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Government of Malawi

Ministry of Health

Malawi
Health Sector Strategic Plan
2011 - 2016

Moving towards equity and quality

Ministry of Health
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Finally, the Ministry of Health expresses its profound gratitude to all other stakeholders and institutions who continue to contribute towards improving the health of the people of Malawi.

Willie Samute
Secretary for Health
September 2011

ABBREVIATIONS

A&E	Accident and Emergency
AAT	Association of Accounting Technicians
ACCA	Association of Chartered Certified Accountants
ACSD	Accelerated Child Survival and Development
ACT	Artemisinin-based Combination Therapy
ADC	Area Development Committee
AGD	Accountant General's Department
AIP	Annual Implementation Plan
AJR	Annual Joint Review
ANC	Antenatal Clinic
ARI	Acute Respiratory Infections
ART	Antiretroviral Therapy
AU	African Union
BCC	Behaviour Change Communication
BEmONC	Basic Emergency Obstetric and Neonatal Care
BLM	Banja La Mtsogolo
BoD	Burden of Disease
BP	Blood pressure
CBHBC	Community Based Home Based Care
CBO	Community Based Organization
CBR	Community Based Rehabilitation
CCF	Congestive Cardiac Failure
CDC	Center for Disease Control and Prevention
CDR	Case Detection Rate
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CG	Core Group
CH	Central Hospital
CHAM	Christian Health Association in of Malawi
CHSU	Community Health Sciences Unit
CMED	Central Monitoring and Evaluation Department
CMR	Child Mortality Rate
CMS	Central Medical Stores
COHRED	Commission on Health Research for Development
CoM	College of Medicine
CPR	Contraceptive Prevalence Rate
CPT	Cotrimoxazole Preventive Therapy
CSF	Cerebrospinal Fluid
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
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
DRF	Drug Revolving Fund
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
FANC	Focussed Ante Natal Care
FBO	Faith Based Organization
FGD	Focus Group Discussion
FICA	Flemish International Cooperation Agency
FM	Financial Management
FMIP	Financial Management Improvement Plan
FMR	Financial Management Report
FP	Family Planning
FSH	Food, Safety and Hygiene
GBV	Gender-based violence
GCLP	Good Clinical Laboratory Practice
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
HRCSI	Health Research Capacity Strengthening Initiative
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
IA	Internal Audit
ICF	International Classification of Functioning, Disability and Health
ICT	Information and Communication Technology
IDRC	International Development Research Centre
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

IUCD	Intra Uterine Contraceptive Device
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
MARPS	Most At Risk Populations
MASEDA	Malawi Socio-Economic Database
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
MoE	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
MVA	Manual Vacuum Aspiration
MYR	Mid-Year Review
MZUNI	Mzuzu University
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
PAC	Post Abortion Care
PAM	Physical Assets Management
PBM	Performance-Based Management
PC	Primary Care
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management

PHAST	Participatory Sanitation And Hygiene Transformation
PHC	Primary Health Care
PHL	Public Health Laboratory
PIM	Performance Indicator for Mission
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
PWD	Persons with Disabilities
QA	Quality Assurance
QM	Quality Management
RH	Reproductive Health
RSOG	Radiology Standard Operational Guidelines
RTA	Road Traffic Accidents
RUM	Rational Use of Medicines
SBCC	Social Behaviour Change Communication
SBM-R	Standard Based Management and Recognition
SDI	Staff Development Institute
SDP	Service Delivery Point
SHI	Social Health Insurance
SLA	Service Level Agreement
SMC	Senior Management Committee
SOPs	Standard Operating Procedures
SP	Sulfadoxine-pyrimethamine
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
ToT	Trainer of Trainers
TT	Tetanus Toxoid
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
VFM	Value For Money
VH	Village Headman
VHC	Village Health Committee
VIA	Visual Inspection with Acetic Acid
VSO	Voluntary Services Overseas
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WHS	World Health Survey
ZHSO	Zonal Health Support Office

FOREWORD

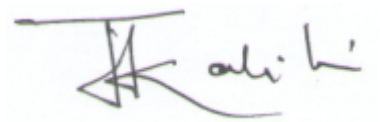
It is the desire of the Government of Malawi to have the highest possible level of health and quality of life for its citizens. Improving the health of the nation through the combined efforts of individuals, communities, organizations, our co-operating partners and the Government is therefore one of the key priorities.

