Capital Investment Plan (CIP); facility costs total $595 million under the CIP, which is 70% of total Objective 3 costs. Over half (59%) of the facility costs is for renovations and upgrades, 36% is for new construction, 3% is for staff housing, and the remaining 2% is for utilities and other costs.

About one-fifth of the HSSP II costs are for Objective 4, which are costs related to human resources for health (HRH). HRH costs increase from $121 to $135 million from 2017/18 to 2021/22. Approximately 60% of HRH costs are for salaries and 11% is for pre-service training.

6.3. Financial Space

According to the latest Resource Mapping exercise, the Government of Malawi and donors have committed allocations of approximately $607 million to the health sector in fiscal year 2016/17. Commitments to the sector are lower for subsequent years ($565 million in 2017/18, $432 million in 2018/19, and $423 million in 2019/20). Based on these projections and the HSSP II cost estimates, the HSSP II has a funding gap ranging from about $64 million in 2017/18 to $223 million in 2021/22 (Chart 1).

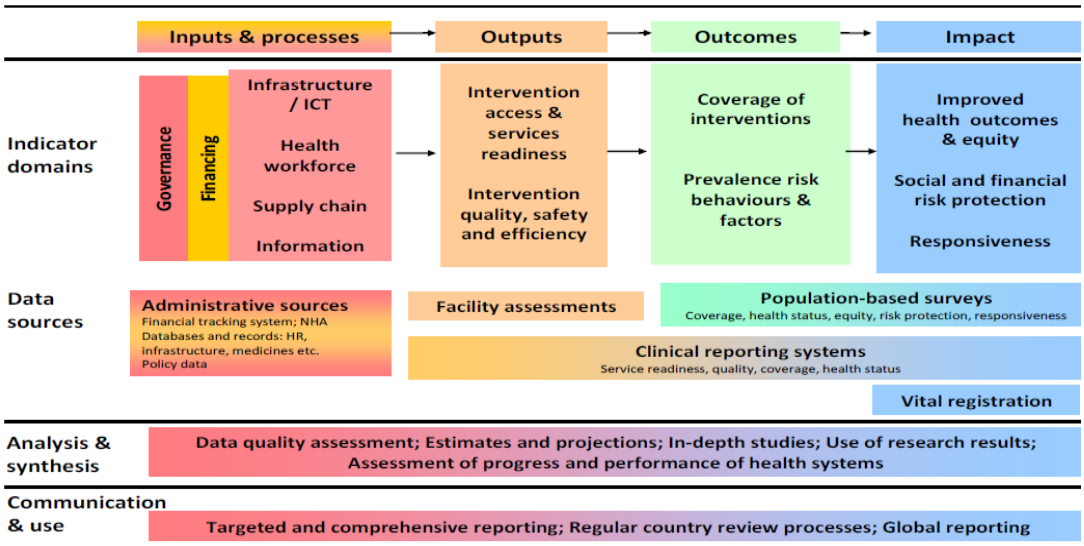
TABLE 9: HSSP II COSTS VS. FISCAL SPACE



7. Monitoring and evaluation of HSSP II

The HSSP II monitoring and evaluation (M&E) framework includes the following set of tools: the HSSP II implementation plan, HSSP II logical framework, a set of indicators separated into national core health indicators and program level indicators, sources of information including data collection and reporting tools, a harmonized M&E plan and program specific M&E plans. Working towards a harmonized country-led M&E framework, the International Health Plus+ (2010) in collaboration with global health partners recommends the framework presented in Figure 7 for monitoring and evaluation of national health plans. This framework which is drawn from the country's health information systems framework shows the way in which inputs may lead to desirable health impact.

FIGURE 9: FRAMEWORK FOR MONITORING AND EVALUATION OF HSSP II



7.1. HSSP II Monitoring and Evaluation Tools

7.1.1. The Health Sector Strategic Plan logical framework

The logical framework shows how each objective of the Health Sector Strategic Plan will be achieved. The results framework is vital in supporting the M&E function to follow up on progress of planned activities and strategies. It is also vital in monitoring the utilization of inputs. The detailed HSSP II results framework is provided in Annex 2.

7.1.2. Performance Monitoring

The health sector has processes for joint performance monitoring. They include reviews, supervision and mentorship. Table 9 presents the methods the Ministry will use in monitoring the performance of the health sector.

TABLE 10: PERFORMANCE REVIEW METHODS

Methodology	Frequency	Output	Focus	Level of Monitoring and Review
Performance Assessment	Quarterly	Quarterly progress reports made available to stakeholders and senior management	To involve a review of progress against targets and planned activities. To be done through the HIS/M&E TWG and the Sector Wide TWG	Inputs, process, output and outcome (indicator trends in coverage) levels
Joint Annual Review and Planning	Semi-annual, Annual	Annual/semi-annual progress reports submitted to key stakeholders through the MoH Senior Management. To include league tables focused at various levels of reporting.	To involve a review of progress against targets and outcomes. To be done through the HIS/M&E TWG and the Sector Wide TWG	Input, process, output, and outcome levels
Mid Term Review	After 2.5 Years of HSSP II	Mid-term analysis report	Done through sector review process against target impact guided by HIS/M&E TWG and the Sector Wide TWG.	Input, process, output, outcome and impact levels
End term Review	At end of HSSP II	End term analysis report	Independent review of progress, against planned impact.	Input, output, outcome and impact levels.

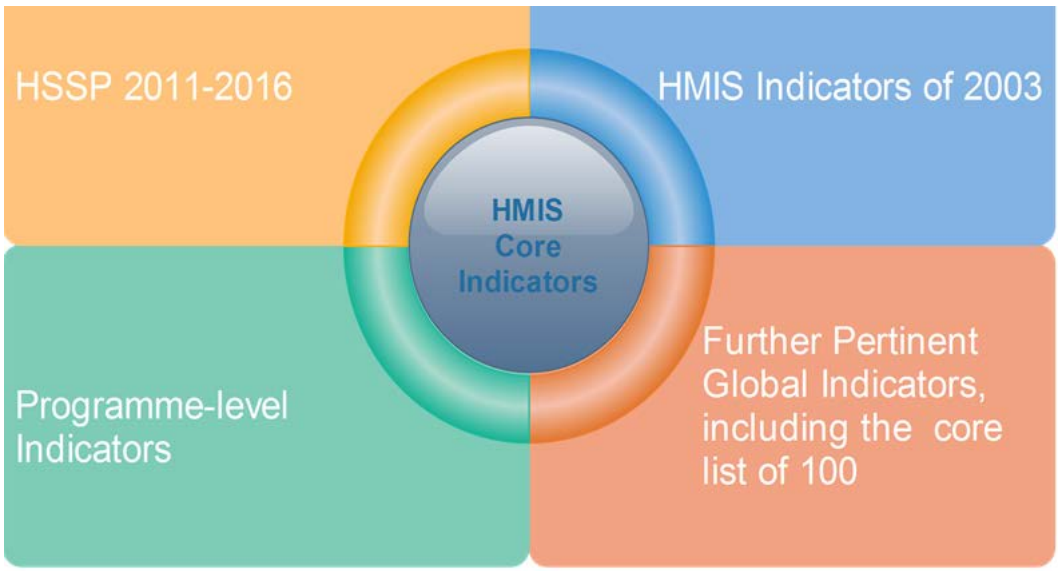
As part of the Performance Appraisal System (PAS) instituted through the Office of the President and Cabinet (OPC), the Ministry is expected to report on performance measures to OPC. This performance assessment is aimed at managing and improving performance in the Public Service by enabling a higher level of staff participation and involvement in planning, delivery and evaluation of work performance. The PAS is a key component of performance management system in the public service and integrates work planning, target setting, performance reporting and feedback.

7.1.3. List of health indicators

As part of measuring the performance of the implementation of the Health Sector Strategic Plan II, the Ministry in collaboration with sector partners have developed a set of health indicators. The process of developing the national list of health indicators started in 2014 to update the existing list of 2002. Led by the Central Monitoring and Evaluation Division a team of experts held consultation meetings with programs and departments within the Ministry of Health who highlighted their reporting requirements including the list of indicators they would like to be measured. The requests from the departments and programs were considered against national and global reporting requirements to ensure alignment with other reporting obligations that the Ministry has. In the process, the program/department level indicator requirements were compared against the list of core indicators in the HSSP I, the list of indicators in the Malawi Health Handbook of Indicators of 2003, the WHO list of 100 global indicators and the Sustainable Development Goal (SDG) list of health indicators. Figure 11 depicts the sources of data that were used to come up with a list of indicators for measuring the performance of the HSSP II.