The formulation and launch of the national Health Sector Strategic Plan (2011-2016) build on the sustained gains made under the Program of Work (2004-2010). Considerable improvements in the delivery of an Essential Health Package (EHP) have been registered in reducing infant and child mortality rates, pneumonia case fatality and maternal mortality, and in maintaining high immunization coverage, among other areas. Unlike the Program of Work, this Plan has taken further measures to address the burden of disease by delivering an expanded EHP through public health interventions including but not limited to health promotion, disease prevention and increasing community participation.

The Plan provides the framework that will guide the efforts of the Ministry of Health and all stakeholders over the next 5 years in contributing to the attainment of the Malawi Growth and Development Strategy (MGDS-II) and the Millennium Development Goals (MDGs). In cognizance of this, therefore, the emphasis will be on increasing coverage of high quality EHP services; strengthening performance of the health system to support delivery of EHP services; reducing risk factors to health and improving equity and efficiency in the delivery of free, quality EHP services in Malawi**,** thereby contributing to poverty reduction and the socio-economic development of the nation.

The successful implementation of this plan will depend on the continued dedication of staff in the Ministry of Health and those of its partner organizations. We welcome the support of our co-operating partners, we gratefully acknowledge their contribution towards the development of the HSSP and look forward to their continued support in its implementation.

As a policy 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 framework, as it embodies our dream for a better health care delivery system for all the people of Malawi.



Hon. Dr Jean Alfanzema Kalilani, MP
Minister of Health
September 2011

EXECUTIVE SUMMARY

The Malawi Health Sector Strategic Plan (HSSP) (2011-2016) is the successor to the Program of Work (PoW) which covered the period 2004-2010 and guided the implementation of interventions aimed at improving the health status of the people of Malawi. The Ministry of Health (MoH), other government ministries and departments, Health Development Partners (HDP), Civil Society Organisations (CSO), the private sector and other stakeholders in the health sector were involved in the development and implementation of the PoW which was extended to June 2011 to allow for the final evaluation. The Mid-Term Review and the final evaluation of the PoW informed the development of the HSSP, whose overall goal is 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.

Among the achievements during the period of the PoW, according to the 2010 Demographic and Health Survey has been the reduction in infant and child mortality rates from 76/1000 in 2004 to 66/1000 in 2010 and from 133/1000 to 112/1000, respectively. The maternal mortality rate reduced from 984/100,000 in 2004 to 675/100,000 in 2010 with an increase in women delivering at health centres from 57.2% in 2004 to 73% in 2010. There has also been a reduction in pneumonia case fatality from 18.7% in 2000 to 5.7% in 2008 and an increase in the proportion of children with acute respiratory infections taken to health facilities for treatment from 19.6% in 2004 to 70.3% in 2010. Immunization coverage is high: 81% of the children aged 12-23 months old were fully vaccinated in 2010. This is an increase in coverage of 26% since the 2004 DHS. There has also been an increase in coverage of the estimated population in need of ART from 3% in 2004 to 67% in 2011[1].

While sustaining the gains made under PoW, the HSSP has taken further measures to address the burden of disease by putting more emphasis on public health interventions, including but not limited to health promotion, disease prevention and increasing community participation. The Essential Health Package (EHP) has been expanded after taking cognizance of the increasing burden of disease arising from non-communicable diseases (some of them 'lifestyle' diseases), such as mental illness, hypertension, diabetes and cancers. As the EHP is being implemented, the main priority will be interventions that are cost effective, and expansion of services to the under-served. Despite the gains made there are still a number of factors that need to be addressed that negatively impact on the health of Malawians, namely the availability and quality of health services, access to health services and environmental and behavioural issues. The HSSP intends to achieve the following key outcomes and outputs:

Outcome 1: Increased coverage of high quality EHP services

- Health facilities including staff houses constructed and rehabilitated especially in under-served communities.
- Service Level Agreements implemented in identified areas.
- Emergency transport provided.

[1] Malawi ART Programme Quarterly Report June 2011

Outcome 2: Strengthened performance of the health system to support delivery of EHP services

- Sufficient skilled human resources for health trained, recruited and retained in the health sector.
- Quality medical equipment provided and maintained. Essential medicines and supplies made available all the time.
- Monitoring, evaluation and research activities strengthened.
- Appropriate standards, guidelines, Standard Operating Procedures, protocols and legislative frameworks developed.

Outcome 3: Reduced risk factors to health

- Public policies that impact on health advocated for.
- Healthy settings programs (workplaces, schools and communities) and water, sanitation and food safety interventions implemented.
- Vector control strategies strengthened and implemented.
- Advocating for healthy lifestyles and behaviours.
- Disaster risk management strengthened.

Outcome 4: Improved equity and efficiency in the delivery of quality EHP services

- Health financing strategy developed.
- Resource allocation formula reviewed.
- Increased harmonisation and alignment of partners.

The successful implementation of the HSSP will be dependent on a number of assumptions. These are: availability of adequate financial and human resources; conducive policy and legislative environment; transparent and accountable financial management and procurement systems; effective coordination and partnerships; adherence to international agreements such as the Paris Declaration for Aid Effectiveness, and improved literacy levels. The health systems strengthening approach, as recommended by WHO and other international agencies, will be used to effectively monitor the performance of the health system.

The ideal total cost of implementing this strategic plan is estimated at $ 3.2 billion over five years, while the plan based on projected resources costs $ 2.48 billion with an estimated gap over the five years of the HSSP of $ 754 million.

The overall implementation of the HSSP will be monitoring using an agreed performance framework[2], as shown in Table 1.

[2] Targets for some indicators will be set once baselines have been established.

Table 1 Core performance indicators

No	Indicator	Baseline (2010-11)	Target (2015-16)
	Health impact		
1	Maternal Mortality Ratio (MMR)	675/ 100000	155/ 100000
2	Neonatal Mortality Rate (NMR)	31/1000	12/1000
3	Infant Mortality Rate (IMR)	66/1000	45/1000
4	Under five Mortality Rate (U5MR)	112/1000	78/1000
	Coverage of health Services		
5	EHP coverage(% Facilities able to deliver EHP services)	74%	90%
6	% of pregnant women starting antenatal care during the first trimester	9%	20%
7	% of pregnant women completing 4 ANC visits	46%	65%
8	% of eligible pregnant women receiving at least two doses of intermittent preventive therapy	60%	90%
9	Proportion of births attended by skilled health personnel	58% (HMIS) 75% (WMS)	80% 80%
10	Penta III coverage	89%	94%
11	Proportion of 1 year-old children immunized against measles	88%	90%
12	Proportion of 1 year-old children fully immunized	80.9%	86%
13	% of pregnant women who slept under an insecticide treated net (ITN) the previous night	49.4%	80%
14	% of under 5 children who slept under an insecticide treated net (ITN) the previous night	55.4%	80%
15	Neonatal postnatal care (PNC) within 48 hours for deliveries outside the health facility	Baseline to be established	
16	% of women who received postpartum care after delivery by skilled health worker within seven days	10%	30%
17	Prevalence of HIV among 15-24 year old pregnant women attending ANC	12%	6%
18	% of HIV+ pregnant women who were on ART at the end of their pregnancy (to reduce mother to child transmission and for their own health)	35%	82%
19	% of health facilities satisfying health centre waste management standards	35%	55%
20	% surveyed population satisfied with health services (by gender and rural/urban)	83.6% (urban) 76.4% (rural)	90% (urban) 90% (rural)
	Coverage of Health Determinants		
21	% of households with an improved toilet	46%	60%
22	% of households with access to safe water supply	79.7% (DHS 2010)	TBA
23	% of children that are stunted	47.1% (DHS 2010)	TBA
24	% of children that are wasted	4.0% (DHS 2010)	TBA[3]
	Coverage of Risk factors		
25	Contraceptive Prevalence Rate (modern methods)	42% (DHS 2010)	60%
	Health systems Outputs (availability, access, quality, safety)		
26	OPD service utilization (OPD visits per 1000 population)	1316/1000 pop	>1000/1000 pop
27	% of fully functional health centres offering basic EmOC services	98 90%	134 100%
28	% of non public providers in hard to staff/serve areas signed SLAs with DHOs		

[3] Others sectors have influence over food security and water and sanitation, notably Agriculture, Irrigation and Water Development

No	Indicator	Baseline (2010-11)	Target (2015-16)
29	% of monthly drug deliveries monitored by health facility committees	85%	95%
30	% of health facilities with stock outs of tracer medicines in last 7 days (TT vaccine, LA, Oxytocin(oxy), ORS, Cotrimoxazole,(cotrim) Diazepam Inj., All Rapid HIV Test kits, TB drugs Magnesium Sulphate, (Mag sulph)Gentamicin, Metronidazole, Ampicillin, Benzyl penicillin, Safe Blood, RDTs)	TT vaccine= 98% LA=98% Oxy= 95% ORS= 97% Cotrim = 99% Diaz Inj.= 94% All Rapid HIV Test kits=89% TB drugs= 99% Mag Sulph = Gent= Metro= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	All tracer drugs 100%
31	% of health facilities supervised and written feedback provided	63%	100%
32	% facilities reporting data (according to national guidelines)	96%	99%
33	% districts reporting timely data	52%	90%
34	Bed occupancy rate	50%	80%
	Health Investment		
35	% health facilities with functioning equipment in line with standard equipment list at time of visit	Baseline to be established	
36	% health facilities with functioning water, electricity & communication at time of visit	79% w 81% e 90% c	100% w 100% e 100% c
37	% health centres with minimum staff norms to offer EHP services	Clinician=30% Nurses/Mws=50% EHO/HA=48% Composite=19%	Clinician= 80% Nurses/Mws =75% EHO/HA= 70% Composite=4 5%
38	% GoM budget allocated to health sector	12.4%	15%