After consultations with programs and departments, the indicators were presented to the M&E Technical Working Group for improvement and ratification. In doing this, the Ministry managed to come up with a list of indicators that are relevant for all levels of the health care system.

FIGURE 10: MALAWI NATIONAL HEALTH INDICATORS DATA SOURCES



Considering that the final list of indicators was too long, the development team through the same consultation process decided to highlight program/department level indicators separately and national level or core list of indicators separately. The national list of core indicators is provided in Annex 3. The full list of indicators including the program level indicators is provided in updated Malawi Handbook of Indicators, 2016. The national list of core indicators will be used for measuring the performance of the HSSP II. The composition of this list includes health systems indicators, impact indicators, process indicators, risk indicators, HSSP II performance indicators and service delivery indicators. Baselines and targets have been established for each indicator.

7.1.4. Data sources including collection and reporting tools

The data for the reporting of the HSSP II indicators and program indicators have various sources. For HSSP II indicators, Table 9 summarizes the data sources for performance measurement.

TABLE 11: DATA SOURCES REQUIRED TO REPORT ON INDICATORS

Data Source Type	Data Source
Routine Data	Health Management Information System (HMIS)
	Human Resource Information System (HRIS)
	Integrated Disease Surveillance and Response (IDSR)
	Logistics Management Information System (LMIS)
	Laboratory Information Management System (LIMS)
	Civil Registration and Vital Statistics (CRVS)
Health Facility Survey	Service Availability and Readiness Assessment (SARA)/Service Provision Assessment (SPA)
	National Health Accounts (NHA)
House Hold Survey	Malawi Demographic Health Survey (MDHS)
	Malaria Indicator Survey
	Population-based HIV Impact Assessments (PHIA)
	Welfare Monitoring Survey (WMS)

7.1.5. Routine Data

To enable reporting on the indicators, there is need to maintain a set of standardized data collection and reporting tools. The Ministry already has mature data collection tools which include the registers and the health passports. These tools are used to record patient centric data. There are more than twenty standardized registers used at facility level. To enable reporting the Ministry maintains a set of reporting tools totalling more

than thirty. As part of HSSP II implementation, the Ministry has started coordination of revision for these data collection and reporting tools. This process will be finalized so that the tools are able to collect and report on the required indicators. The data collection and reporting tool review process is a consultative process which will be done at the beginning of HSSP II implementation. After this review, any other reviews will be regulated as stipulated in the Malawi National HIS Policy of 2015.

Additionally, the Ministry has started a process to harmonize its data collection and reporting systems. To facilitate access and use of data the Ministry has adopted the District Health Information Software version 2 (DHIS 2) as a national system which should have aggregate data from all HIS sub-systems. The Ministry will, therefore, continue to harmonize all parallel program reporting systems into DHIS 2. Areas of harmonization include allocation of M&E resources including human resources and finances and also integration and/or interoperability of systems with DHIS 2. To realize this, the Ministry will continue, as part of HSSP II implementation, to encourage departments, programs and development partners not to start or to fund new reporting systems other than those supported through the central M&E process.

In terms of data collection and reporting, the Ministry recognizes that the use of paper based systems to process data for decision making is limited and plans under HSSP II to encourage more electronic data collection and reporting. To enable continuity and promote ownership and takeover of systems by Government, the Ministry will, under HSSP II, strengthen its efforts to encourage development and/or implementing partners, programs and departments not to continue introducing or funding new systems that duplicate already existing systems.

7.1.6. Civil Registration and Vital Statistics (CRVS)

Although CRVS would be regarded as a routine data source it is worth specific detail. The Ministry has been reporting on a number of indicators on births and deaths through routine data collected at facilities or through surveys conducted at specific times. The routine data has often provided an incomplete picture as any indicators calculated excludes community level events. Similarly, surveys have not been consistent due to financial challenges. Recent collaboration with the Ministry of Home Affairs and Internal Security to establish a routine system for registering births and deaths at both facility and community levels provides an opportunity for readily available information that can help to measure progress holistically. The Ministry of Health will, therefore, continue to drive the CRVS as a key stakeholder.

7.1.7. Population Based Surveys

Supported mostly through the National Statistical Office (NSO) the Government does conduct a number of surveys at population level. In addition, research institutions and academia that out health systems research, clinical trials and longitudinal community level research can also provide data for interpretation and possible use by the health sector.

Annex 1: Public health sector vacancy analysis

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Medical Specialists	Chief Specialist	53	10	43	81
Medical Specialists	Dental Specialist	1	0	1	100
Medical Specialists	Dental Surgeon	8	0	8	100
Medical Specialists	Deputy Director of Clinical and Population Services	1	1		0
Medical Specialists	Deputy Director of Clinical Services	1	1		0
Medical Specialists	Director of Health & Social Services	28	0	28	100
Medical Specialists	Eye Specialist	1	1		0
medical Officers	Principal Medical Officer	98	9	89	91
medical Officers	Senior Medical Officer	122	102	20	16
Subtotal		313	124	189	60
Medical Specialists	Obstetrician/Gynaecologist	12	1	11	92
Medical Specialists	Ophthalmologist	2	2		0
Medical Specialists	Paediatrician	12	1	11	92
Medical Specialists	Surgeon	12	0	12	100
Subtotal		38	4	34	89
Nursing Services	Assistant Community Health Officer	112	41	71	63

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Nursing Services	Assistant Director of Nursing Services	1	1		0
Nursing Services	Chief Nurse Technician	108	30	78	72
Nursing Services	Chief Nursing Officer	40	22	18	45
Nursing Services	Community Midwifery Assistant	54	37	17	31
Nursing Services	Deputy Director of Nursing Services	1	1		0
Nursing Services	Deputy Hospital Director (Nursing Services)	4	4		0
Nursing Services	Director of Nursing Services	1	1		0
Nursing Services	Enrolled Nurse/Midwife	1	3	-2	-200
Nursing Services	Home Craft Worker	1098	137	961	88
Nursing Services	Nurse Auxiliary	496	276	220	44
Nursing Services	Nurse Technician	8565	2970	5595	65
Nursing Services	Nursing Officer	646	638	8	1
Nursing Services	Principal Nursing Officer	126	86	40	32
Nursing Services	Psychiatry Nursing Officer		1	-1	
Nursing Services	Senior Assistant Community Health Officer	56	24	32	57
Nursing Services	Senior Community Development Officer	1	0	1	100
Nursing Services	Senior Community Enrolled Nurse	1	0	1	100
Nursing Services	Senior Community Health Officer	26	0	26	100
Nursing Services	Senior Enrolled Nurse/Midwife	5	1	4	80

Cadre	Post	Establishe d	Filled	Vacancy	Vacancy %
Nursing Services	Senior Home Craft Assistant	77	1	76	99
Nursing Services	Senior Home Craft Worker	313	3	310	99
Nursing Services	Senior Nurse Technician	1884	116	1768	94
Nursing Services	Senior Nursing Officer	277	17	260	94
Subtotal		13893	4410	9483	68
Pharmacy	Chief Pharmacist	10	0	10	100
Pharmacy	Chief Pharmacy Technician	86	0	86	100
Pharmacy	Controller of Medical Stores	1	0	1	100
Pharmacy	Pharmacist	49	27	22	45
Pharmacy	Pharmacist Technician	14	4	10	71
Pharmacy	Pharmacy Assistant	433	4	429	99
Pharmacy	Pharmacy Specialist	4	0	4	100
Pharmacy	Pharmacy Technician	467	92	375	80
Subtotal		1064	127	937	88
Preventive Services	Assistant Environmental Health Officer	451	269	182	40
Preventive Services	Assistant Epidemiology Officer	9	1	8	89
Preventive Services	Chief Disease Control & Surveillance Officer	3	0	3	100
Preventive Services	Chief Environmental Health Officer	1	1		0

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Preventive Services	Chief Epidemiology Officer	1	0	1	100
Preventive Services	Chief Health Education Officer	1	0	1	100
Preventive Services	Chief Parasitologist	1	0	1	100
Preventive Services	Chief Preventive Health Officer	28	28		0
Preventive Services	Chief Primary Health Care Officer	1	1		0
Preventive Services	Community Health Officer	28	10	18	64
Preventive Services	Deputy Director of Preventive Health Services	8	7	1	13
Preventive Services	Disease Control and Surveillance Assistant	5605	4817	788	14
Preventive Services	Director of Preventive Health Services	1	1		0
Preventive Services	Disease Control and Surveillance Officer	28	19	9	32
Preventive Services	Disease Control Officer	3	3		0
Preventive Services	Disease Control Officer (CHSU)	1	1		0
Preventive Services	Environmental Health Officer	64	79	-15	-23
Preventive Services	Environmental Inspector		1	-1	
Preventive Services	Epidemiology Officer	6	4	2	33
Preventive Services	Health Assistant		2	-2	
Preventive Services	Health Education Officer	39	29	10	26
Preventive Services	Health Surveillance Attendant	1094	5512	-4418	-404
Preventive Services	Lepra Control Assistant	0	2	-2	