1 INTRODUCTION

1.1 Geographical location and administrative system

Malawi is a small, narrow, landlocked country that shares boundaries with Zambia in the west, Mozambique in the east, south and southwest, and Tanzania in the north. Malawi has an area of 118,484 km^2 of which 94,276 km^2 is landlocked. The country is divided into three administrative regions, namely the northern, central and southern regions. Malawi has 28 districts, which are further divided into traditional authorities (TAs) ruled by chiefs. The village is the smallest administrative unit and each village is under a TA. A Group Village Headman (GVH) oversees several villages. There is a Village Development Committee (VDC) at GVH level which is responsible for development activities. Development activities at TA level are coordinated by the Area Development Committee (ADC). Politically, each district is further divided into constituencies which are represented by Members of Parliament (MPs) and in some cases these constituencies can combine more than one TA.

1.2 Population

In 2011 Malawi's population was estimated at 14.4 million.[4] Since the population stood at eight million in 1987, this means that it has almost doubled over a 20-year period. At this growth rate it is estimated that by 2016, the population will be at 16.3 million and the health sector will be required to cater for an extra three million people[5]. With this population increase, there will be need for a corresponding increase in funding for the health sector. The proportion of Malawi's population residing in urban areas is estimated at 15.3%. Malawi is one of the most densely populated countries in Africa: the population density was estimated at 105 persons per km^2 in 1998 and increased to 139 persons per km^2 in 2008 with the Southern Region having the highest population density at 184 persons per km^2. Malawi's population growth rate is estimated at 2.3%, predominantly due to the high total fertility rate (TFR), which is now estimated at 5.7, and the low contraceptive prevalence rate (CPR) of 35% among all women using any method [6]. Almost half of the population is under 15 years of age and the dependency ratio rose from 0.92 in 1966 to 1.04 in 2008. About 7% of the population are infants aged less than 1 year, 22% are children under five years of age and about 46% are aged 18 years and above. Malawi is predominantly a Christian country (83%), while 13% are Muslim, 2% of other religions and 2% of no religion[7].

1.3 Literacy status

Low literacy levels, especially among women, and negative cultural practices that impact on health, affect the health of Malawians. The 2006 Multiple Indicator Cluster Survey (MICS)

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[4] NSO (2009) *Malawi housing and population census 2008* Zomba: NSO
[5] NSO (2009) *Malawi housing and population census 2008* Zomba: NSO
[6] NSO (2010) *Malawi Demographic and Health Survey 2010* Zomba: NSO. The rate among all women using any modern method is 33%
[7] NSO (2009) *Malawi housing and population census 2008* Zomba: NSO

and 2010 DHS report show that the prevalence of diseases such as malaria, diarrhoea and acute respiratory infections decreases the higher the educational qualifications. Knowledge about diseases such as HIV and AIDS increases the higher the educational level attained, and educated people are more likely to access modern health care services compared to those who have little or no education. Education is therefore an important determinant of health.

The Government of Malawi (GoM) introduced free primary education in 1994 and enrolment increased from 1.9 million to about three million. Although enrolment increased, government data reveals that only 30% of the children who start Standard 1 actually reach Standard 8 in primary school. This implies that 70% of the children drop out of primary school before reaching Standard 8. The literacy rate is estimated at 62% and it is higher among men (69%) than women (59%)[8].

1.4 Poverty and health

Malawi's Gross Domestic Product (GDP) per capita grew from less than $250 in 2004 to $313 in 2008[9]. During the implementation of PoW there was a remarkable economic growth rate ranging between 6% and 9%. This contributed to a reduction in the proportion of Malawians living below the poverty line from 52% in 2004 to 39%[10] in 2009. The proportion of people living below the poverty line was higher among rural residents (43%) in 2004 compared to urban residents (14%)[11] in 2009. The prevalence of diseases such as malaria, ARIs and diarrhoea is higher among poor people compared to those who are rich[12]. Therefore, the successful implementation of the HSSP will depend to a large extent on the reduction of poverty.