Cadre	Post	Establishe d	Filled	Vacancy	Vacancy %
Preventive Services	Principal Disease Control & Surveillance Officer	3	0	3	100
Preventive Services	Principal Environmental Health Officer	27	18	9	33
Preventive Services	Principal Environmental Officer	5	2	3	60
Preventive Services	Principal Epidemiology Officer	3	1	2	67
Preventive Services	Principal Health Education Officer	1	0	1	100
Preventive Services	Principal Primary Health Care Officer	2	0	2	100
Preventive Services	Radio Programmes Officer	1	0	1	100
Preventive Services	Senior Assistant Disiease Control Officer	56	1	55	98
Preventive Services	Senior Assistant Environmental Health Officer	94	28	66	70
Preventive Services	Senior Assistant Health Education Officer	28	2	26	93
Preventive Services	Senior Disease Control & Surveillance Officer	3	2	1	33
Preventive Services	Senior Disease Control and Surveillance Assistant	1350	3	1347	100
Preventive Services	Senior Disease Control Officer	50	0	50	100
Preventive Services	Senior Education Officer	1	1		0
Preventive Services	Senior Environmental Health Officer		0		
Preventive Services	Senior Health Education Officer	29	5	24	83
Subtotal		9026	10850	-1824	-20

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Allied Health Professionals	Anaesthetist	8		8	100
Allied Health Professionals	Assistant Director of Clinical Services	1	1		0
Allied Health Professionals	Chief Clinical Officer	34	8	26	76
Allied Health Professionals	Chief Dental Officer	4	2	2	50
Allied Health Professionals	Chief Dental Specialist	3	0	3	100
Allied Health Professionals	Chief Dentist	2	0	2	100
Allied Health Professionals	Chief Nutrition HIV/ AIDS Officer		1	-1	
Allied Health Professionals	Chief Pathologist	1	0	1	100
Allied Health Professionals	Chief Physiotherapy Specialist	1	0	1	100
Allied Health Professionals	Chief Reproductive Health Officer	1	1		0
Allied Health Professionals	Clinical Officer	423	100	323	76
Allied Health	Clinical Technician	1066	673	393	37

Cadre	Post	Establishe d	Filled	Vacancy	Vacancy %
Professionals					
Allied Health Professionals	Dental Assistant		1	-1	
Allied Health Professionals	Dental Officer	41	16	25	61
Allied Health Professionals	Deputy Hospital Director (Clinical Services)	4	0	4	100
Allied Health Professionals	Dermatologist	8	0	8	100
Allied Health Professionals	Director of Clinical Services	1	1		0
Allied Health Professionals	Director of HIV and AIDS		1	-1	
Allied Health Professionals	Director of Mental Services	1	1		0
Allied Health Professionals	Medical Assistant	900	1036	-136	-15
Allied Health Professionals	Medical Technician (for Med Ass)	606	1	605	100
Allied Health Professionals	Nutrition Officer	33	10	23	70
Allied Health Professionals	Opthometrist	34	13	21	62
Allied Health	Orthopaedic Assistant	0	6	-6	

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Professionals					
Allied Health Professionals	Orthopaedician	10	0	10	100
Allied Health Professionals	Pathologist	8	0	8	100
Allied Health Professionals	Physiotherapy Specialist	5	1	4	80
Allied Health Professionals	Principal Anesthetist	8	0	8	100
Allied Health Professionals	Principal Clinical Officer	64	11	53	83
Allied Health Professionals	Principal Dental Officer	8	5	3	38
Allied Health Professionals	Principal Dental Specialist	8	1	7	88
Allied Health Professionals	Principal Dentist	8	2	6	75
Allied Health Professionals	Principal Dermatologist	4	0	4	100
Allied Health Professionals	Principal Nutrition HIV / AIDS Officer		1	-1	
Allied Health Professionals	Principal Orthopaedician	4	0	4	100

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Allied Health Professionals	Principal Pathologist	8	0	8	100
Allied Health Professionals	Principal Rehabilitation Officer (Medical Psychology)	1	0	1	100
Allied Health Professionals	Principal Reproductive Health Officer	3	1	2	67
Allied Health Professionals	Principal Therapist	4	0	4	100
Allied Health Professionals	Psychiatrist	1	0	1	100
Allied Health Professionals	Rehabilitation Assistant	38	0	38	100
Allied Health Professionals	Rehabilitation Officer	29	0	29	100
Allied Health Professionals	Rehabilitation Officer (MP)	1	0	1	100
Allied Health Professionals	Rehabilitation Officer (Occupational Therapy)	1	0	1	100
Allied Health Professionals	Rehabilitation Officer (Social Worker)	1	0	1	100
Allied Health Professionals	Reproductive Health Officer	1	0	1	100
Allied Health Professionals	Senior Assistant Rehabilitation Officer	30	0	30	100

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Allied Health Professionals	Senior Clinical Officer	547	32	515	94
Allied Health Professionals	Senior Clinical Technician	796	117	679	85
Allied Health Professionals	Senior Dental Officer	9	1	8	89
Allied Health Professionals	Senior Dental Technician	45	21	24	53
Allied Health Professionals	Senior Dentist	8	0	8	100
Allied Health Professionals	Senior Medical Assistant		6	-6	
Allied Health Professionals	Technical Advisor		1	-1	
Allied Health Professionals	Therapist	16	1	15	94
Allied Health Professionals	Therapy Assistant	10	0	10	100
Allied Health Professionals	Principal Specialist	73	16	57	78
Allied Health Professionals	Psychiatric Specialist	1	0	1	100
Allied Health	Assistant Rehabilitation Officer	90	13	77	86

Cadre	Post	Establishe d	Filled	Vacancy	Vacancy %
Professionals					
Allied Health Professionals	Chief Diagnostic Officer	2	0	2	100
Allied Health Professionals	Chief Laboratory Officer	5	6	-1	-20
Allied Health Professionals	Chief Laboratory Technician		1	-1	
Allied Health Professionals	Chief Medical Engineer	4	1	3	75
Allied Health Professionals	Chief Medical Officer	70	24	46	66
Allied Health Professionals	Chief Radiographer	3	0	3	100
Allied Health Professionals	Chief Radiography Specialist	2	0	2	100
Allied Health Professionals	Chief Rehabilitation Officer	2	2		0
Allied Health Professionals	Chief Therapist	4	0	4	100
Allied Health Professionals	Dental Technician	446	90	356	80
Allied Health Professionals	Deputy Director of Health Technical Support Services	2	2		0
Allied Health	Director of Health Technical Support	1	1		0

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Professionals	Services				
Allied Health Professionals	Intern Laboratory Technologist		32		
Allied Health Professionals	Laboratory Assistant	436	49	387	89
Allied Health Professionals	Laboratory Officer	38	55	-17	-45
Allied Health Professionals	Laboratory Technician (CHSU)	509	182	327	64
Allied Health Professionals	Medical Engineering Technician	26	18	8	31
Allied Health Professionals	Medical Officer	1	2	-1	-100
Allied Health Professionals	Principal Laboratory Officer		4	-4	
Allied Health Professionals	Principal Medical Engineer	5	2	3	60
Allied Health Professionals	Principal Pharmacist	11	0	11	100
Allied Health Professionals	Principal Radiographer	4	2	2	50
Allied Health Professionals	Principal Radiography Specialist	4	0	4	100

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Allied Health Professionals	Principal Rehabilitation Officer	3	0	3	100
Allied Health Professionals	Radiographer	37	21	16	43
Allied Health Professionals	Radiography Assistant		1	-1	
Allied Health Professionals	Radiography Technician	3	2	1	33
Allied Health Professionals	Radiography Technician	132	90	42	32
Allied Health Professionals	Senior Assistant Laboratory Technician	30	10	20	67
Allied Health Professionals	Senior Laboratory Technician	34	5	29	85
Allied Health Professionals	Senior Medical Laboratory Technologist (CHSU)	1	1		0
Allied Health Professionals	Senior Pharmacist	15	5	10	67
Allied Health Professionals	Senior Pharmacy Technician	94	19	75	80
Allied Health Professionals	Senior Radiography Technician	52	7	45	87
Allied Health Professionals	Senior Rehabilitation Assistant	35	0	35	100

Cadre	Post	Established	Filled	Vacancy	Vacancy %
Allied Health Professionals	Senior Nutritionist	1	1		0
Subtotal		7024	2737	4319	61
OVERALL		31,358	18,252	13,138	58

Annex 2: Objectives, strategies and key activities of the HSSP II

Programme Area	Strategy	Activities
OBJECTIVE 1: Increase equitable access to and quality of health care services		
Service Provision	To ensure timely universal free access to a quality Basic Health Package, irrespective of ability-to-pay, to all the people in Malawi	
	Move towards the provision of interventions in the BHP+	
OBJECTIVE 2: Reduce environmental and social risk factors that have an impact on health		
Behaviors and life styles	Promote healthy behaviours and lifestyles	Support and build capacity of Health Surveillance Assistant (HSAs) to implement the Community Health programmes
		Promote exclusive breastfeeding and healthy eating habits
		Promote physical exercise at all levels in collaboration with the Ministry of Youth and Sports and the Ministry of Education
		Train service providers in the management of GBV cases in collaboration with other sectors
		Conduct advocacy and communication for behavior change aimed at injury prevention, eliminating discrimination and disparities that negatively impact public health and development
		Provide psychosocial interventions to people affected by violence, conflict and disasters
		Promote mental wellbeing to reduce alcohol consumption, tobacco consumption, and drug abuse

Programme Area	Strategy	Activities
	Increase universal access to health (PHC) and social service coverage	Develop and implement a strategy of integrated community-based health programs
		Expand and strengthen coverage of health services using modern technology (e.g. telemedicine)
	Adoption and enforcement of protective health policies	Facilitate ratification of the Tobacco Control Framework
		Advocate for the Tobacco Control Framework activities
		Finalize Alcohol Policy by 2017
		Initiate development of Tobacco Policy by 2020
Safe water and environmental health and sanitation	Promote use of safe water and good sanitation practices	Continuous health promotion on use of safe water and sanitary facilities at all levels
		Facilitate establishment of safe water facilities with the Ministry of Water and other partners
		Repair damaged boreholes & pumps to appropriate functional standard
		Continuous water quality monitoring
		Promote construction of improved toilets and use of sanitation facilities by households
		Collaborate with city councils and other institutions to improve waste management systems
		Train extension workers on Community-led total sanitation (CLTS)
		Trigger follow up and certify ODF communities
Food and Nutrition Services	Improve food safety and hygiene and nutrition services	Finalize the food safety guidelines and monitor implementation
		Continuous inspections, certifications, and audits of food establishments

Programme Area	Strategy	Activities
		Monitoring of food fortification (per the Food Fortification Act) - Iodine in salt at household & commercial level, Vitamin A in flour, cooking oil, and sugar, Iron in flour
		Continuous health promotion on food handling and hygiene practices at all levels and conduct medical examination of food handlers
		Create awareness at community level on the right foods to eat for good nutrition status and promote their production
		Screen for malnutrition in all age groups and ensure appropriate care and rehabilitation for the identified individuals
		Support growth promotion and monitoring in the first two years of life at community level
Housing and Urbanization	Promote planned and safe housing and urbanization practices	Promote construction of properly ventilated dwelling houses and kitchens
		Facilitate formulation of bylaws that restrict construction of inadequately ventilated dwelling houses and enforce standards on housing
		Continuous promotion of safe housing practices through all relevant structures (e.g. good housing construction, proper livestock management, good cooking practices, etc.)
		Develop urban health programmes targeting slums and public places
Environmental and living/working conditions	Promote safe working/living and road environment/conditions	Establish reporting system to gather data on occupation safety and injuries by 2022 in consultation with the Ministry of Labor

Programme Area	Strategy	Activities
		Collaborate with the Ministry of Labor to revise the Occupational Safety, Health, and Welfare Act of 1997
		Conduct occupational safety surveys in some workplaces
		Conduct sensitization activities on adherence to safety measures at workplaces
		Created awareness on indoor air pollution prevention, proper liquid, solid and gaseous waste management
	Participate in road safety campaigns	Active involvement in road safety campaigns and interventions
Vector and vermin control	Strengthen vector and vermin control services at community and in public institutions	Conduct vector resistance research studies and create management plans
		Conduct community education on sanitation and hygiene to increase vector and vermin control
		Establish and train community management committees for vector and vermin control
Epidemic preparedness and response	Strengthen epidemic preparedness and response	Establish emergency operations centers (EOCs) and designate and train technical (e.g. physicians, veterinarians, epidemiologists, microbiologists) and support staff to manage it
		Collaborate with the Ministry of Agriculture's Animal Health Department on surveillance and response of zoonotic diseases.
		Carry out a joint external evaluation of IHR core capacities
		Monitor antimicrobial resistance

Programme Area	Strategy	Activities
		Establish and train rapid response teams (RRTs) at the district- and central- level and Epidemic Management Committees (EMC), including village health committees
		Train Port Health Officers in carrying out disease screening activities at all ports of entry
		Train health workers in Integrated Disease Surveillance and Response (IDSR), field epidemiology training program (FETP), and infection prevention and control
		Conduct trainings and simulation exercises on selected IHR core capacities or Global Health Security Agenda Action Packages
		Establish networks to share resources, scientific data, and best practices and to enhance the country's ability to fulfill relevant IHR core capacities.
		Establish One Health Committees with legislative support and cooperation between Ministries of Health and Agriculture
		Develop and field test distance learning tools to train staff on public health emergency management response.
		Construct Treatment Isolation Centres for infectious diseases
		Implement syndrome and or event based surveillance systems through the IDSR framework and guidelines.
		Develop standardized electronic surveillance system to transmit surveillance data at all levels.
Partnerships and Collaboration	Strengthen partnership and collaboration with other sectors and key stakeholders	Develop a policy/guidelines on multi-sectorial collaboration and allocation of resources by development partners
		Hold multi-sectoral review meetings biannually at all levels

Programme Area	Strategy	Activities
OBJECTIVE 3: Improve the availability and quality of health infrastructure and medical equipment		
Health Infrastructure development and rehabilitation	Ensure availability of quality infrastructure	Complete construction of unfinished health facilities including associated utility services
		Complete construction of unfinished staff houses (Umoyo and flats for HWs) and associated utility services
		Renovate/rehabilitate/maintain existing health infrastructure including associated utility services.
		Undertake construction of Community Health Village Clinics.
		Develop and upgrade health infrastructure including staff housing based on need to promote equitable access to quality health care
		Finalise capital investment plan (CIP)
Medical Equipment	Ensure availability of green, quality, safe and functional medical equipment	Finalize/revise standard equipment list for health facilities at different levels (central hospitals, district hospitals, community hospitals and health centres) with acknowledgement of BHP
		Procure medical equipment
		Develop equipment replacement plan
		Conduct planned preventive maintenance (PPM) and corrective maintenance
		Improve skills for Biomedical Engineers/Technicians, Medical Physicists and Equipment Users
		Promote linkages with training institutions and professional associations

Programme Area	Strategy	Activities
	Explore options for PPPs in medical equipment acquisition and management	Pilot leasing of high cost medical equipment at major hospitals
		Pilot using PPPs in operating and managing high cost medical equipment at central hospitals
Transports Logistics	Strengthen transport system at all levels	Procure and distribute additional ambulances to match prescribed population ratio and other means of transport to maintain appropriate means of transport at all levels based on need
		Equip all Ambulances with proper referral equipment
Communication Systems	Strengthen the communication linkages	Develop policy on communication devices for health facilities
		Provide reliable form of communication systems/facilities e.g. cell phone
		Provide Information Technology (IT) infrastructure (computers and internet access) to health facilities
OBJECTIVE 4: Improve the availability, retention, performance and motivation of human resources for health for effective, efficient and equitable health service delivery		
Human resources management	Improve retention of properly deployed and motivated health	Conduct induction for all newly recruited and promoted health workers

Programme Area	Strategy	Activities
	workforce	Undertake in-service training
		Conduct annual Performance Appraisals for 100% of health workers
		Institute performance based incentives linked to appraisals for top 20% health workers
		Develop retention policy & strategy (supervision, housing, water, solar for health workers in hard to reach areas)
	Improve recruitment capacity of health workers	Undertake functional review of MoH
		Review staff establishment for all cadres
		Recruit staff to meet at least 75% of staff establishment
		Deploy according to establishment
	Enforce implementation of performance based management	Undertake integrated supervisions at all levels
		Conduct quarterly Review Meetings
		Conduct performance appraisals for staff
		Orient staff at all levels on performance appraisal process
	Enforce public service policies, regulations and procedures	Produce government personnel regulations and procedures
		Induct all health workers through orientation and in-service training
		Implement relevant disciplinary action to constant abuse of policies, regulations and procedures
Expand Training and Education opportunities including CPD	Improve quality of training	Engage regulatory bodies to assess training accreditation standards
		Enforce existing accreditation standards
		Update records of registration status of its employees
		Incorporate professional behavior and patient satisfaction into both pre- & in-service training curriculum