Malawi is predominantly an agricultural country: this sector accounts for 35% of the GDP and more than 80% of export earnings (primarily from tobacco sales) and it supports more than 85% of the population[13]. The DHS 2010 found that 58% of women and 49% of men work in agriculture. The sources of revenue for funding public services are taxes on personal income and company profits, trade taxes and grants from donors. In the event of insufficient revenue to cover the budgeted expenditure, the financing of the deficit is met either from domestic bank and non-bank sources, or from foreign financing in the form of loans from donor and overseas banks. In such a scenario, the financing of public services in Malawi is inextricably linked to the aggregate of each of these revenue sources. For instance, in the 2008/09 financial year, the major public sector sources of finance contributed in the following proportions: domestic taxes had a share of 77.9% and trade taxes had a share of 10.1%, while non-tax revenue was 12.0%. These revenues represented 24.5% of GDP. In terms of recurrent expenditures, health was the third at 10.2% after General Administration (33.9%), Agriculture (18.9%) and Education (13.7%)[14].

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[8] NSO (2009) *Malawi housing and population census 2008* Zomba: NSO
[9] IMF Article IV Consultation Report 10/87 of March 2010
[10] NSO (2009) *Welfare monitoring survey 2009* Zomba: NSO
[11] NSO (2009) *Welfare monitoring survey 2009* Zomba: NSO
[12] NSO (2010) *Malawi Demographic and Health Survey 2010* Zomba: NSO
[13] World Bank Country Brief: Malawi 2005-2010
[14] Mwase, T. (2010) *Health Financing Profile for Malawi.* Lilongwe: MoH

2 SITUATION ANALYSIS

In 2004 the Ministry of Health (MoH) in conjunction with other government ministries, the private sector, Civil Society Organisations (CSOs) and HDPs developed the Sector Wide Approach (SWAp) Program of Work for the period 2004-2010 to guide the implementation of interventions in the health sector. The PoW was completed in 2010 but was extended to June 2011 to allow for the final evaluation of the Program. Substantial progress was made during the implementation of the PoW as demonstrated in improved health indicators, such as the maternal mortality ratio (MMR), infant mortality rate (IMR) and contraceptive prevalence rate (CPR).

An Essential Health Package (EHP) was agreed upon, covering diseases and conditions affecting the majority of the population and especially the poor. This package has been delivered free of charge to Malawians and most of the interventions for EHP conditions have been cost effective. The conditions in this package are: vaccine preventable diseases; acute respiratory infections (ARIs); malaria; tuberculosis; sexually transmitted infections (STIs) including HIV/AIDS; diarrhoeal diseases; Schistosomiasis; malnutrition; ear, nose and skin infections; perinatal conditions; and common injuries. The section below describes the progress that has been made so far in the fight against these conditions/diseases including progress in attaining the health-related Millennium Development Goals (MDGs).