Programme Area	Strategy	Activities
		Train tutors and other health worker educators teaching methodology
Human resource planning	Strengthen the human resource planning process to incorporate evidence based planning	Develop Human Resource in Health Strategy for Malawi
		Revise the criteria for setting population health worker ratio
		Move away from fixed facility staffing towards more appropriate evidence-based planning
		Ensure appropriate systems exist for HR planning in face of decentralisation
		Introduce and train HRMD in HRH projection models
		Facilitate the functionality & use of iHRIS at all levels
		Allocate human resources based on iHRIS data
		Conduct on-going training for HRMO
OBJECTIVE 5: Improve the availability, quality and utilization of medicines and medical supplies		
Regulation and quality assurance of health products	Review and strengthen policy and regulatory framework for quality assurance of medicines and medical products	Undertake revision of legislation of 1988 Act on medicines and update other existing laws and regulation on medicines
		Enforce the policy on donation of medicines and medical supplies
	Strengthen post-marketing surveillance and pharmacovigilance for medicines and medical products	Develop technical competence in PMPB to support inspection and licensing of pharmaceutical facilities
		Procure laboratory equipment for PMPB National Quality Control Laboratory for testing quality of drugs
		Build capacity of personnel (numbers and skills) at PMPB to effectively measure efficacy and quality of medicines
Procurement	Promote an interrupted supply of quality essential medicines and medical supplies to end-users	Conduct drug quantification and forecasting exercises
		Train/employ logistics and supply chain managers in the public sector

Programme Area	Strategy	Activities
	Procure sufficient quantities of medicines and medical products including laboratory commodities	Recapitalize CMST to ensure adequate and sustainable financing for medicines and medical supplies
Warehousing and distribution	Improve infrastructure for storage at national, district and facility levels	Strengthen the security and expand the capacity of the existing storage infrastructure at all levels
	Improve the national Logistics Management and Information System	Roll out the electronic data system for Logistics Management Information Systems (LMIS) to all health facilities
	Strengthen systems for distribution	Complete CMST reforms for joint integration of supplies chains
Rational Use of Medicines	Monitor and support adherence to treatment and dispensing guidelines	Build capacity of health workers on Rational Use of Medicines
		Introduce and enforce use of prescription forms at all levels of health system
		Conduct regular Rational Use of Medicines surveys
	Regularly update treatment and dispensing guidelines and essential medicines list	Update treatment and dispensing guidelines
		Update the 'Must Have List' for medicines and medical supplies
		Ensure alignment of medicine lists with BHP
	Strengthen Medicines and Therapeutic Committees (MTCs) in hospitals	Build capacity of Medicines and Therapeutic Committees
OBJECTIVE 6: Generate quality information and make it accessible to all intended users for evidence-based decision-making through standardized and harmonized tools across all programmes		

Programme Area	Strategy	Activities
Routine data management (HMIS/DHIS-2, CVRS, etc)	Strengthen national capacity for planning, coordination and implementation of health information systems	Disseminate all HIS governance tools widely
		Supervise and monitor the implementation of HIS governance tools
		Develop and implement guidelines and standard operating procedures for HIS
		Sustain inter-sectoral forums including the M&E/HIS TWG and the sub TWGs of Data Collaborative Taskforce, mHealth and National Data Standards
	Improve alignment of fragmented programmatic M&E approaches and data sources around a single country-led monitoring and evaluation platform	Harmonize data collection and reporting tools to remove duplications
		Expand the implementation of modern data collection and reporting tools to cover more facilities and functionality
		Identify community Health Information Systems for national scale up
		Harmonize program specific M&E Frameworks with the national M&E framework
		Ensure harmonization between health facility and community Health Information Systems
		Facilitate harmonization of performance reviews
		Conduct a Service Availability and Readiness Assessment (SARA)
		Participate in the design and implementation of key surveys including DHS, Integrated House Hold Survey, MIS, etc
	Improve data quality at all levels	Conduct regular supervision and on-job training
		Conduct regular data validation exercise for reporting facilities

Programme Area	Strategy	Activities
		Supply reporting facilities with adequate data collection and reporting tools
		Conduct regular facility data reviews at all levels
		Conduct bi-annual data quality assessments
	Expand effective use of information technology to improve the quality, availability and continuity of healthcare	Scale up use of electronic systems
		Develop ICT infrastructure to enable access to key electronic Health Information Systems
		Connect facilities to broadband internet
		Train more staff in ICTs for Health
		Establish minimum ICT systems at all levels
Monitoring and Evaluation	Strengthen monitoring and evaluation of HSSP II implementation	Conduct regular annual Implementation plan reviews
		Develop functional M & E framework for HSSP II
		Conduct mid-term and final review of HSSP II
Research	Enhance local capacities to conduct research (people, skills, funding)	Prepare research projects
		Conduct continuous capacity building for relevant and interested local researchers
		Review and update the National Health Research Agenda and ensure its alignment with HSSP II
		Enforce policy on collaboration between international and local researchers
		Develop monitoring tool for the research agenda
Reporting and utilization	Enhance routine data and research reporting at all levels	Establish a forum for dissemination of research within the health sector
		Document and disseminate best practices (knowledge management)

Programme Area	Strategy	Activities
		Provide access to research conducted in the sector within the MoH web page
		Increase the capacity of CMED to present health information in user friendly formats
OBJECTIVE 7: Improve leadership and governance (particularly setting direction and regulation) across the health sector and at all levels of the health system		
Organization and Management	Strengthen leadership and management functions and structures at national, district and community levels	Finalize the National Health Policy to lead country health policy up to 2030
		Conduct functional review of MoH structures in relation to decentralization
		Establish a forum for the Minister to meet regularly with senior Directors
		Review, consult on, approve and make operational the proposed District Health Management structure at local councils
		Finalise, consult on and approve the proposal to establish Health Centre and Hospital Boards
		Conduct review of the functionality and effectiveness of TWGs
	Enhance capacities in leadership and management	Conduct a feasibility study into developing a health management curriculum at pre-service, master's and doctorate levels
		Re-vitalise, resource and implement the MIM public sector management induction for all newly qualified staff
		Conduct a feasibility of introducing the WHO mid-level management training course for DHMTs in Malawi

Programme Area	Strategy	Activities
		Develop capacity of District Health and Environment committees
		Pilot and roll out training and mentoring for hospital and health centre boards
	Strengthen accountability mechanisms and performance management across the system	Institutionalise performance contracts across the health sector
		Develop and implement a leadership succession plan across the health sector
		Develop and institute incentive mechanisms for good management practice at all levels
		Establish mechanisms for health centre/hospital boards to feed into District HECs, and for community issues to be raised to national level
		Develop templates for and roll out citizens charters at HQ, District, health centre, hospital levels and with regulatory bodies
	Enhance pro-active risk-assessment and management especially in finance and procurement	Develop a joint risk management strategy (inclusive of government and DPs)
		Establish a regular annual cycle of joint risk assessment and review of the health sector
Partnership coordination and alignment	Strengthen functionality of country-led joint HSSP planning and implementation at central and district levels	Review effectiveness of joint governance structures (HSWG, TWGs, HDG etc) and how they relate to each other
		Undertake a stakeholder analysis of all partners active in health in the District

Programme Area	Strategy	Activities
		Establish and maintain a health partner database at District level
		Establish quarterly reviews of partner activities through a joint stakeholder meeting at District level
	Establish systems and procedures for aligning ALL partner inputs into the HSSP II priorities	Assess the interest and feasibility for Malawi to join the International Health Partnership Plus (IHP+)
		Develop a new MoU between government and development partners on aligning with and supporting the HSSPII
		Produce all necessary guidelines for programmatic, HRH, M&E, health financing etc. strategies
		Develop agreed standards for planning and reporting across government and partners
		Develop guidelines on how partners enter into Districts (including new standardized MOU template)
		Ensure that all health partners have signed an MoU in the Districts where they are active
Public Private Partnerships	Enhance opportunities for, and strengthen efficiency and effectiveness of Public Private Partnerships	Review and update the draft 2014 PPP Strategy, based on existing partnerships and more current information, informed by value for money considerations at national and District levels
		Disseminate and operationalise the PPP Strategy
		Produce an electronic tool for analysing the value for money of PPPs
		Undertake an annual review of PPPs in the health sector

Programme Area	Strategy	Activities
Financial Management and Audit	Strengthen implementation and monitoring of financial management improvement plans	Maintain annual development of financial management improvement plans, focusing on bank reconciliations and other priority areas
		Undertake quarterly financial management monitoring and supervisory checks and produce monthly, quarterly and annual progress reports
		Develop, resource and implement an improved financial record keeping system
		Develop and implement a financial management capacity building plan to strengthen staff performance for both financial and non-financial managers
		Identify and fulfill resource needs (i.e. Equipment, supplies, etc.) to improve financial management performance
		Maintain the conduct of quarterly FM Task Force
		Clarify roles and responsibilities between Central HQ and Districts as regards planning, financial reporting and audit
	Establish the means for improving central and district financial management and audit (infrastructure, equipment, personnel and connectivity)	Identify needs and mobilise resources for strengthening national and district audit capacity. Explore innovative initiatives for increasing the 'reach' of internal audit
		Build capacity of finance department to respond to and follow up on audit queries
		Maintain schedule of doing internal audits on a monthly (payroll), quarterly and annual basis, plus spot checks as necessary at HQ and District levels
		Maintain resources for the Drug Theft Investigation Unit (DTIU)

Programme Area	Strategy	Activities
Procurement	Strengthen adherence and compliance to Public Procurement Act and health sector procurement plans	Review, revise and monitor the Procurement Improvement Plan on an annual basis
		Build capacity in contracting and procurement in Procurement Unit, across national and District level managers
		Roll out and implement procurement related performance contracts for managing public procurement within HQ, Districts and across associated institutions (CMST, MBTS, etc.)
		Expand whistle-blowing mechanisms to cover other types of procurement
		Disseminate the anti-corruption policy for the health sector
Regulation	Strengthen health sector policy, legal and regulatory frameworks	Initiate reviews, facilitate revisions and finalisation of regulatory acts: e.g. PMPB, Medical and Dental Act, Allied Health Professionals Act, Mental Health Act, Public Health Act etc.
		Mobilise resources for regulatory bodies to perform their functions
		Initiate performance contracting and performance management initiatives to monitor regulatory performance across the public and private sectors
Organization Management Reforms	Enable effective decentralization	Decentralise human resource management functions to local councils
		Develop transparent process for communicating annual budgets for each health centre and hospital
		Implement guidelines for community oversight in all Districts

Programme Area	Strategy	Activities
		Moblise resources to support health management of decentralised structures and processes
	Enhance implementation of hospital autonomy	Set up the Hospital Boards at Central Hospitals
		Implement performance contracts with Hospital Boards. Develop guidelines and performance contracts for Boards and develop capacity of Board members
		Initiate the process for enactment of Hospital Boards
OBJECTIVE 8: Increase health sector financial resources and improve efficiency in resource allocation and utilization		
Resource Mobilization	Raise additional resources from existing funding sources	Finalize and approve Malawi Health Financing Strategy document
		Commission studies to consolidate and collect data to evaluate gaps in EHP delivery and implications of increased funding on population health, economic growth and demographic changes
		Use evidence base to lobby government and development partners for increased funding for the health sector
	Introduce domestic financing mechanisms for health such as the Health Fund	Develop a legal framework for operating a Health Fund
		Evaluate domestic funding mechanisms including legal implications
		Establish the Health Fund
Resource Pooling	Design options for pooling health financial resources and implement sustainable and risk-based financing schemes	Evaluate options for pooling resources to minimize risks including but not limited to medical insurance scheme e.g. HSJF
		Formulate the required legislation for establishment of National Health Insurance Scheme (NHIS)

Programme Area	Strategy	Activities
		Establish the National Health Insurance Scheme that incorporates formal and informal enrolments plus mechanisms for government to support the poor and indigent
		Pilot a Purchaser-Provider Split within the health sector
		Explore options for community savings for health financing
Strategic Purchasing/Resource Allocation	Institutionalize Performance Based Financing	Finalize designing of and operationalize Programme Based Budgeting (PBB)
		Design and implement performance based financing options e.g. Result Based Financing
		Make peripheral health facilities (e.g. community hospitals, health centres, dispensaries) cost centers and provide them with direct funding allocation
		Introduce formula for allocation of funds to peripheral health facilities
	Improving efficiency in resource allocation and utilization	Review the resource allocation criteria and formula to ensure rational and equitable resource distribution across districts

Annex 3: HSSP II M&E Framework

No.	Results chain	Domain	HSSP Thematic Area	Indicator	Baseline / recent estimates (source, year)	Target 2017	Target 2019	Target 2021	Periodicity of reporting	Lowest level of administrative disaggregation	Disaggregation	Responsible / programme	Alignment	Status of baseline and targets	Comment on baselines, targets and calculability
1	Impact	Health status	Services	Maternal mortality ratio	*Survey:* 574 per 100,000 live births (MICS, 2014); 497 per 100,000 live births (DHS 2015-2016); *HMIS:* 312 per 100,000 live births	516 per 100,000 live births	458 per 100,000 live births	400 per 100,000 live births	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	*Survey:* National *HMIS:* District	*Survey:* None *HMIS:* Primary complication	RHD	HSSP I, SDG, MCHS, 100LCI, MLHI	Done	

2	Impact	Health status	Services	Neonatal mortality rate	*Survey:* 27 per 1,000 live births (DHS 2015-16); 29 per 1,000 live births (2014 MDG Endline/MICS) *HMIS:* 10.6/1000 (2015)	26 per 1,000 live births	24 per 1,000 live births	22 per 1,000 live births	*Survey*: 3-5 years (DHS & MICS) *HMIS:* Annual	District	*Survey:* Sex, Age(≤7 days, >7 days) *HMIS:* none	RHD/IMCI	HSSP I, SDG, 100LCI	Done	Source: Malawi Every New Born Action Plan
3	Impact	Health status	Services	Infant mortality rate (IMR)	42 per1,000 live births (DHS 2015-2016) 53 per 1,000 live births (2014 MDG Endline/MICS)	40 per 1,000 live births	37 per 1,000 live births	34 per 1,000 live births	3-5 years (DHS & MICS)	District	Sex, Age (neonatal, postneonatal)	RHD/IMCI	HSSP I, SDG, 100LCI, MLHI	Done	

4	Impact	Health status	Services	Under-5 mortality rate (U5MR)	64 per 1,000 live births (DHS 2015-16) 85 per 1,000 live births (2014 MDG Endline/MICS)	64 per 1,000 live births	55 per 1,000 live births	48 per 1,000 live births	3-5 years (DHS & MICS)	District	Sex, Age (0-11 months, 1-4 years)	IMCI	HSSP I, SDG, 100LCI	Done	
5	Impact	Health status	Services	HIV Incidence	4.1/1000 person-years among adults (15–49) (2014/15 Annual Review Report for the Health Sector)	3.1	2.2	2.0 (2020)	Every 2 years (Spectrum)	National	Sex	HIV	SDG, 100LCI	Done	

6	Impact	Health status	Services	TB case notification rate	106 per 100,000 (Tb, 2014)	191 per 100,000	196 per 100,000	196 per 100,000	Annual	District	TB diagnosis (smear positive, clinically diagnosed); Type of TB (pulmonary, extrapulmonary); New / relapsed; Age (0-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, >= 65); Sex	TB	TB SP, 100LCI, NHLI	Done	
7	Impact	Health status	Services	Malaria incidence rate (presumed and confirmed)	380 per 1000 (RHIS, 2015)	320 per 1000	260 per 1000	200 per 1000	Annual	District	Sex, AgeSex; Age (<5; 5+); Diagnosis (presumed and confirmed)	Malaria	SDG, 100 LCI	Done	
8	Impact	Health status	Services	Malaria parasite prevalence among children aged 6–59	33% (MIS, 2014)	28%	24%	20%	Every 2 years (MIS)	National	Sex, Age	Malaria	100 CLI	Done	Need to define targets

				months											
9	Impact	Health status	Services	Mortality rate from CV diseases, cancer, diabetes, chronic respiratory diseases	19% (WHO NCD Profile)	TBD	TBD	TBD	Depending on the frequency of global estimates	National	None	NCD	SDG	In progress	**Consider relegating to programme-level?
10	Impact	Health status	Services	Suicide mortality rate	*Global estimate:* 16 per 100,000, WHO, 2012 *HMIS:* 0.3 per 100,000 (NCD, 2015)	14 per 100,000	12 per 100,000	10 per 100,000	Annual	District	Sex	NCD	SDG, 100 LCI	Done	
11	Impact	Health status	Services	Road traffic accident mortality rate	*Global estimate:* 5.7 per 100,000 (WHO estimate, 2013) *HMIS:* 1.1 per	TBD	TBD	TBD	Annual	District	None	NCD	100 LCI	In progress	Need to define targets based on WHO baseline