2.1 Maternal, neonatal and child health

2.1.1 Vaccine preventable conditions

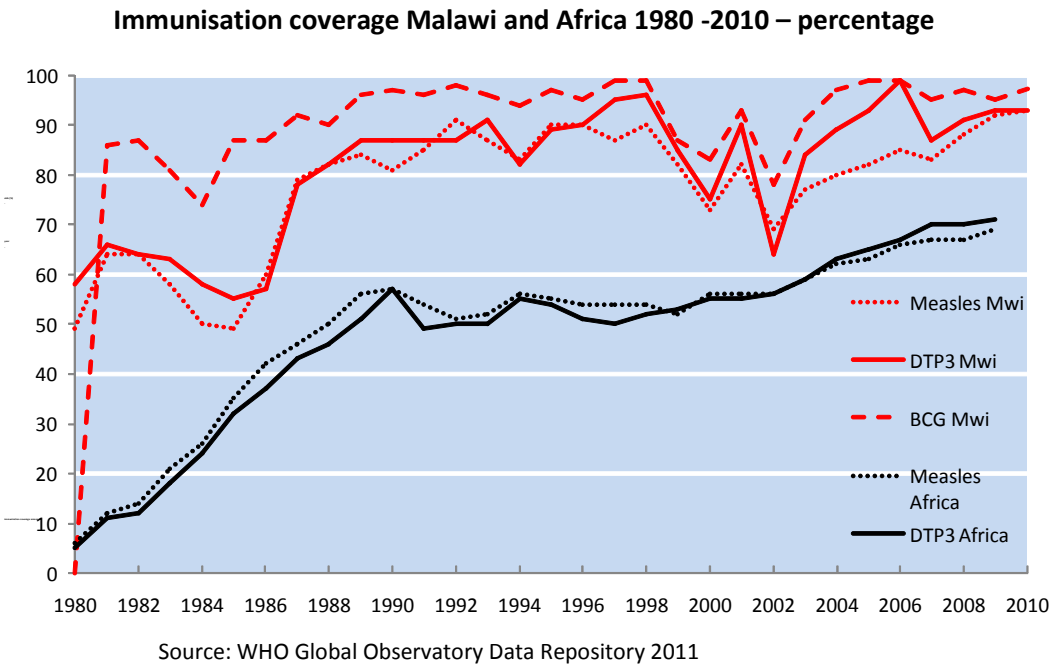

Figure 1 Immunisation coverage Malawi and Africa 1980-2010 – percentage

Malawi has had a robust and enviable immunization programme for many years (Figure 1) and recent high coverage is confirmed in the 2010 DHS report which shows that 81% of children aged 12-23 months were fully immunized. This is an increase in coverage of 26% since the 2004 DHS. However, in 2010 the country experienced an outbreak of measles with an estimated 43,000 children requiring treatment.

High coverage, particularly of measles is required to maintain herd immunity and additional resources will therefore be required to sustain a vaccine coverage of 90 per cent and above for all antigens.

2.1.2 Acute respiratory infections

Acute respiratory infection is one of the most significant causes of morbidity and mortality amongst children worldwide. In Malawi, between 2004 and 2010 the proportion of children with ARIs taken to a health facility for treatment increased from 19.6% to 70.3%. Also, there was a reduction of pneumonia case fatality from 18.7% in 2000 to 5.7% in 2008[15].

Evidence has shown that populations, especially children, that are heavily exposed to wood smoke from cooking are at much higher risk from severe pneumonia and higher risk of mortality[16] .

Prevention though hand-washing, immunisation with pneumococcal vaccine, early diagnosis and treatment with antibiotics are all highly effective. Along with malaria treatment and oral rehydration of diarrhoeal disease ARI is addressed through an Integrated Management of Childhood Illnesses (IMCI) approach. The successful implementation of pneumonia interventions in the PoW is likely to have contributed to the dramatic fall in infant and child mortality. Continuation of these interventions will help to achieve the two MDG targets dealing with child mortality by 2015.

2.1.3 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 the leading cause of morbidity and mortality in children under five years of age and pregnant women. The use of Insecticide Treated Nets (ITN) when sleeping is the primary control strategy for preventing malaria. The Malawi National Malaria Indicator Survey 2010[17] showed a parasite prevalence rate by slide microscopy of 43.3% nationally, and severe anaemia prevalence (HB concentration >8g/dl) was 12.3% among children under five.

Malaria parasite prevalence increased with age whilst severe anaemia showed the opposite trend; both malaria parasite and severe anaemia prevalence rates were higher among children who did not sleep under an ITN the previous night. The prevalence of severe anaemia in children under two years of age who did sleep under an ITN the night before 25.7% compared to a rate of 13.6% among those who did sleep under a net the previous night. This was found to be higher in the poorer wealth quintiles.

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[15] ARI programme data 2009

[16] *Effect of reduction in household air pollution on childhood pneumonia in Guatemala (RESPIRE): a randomised controlled trial* : The Lancet, Volume 378, Issue 9804, 12 November 2011

[17] Malawi National Malaria Indicator Survey 2010 NMCP MoH 2010.

At present 60.4% of pregnant women are reported to have taken two or more doses of the recommended intermittent preventive treatment (IPT) as compared to 48% in 2006.

Currently coverage of Insecticide Residual Spraying (IRS) is low, with poor diagnostic capacity, abuse of ITNs, low coverage of second dose of SP in pregnancy, unavailability of quality ACT in the private sector, and poor adherence to treatment guidelines and policies all affecting the implementation of malaria interventions.