					100,000 (HMIS 15, 2015)										
12	Impact	Health status	Services	Adolescent fertility rate (age-specific fertlity rate for women aged 10-14 and 15-19)	15 – 19 year olds: 136 per 1,000 women (DHS 2015-2016) 15 – 19 year olds: 143 per 1,000 (2014 MDG Endline/MICS)	15-19 year olds: 135 per 1,000	15-19 year olds: 129 per 1000	15-19 year olds: 123 per 1000	3-5 years (DHS & MICS)	District	Age: (12 - 14; 15- 19)	RHD	SDG, 100LCI, MLHI	Done	No baseline or target for 10 - 14 year olds. Probably ok since this is a new indicator
13	Impact	Financial risk	Health financing	Out-of-pocket payment for health	10.9 (NHA, 2015)	10.90%	9.50%	7%	Annual	National	None	DPPD	100CLI, MLHI	Progress	Pending confirmation of proposed targets. Program proposed switching to a different indicator
14	Specific objectives														

15	Outcome	Coverage of interventions	Services	ART coverage among known HIV-infected pregnant women	75% (RHIS/ Spectrum,2013)	83%	85%	85% (2020)	Annual	District	None	HIV	HSSP I, 100 LCI	Done	
16	Outcome	Coverage of interventions	Services	Antiretroviral Therapy (ART) coverage	69% (551,566) (2014/15 Annual Review Report for the Health Sector)	68%	78%	81% (2020)	Annual	National	None	HIV	100 LCI	Done	
17	Outcome	Coverage of interventions	Services	HIV-positive TB patients on ART during TB treatment	92.6 % (Tb, 2014)	95%	95%	95%	Annual	District	Age (15-24; 25-34; 35-44; 45-49), Sex; New, relapsed	TB	TB SP, 100 CLI	Done	
18	Outcome	Coverage of interventions	Services	Second line treatment coverage among MDR-TB cases	100% (RHIS, 2014)	100%	100%	100%	Annual	District	New, Relapsed	TB	MHLI, 100CLI, TB SP	Done	

19	Outcome	Coverage of interventions	Services	% of births attended by skilled health personnel	*Survey:* 89.8% (DHS 2015-16); 87.4% (2014 MDG Endline/MICS) *HMIS:* 59.2% (2015)	91	93	95	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	*Survey:* Region *HMIS:* District	*Survey:* Age (<20, 20-34; 35-49); Type of provider (Doctor/ Clinical Officer, Nurse/Midwife, Medical Assitant *HMIS:* None	RHD	HSSP I, 100CLI, MLHI	Done	Source: Malawi Every New Born Action Plan
20	Outcome	Coverage of interventions	Services	Demand for family planning satisfied with modern methods (all women)	Married: 74.6%; Sexually active, unmarried: 51.3% (DHS 2015-16) 75.1% (married women, 2014 MDG Endline/ MICS)	Married: 76%; Unmarried: 54%	Married: 79%; Unmarried: 57%	Married: 82%; Unmarried: 60%	3-5 years (DHS & MICS)	Region	Marital status (married; unmarried, sexually active); Age (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49); Residence (urban, rural); Wealth quantile	RHD	SDG, 100 LCI	Done	Target source: Track 20 targets 1.5m additional users

21	Outcome	Coverage of interventions	Services	Intermittent preventive therapy for malaria during pregnancy (IPTp)	*Survey:* 30% (DHS, 2015) 19.3 (2014 MDG Endline/MICS); *HMIS:*	40%	50%	60%	*Survey:* 2-5 years (MIS, DHS, & MICS) *HMIS*: Annual	*Survey:* National *HMIS:* District	None	Malaria	HSSP I, 100CLI	Done	
22	Outcome	Coverage of interventions	Services	Penta III coverage	*Survey:* 93% (DHS 2015-16); 90.5% (2014 MDG Endline/MICS) *HMIS: 66.3%* (HMIS 15, 2015)	95%	97%	99%	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	District	*Survey:* Sex *HMIS:* None	EPI	HSSP I, 100CLI	Done	Need to verify baseline data
23	Outcome	Coverage of interventions	Services	% of 1-year-old children immunized against measles	*Survey:* 91.2% (DHS 2015-16), 85.1% (2014 MDG Endline/MICS) *HMIS:* 64% (HMIS 15 2015)	92%	93%	94%	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	District	*Survey:* Sex *HMIS:* None	EPI	HSSP I, 100CLI	Done	Need to reconfirm targets

24	Outcome	Coverage of interventions	Services	% of 1-year-old children fully immunised (survey-based)	*Survey:* 71.3% (DHS 2015 – 2016) 38.5% (2014 MDG Endline/MICS) *HMIS:* 63.9% (HMIS 15, 2015)	88%	90%	92%	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	District	*Survey:* Vaccine (BCG, Rotavirus, Penta III, Polio III, Measles, PCV) *HMIS:* None	EPI	HSSP I, 100CLI, SDG	Done	
25	Outcome	Coverage of interventions	Services	Use of Insecticide treated nets (ITN)	MIS 2014: 67% U5, 62% PW, 53% All; DHS 2015-16: 44.7% U5, 46.7% PW	75%	80%	85%	2-5 years (MIS, DHS, & MICS)	National	Age (<5, 5+); Type of area (Urban, Rural); Pregnant women	Malaria	HSSP I, 100 LCI, SDG	Done	
26	Outcome	Coverage of interventions	Services	Antenatal care coverage – at least four visits (%)	*Survey:* 50.6% (DHS 2015-16); 45% (MDG Endline Survey/MICS) *HMIS:* 32% (2015)	55%	60%	65%	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	*Survey:* Region *HMIS:* District	*Survey:* Birth order, residence (urban, rural), mother's education, wealth quintile *HMIS:* None	RHD	HSSP I, 100CLI, MLHI	Done	

27	Outcome	Coverage of interventions	Services	Postpartum care coverage	39.2% mother (DHS, 2015-2016) 75% mother (2014 MDG Endline/MICS)	84%	87%	90%	3-5 years (DHS & MICS)	District	None	RHD	HSSP I, 100CLI	Done	Need targets - programme confirmed that targets should be set based on DHS not MICS and should be for mother
28	Outcome	Coverage of interventions	Services	Modern contraceptive prevalence rate (all women)	Married women: 58%; Sexually active unmarried women: 44% (DHS 2015-16) Married women: 57%; (2014 MDG Endline/MICS); 45% (FPET, Track 20)	Married: 76% All women 54%	Married: 79% All women 58%	Married: 82% All women 60%	3-5 years (DHS & MICS)	Region	Marital status (married; unmarried, sexually active); Age (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49); Method (short, long and permanent)	RHD	HSSP I, 100CLI, MCHS, MLHI	Done	Need to confirm targets and understand baseline

29	Outcome	Coverage of interventions	Services	Children with diarrhoea receiving oral rehydration solution (ORS)	64.7% (DHS 2015-2016) 63.5% (2014 MDG Endline/MICS)	70%	79%	85% (2020)	3-5 years (DHS & MICS)	District	None	IMCI	100CLI, MCHS, MLHI	Done	
30	Outcome	Coverage of interventions	Services	Vitamin A supplementation coverage (6-59 months)	*Survey:* 85.6% DHS 2010 *HMIS:* 29.3 (HMIS 15, 2015)	99%	99%	99%	*Survey:* 5 years (DHS) *HMIS:* 6 months	District	*Survey:* Age (6-11 months, 1 - 4 years) *HMIS:* method of delivery (campaign, routine)	Nutrition	100 LCI	Done	
31	Outcome	Coverage of interventions	Services	Cervical cancer screening	20,490 (cumulative)	tbd	tbd	tbd	Annual	National	Age (30-34; 35-39; 40-44; 45-49)	RHD	100LCI, SDG	Progress	Definition not confirmed. Baseline needs to be per estimated population of women in age group. Need to set targets: check cervical

															cancer registry, discuss with Twambilire
32	Health systems and risk factors														
33	Output	Quality and safety	Services	TB success rate of SS + TB cases	84% (Tb National Strategic Plan 2015-2020)	88%	89%	90%	Annual	Facility	Age (0-4, 5-14, 15 and above), Sex; TB diagnosis (smear positive v. clinical diagnosis or smear positive)	TB	TB SP, 100CLI, MHLI	Done	update baseline
34	Output	Quality and safety	Services	ART retention rate (12 months)	78% (RHIS, 2014)	79%	81%	83%	Annual	National	None	HIV	100 CLI, SDG	Done	Baseline needs to be updated
35	Output	Quality and safety	Services	EHP Coverage (% facilities able to deliver EHP services)	54% (MSPA, 2014)	90%	95%	99%	tbd	District	Facility type; Ownership (MOH, CHAM, private)	Clinical Services / DPPD?	HSSP I	Done	Data source and definition of the indicator not yet clear. Baseline is provisio

															nal only. Periodicity of reporting not known
36	Output	Access	Services	Outpatient service utilization (OPD visits per 1,000 population)	1,121 visits / 1,000 inh.	>= 1,100	>= 1,100	>= 1,100	Annual	District	Age(<5, ≥5 years)	Clinical Services	HSSP I, 100CLI	Done	updated baseline
37	Output	Access	Medicine and medical supplies	% of health facilities without stock-outs of tracer medicines	20% (National Pharmaceutical strategic plan)	5%	5%	5%	3 years	N/A		HTSS Pharma	HSSP I, 100LCI	Open	Baseline and target based on strategic plan and need to be confirmed; Periodicity and data source not known.

38	Outcome	Health workforce	Human resource for health	Health worker density and distribution	Government Doctor: 0.1 per 10,000; Nurses/midwives: 2.2 per 10,000; Clinical Officers: 0.5 per 10,000; Medical Assistant: 0.6 per 10,000; Environmental health Officers: 0.2 per 10,000 (IHRIS, Aug 2016)	TBD	TBD	TBD	Public sector: Annual Private and NGO sectors: per HR census schedule	District	Cadre type (Doctor, Clinical officer, Medical assistant, Nurse-Midwives, Medical technician, Environmental Health Officer, Hospital attendant) Sector (Public, private, NGO, etc.)	HR	100LCI, SDG	Open	Need to set baseline and targets; restrict number of disaggregation to key cadres.
39	Input	Health infrastructure	Infrastructure and equipment	Total number of health facilities per 10 000 population	MSPA?				Annual	District	Facility type; Ownership (MOH, CHAM, private)	PPPAME	100LCI, MLI	Open	Need to set baseline and targets and data source

40	Input	Health information	Health information system	Completeness of reporting by facilities	96% (HMIS, 2010)	99%	99%	99%	Annual (monthly)	Health facility	Facility type (primary, secondary, tertiary); Managing authority (MOH, CHAM, private)	CMED	100LCI	Done	Baseline needs to be updated
41	Input	Health financing	Health financing	% of GOM budget allocated to health sector	6% NHA (SoWC 2015 report) (expenditure is 10.4%)	9%	12%	15%	Annual	National	None	DPPD	HSSP I, MLHI	Done	Need to revisit baseline against the National Budget 2015-2016
42	Output	Health security	Services	International Health Regulations (IHR) core capacity index	50% - IHR self-monitoring questionnaire (2014), National IHR core capacity assessment (2015)	60%	80%	100%	Annual (monitoring framework**), 2-3 years (core capacity assessment)	Core capacity/ hazard areas	None	PHIM/epidemiology Unit	SDG, 100LCI	Done	

43	Outcome	Risk factors	Risk factors	Heavy episodic drinking	19% men, 2.3% women (2009 STEPS survey)				5 years (STEPS survey)	National	Sex	NCD	SDG, 100LCI	Done	Indicator just changed
44	Outcome	Risk factors	Risk factors	Tobacco use among persons aged 18+ years	14%, (STEPS survey, 2009)	14%	12%	10%	5 years (STEPS survey)	National	Sex	NCD	SDG, 100LCI	Done	
45	Outcome	Risk factors	Risk factors	Stunting prevalence (under-five)	42.4% (2014 MDG Endline/MICS); 37% (DHS 2015-16)	35%	33%	31%	3-5 years (DHS & MICS)	District	Sex, Age (0-5, 6-11, 12-23, 24-59 months); Severity (severe, moderate)	Nutrition	HSSP I, 100LCI, SDG	Done	
46	Outcome	Risk factors	Risk factors	Wasting prevalence (under-five)	3.8% (2014 MDG Endline/MICS); 2.7% (DHS 2015/16)	2.2%	1.7%	1%	3-5 years (DHS & MICS)	District	Sex, Age (0-5, 6-11, 12-23, 24-59 months); Severity (severe, moderate)	Nutrition	HSSP I, 100LCI, SDG,	Done	

47	Outcome	Risk factors	Risk factors	% of households with access to improved sanitation	*Survey:* 51.8% (DHS 2015-16) 40.6% (2014 MDG Endline/ MICS) *HMIS:* 13.9% (DHIS2 2015)	*65%*	75%	85%	*Survey: 3-5 years (DHS & MICS) HMIS: Annual*	District	*Survey:* Population (rural, urban) *HMIS:* Population (rural, urban); Improved latrine type	Environmental health	HSSP I, 100LCI	Done	Confirm the HMIS baseline
48	Outcome	Risk factors	Risk factors	Percentage of households with access to improved water source	*Survey:* 87% (DHS 2015-16); 86.2% (2014 MDG Endline/ MICS) HMIS	87%	91%	95%	*Survey: 3-5 years (DHS & MICS) HMIS: Annual*	District	Rural, Urban	Environmental health	HSSP I, 100LCI	Progress	
49	Process	Risk factors	Risk factors	Minimum acceptable diet for children 6-23 months	7.8% (DHS 2015-2016); 15% (breastfed), 5.2% (not-breastfed) (2014 MDG Endline/ MICS)	13%	18%	23%	3-5 years (DHS & MICS)	District	Breastfeeding status	Nutrition	100LCI	Done	

50	Outcome	Risk factors	Risk factors	Overweight prevalence (under-five)	5.1% (2014 MDG Endline/MICS); 4.5% (DHS 2015-16)	######	######	3%	3-5 years (DHS & MICS)	District	Sex, Age (0-5, 6-11, 12-23, 24-59); Level (> +3 SD; between +2 and +3 SD)	Nutrition	HSSP I, 100LCI	Done	Reconfirm baseline and targets after release of DHS 2015/16
51	Outcome	Risk factors	Risk factors	Percentage of low birth weight babies (Survey-based)	*Survey:* 12.9% (2014 MDG Endline/MICS) *HMIS: 4.2%*	11.0%	9.5%	8%	*Survey:* 3-5 years (DHS & MICS) *HMIS:* Annual	District	None	Nutrition	100LCI	Done	
52	Outcome	Risk factors	Risk factors	Percentage of children 6-59 months with anaemia	63% (DHS 2015-2016)	61%	59%	58%	5 years (DHS)	District	Severity (mild, moderate, severe)	Nutrition	100LCI	Done	
53	Output	Quality and Safety	Services	Client satisfaction with health services	TBD				TBD	Region	TBD	DPPD	HSSP I; 100CLI	Open	
54	Impact	Coverage of interventions	Services	Inpatient malaria deaths per year per 100,000 populatio	23 per 100,000 (HMIS, 2015);	20 per 100,000	17 per 100,000	14 per 100,000	Yearly	District	Age (<5, 5+); Diagnosis (presumed, confirmed	Malaria	100 LCI	Done	

				n							)				
55		Health Systems	Health financing	Current expenditure on health by government as a % of total expenditure on health	28.6% (NHA, 2014-2015)? Need to verify this figure - check NHA table of indicators							DPPD	100CLI		
56		Health Systems	Health financing	Total health expenditure per capita (at average US $ exchange rate)	39.2 (NHA, 2014-2015)							DPPD			
57		Health Systems	Services	CHAM facilities eligible for SLA that have signed								DPPD	HSSP I, MLHI,		

58		Health Systems	HRH	Percentage of health centres with minimum staff norms (one medical person (doctor, clinical officer or medical assistant), two Nurse-Midwives, one medical technician, one Environmental Health Officer, two hospital attendants) to offer EHP services.								Human Resource	MLHI, HSSP I		

59		Risk factors	Risk factors	Open defecation free villages								Environmental health			I don't think environmental health suggested this one, so I would delete
60		Health Systems: Quality and safety of care	Services	Percentage of health facilities providing EmONC signal functions 3 months prior to assessment (disagg: BEmONC, CEmONC) OR: Availability of BEmONC and CEmONC services per 500,000 populatio	BEmONC: 19, target: 126; CEmONC: 45, target 32; (EmONC Assessment Report, 2014) UN Standard: At least 1 CEmONC and 5 BEmONC					District		Clinical Services	100LCI		Consider defining targets for BEmONC, given CEmONC is already met.

				n											
61		Health Systems : Quality and safety of care	Infrastructure and equipment	Percentage of Health facilities with full infrastructure requirements in line with respective level of care/% health facilities meeting minimum								PPAME			Note: This indicator is not yet fully defined by PPAME.

				infrastructure norms											
62		Coverage of interventions	Services	Universal health coverage index							Consider (ORT, PE, etc.)	DPPD			
		Health Systems : Quality and safety of care	Infrastructure and equipment	Percentage of Health facilities with full medical equipment requirements in line with respective level of care/% health facilities meeting minimum medical											

				equipment norms in line with level of care											