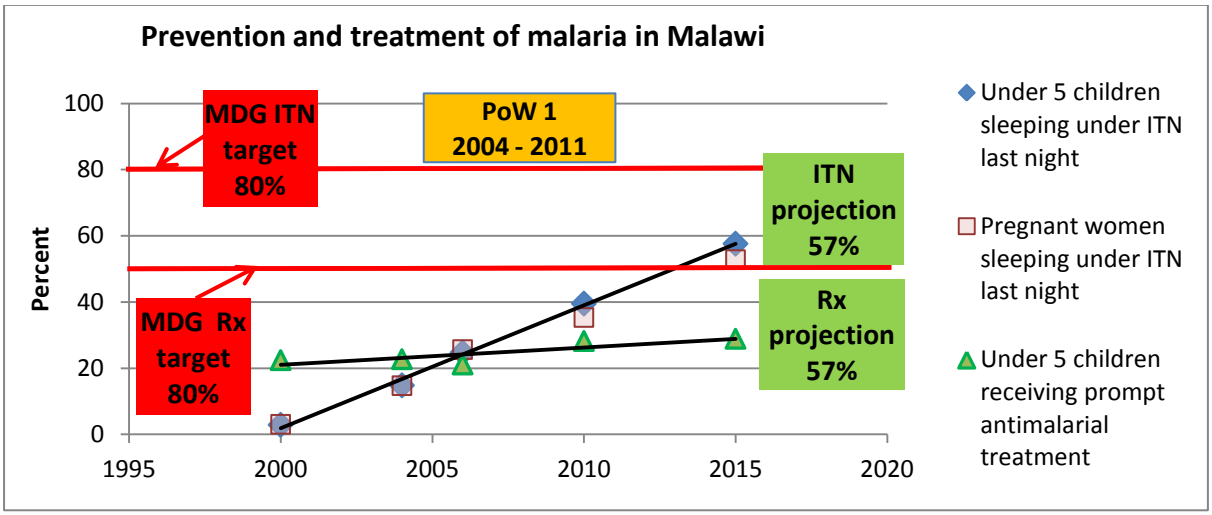


Figure 2 Prevention and treatment of malaria in Malawi – trend and projection

2.1.4 Acute Diarrhoeal Diseases

Dehydration from diarrhoea is one of the major causes of death in young children worldwide. The prevalence of diarrhoea overall in Malawi is estimated at 17.5 % with 38 % in children 6-12 months. The 2010 DHS shows a higher percentage of reported cases without access to improved drinking water and sanitation. In 60% of cases treatment was sought from a formal health provider, and 24.2% of children under six months reportedly did not receive any treatment at all[18]. The BoD[19] assessment calculates that the number of episodes of acute diarrhoea in children under five years of age is over 13 million per year, and yet the health service treated only 324,000 in 2010.

2.1.5 Malnutrition

Although there has been some reduction, malnutrition remains high, with 47% of children under five stunted and 20% severely stunted. The prevalence of diarrhoea and disease outbreaks such as measles have a significant influence on nutritional status, particularly acute malnutrition, and have to be taken into account when interpreting nutrition surveillance results. Despite the expectation that the MDG target related to nutrition will be reached, high levels of underweight persist. Thirteen per cent of children under five are underweight and

[18] *Malawi DHS 2010*

[19] http://www.medcol.mw/commhealth/publications/national%20research/Burden%20of%20BOD%20and%20EHP7.docx

3% are severely underweight (DHS 2010).

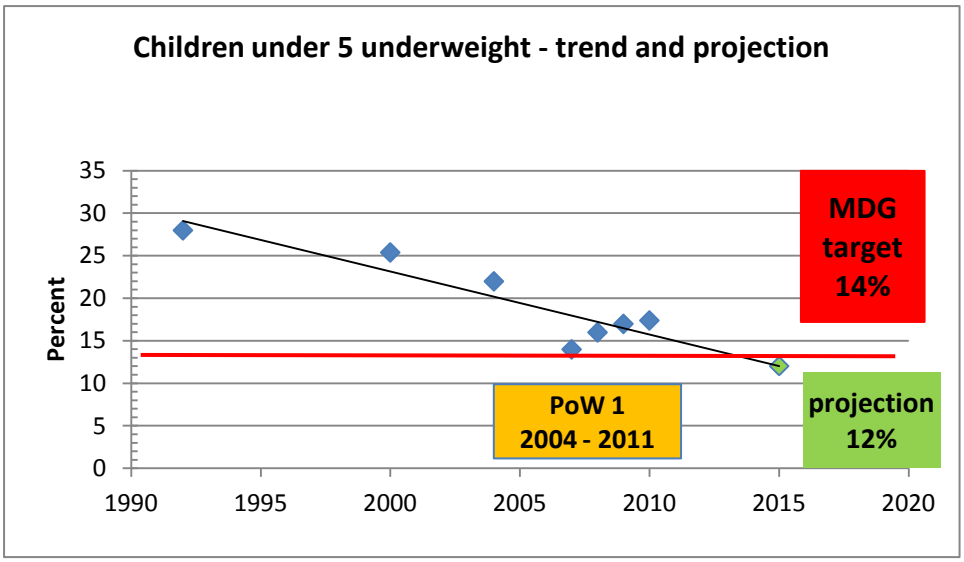


Figure 3 Underweight children under five years of age – trend and projection

Investments in child survival interventions such as vaccines for various diseases, effective treatment of pneumonia at community level, and effective prevention and treatment of malaria and diarrhoeal diseases have contributed significantly to the remarkable decline in infant and under five mortality rates as can be seen in Figures 4 and 5 below:

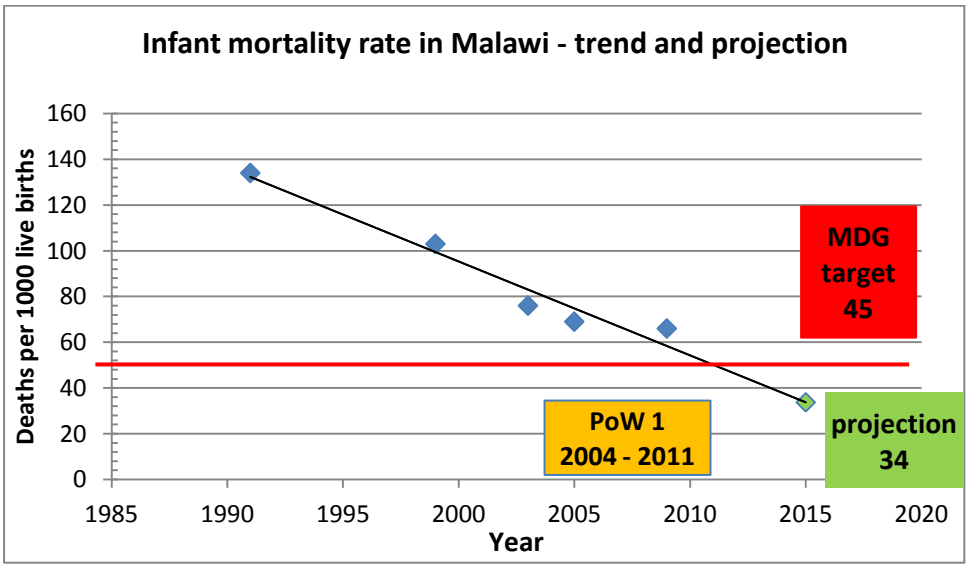


Figure 4 Infant mortality rate in Malawi - trend and projection

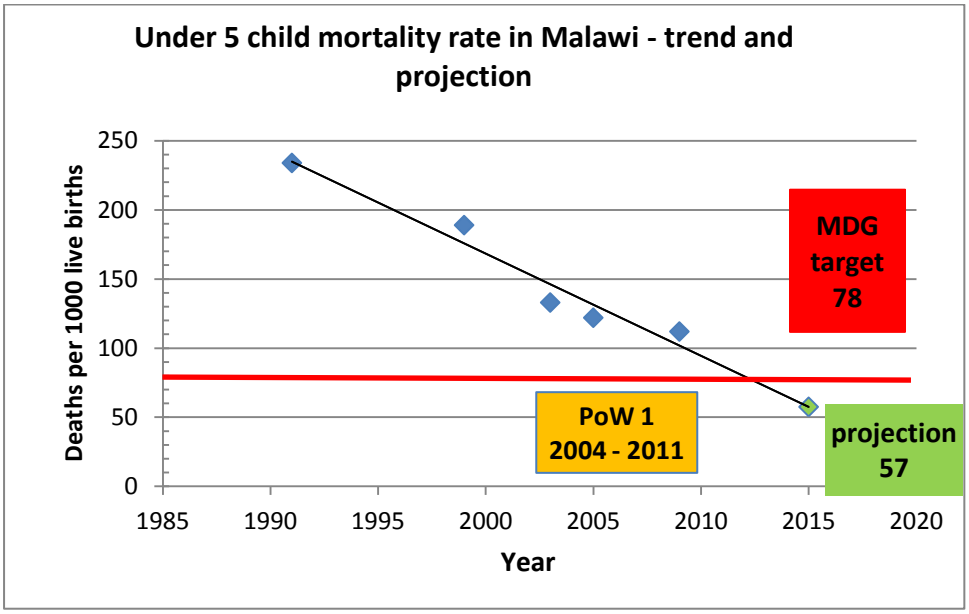


Figure 5 Under five child mortality rate in Malawi – trend and projection

These trends demonstrate that there is a possibility that Malawi can reach the MDG targets for these two indicators. This will be possible if significant investments are made in child survival interventions.

2.1.6 Maternity and Neonatal Care

The maternal mortality rate decreased from 984 per 100,000 live births in 2004 to 675 per 100,000 in 2010, with an increase in women delivering at health centres from 57.2% in 2004 to 73% in 2010.

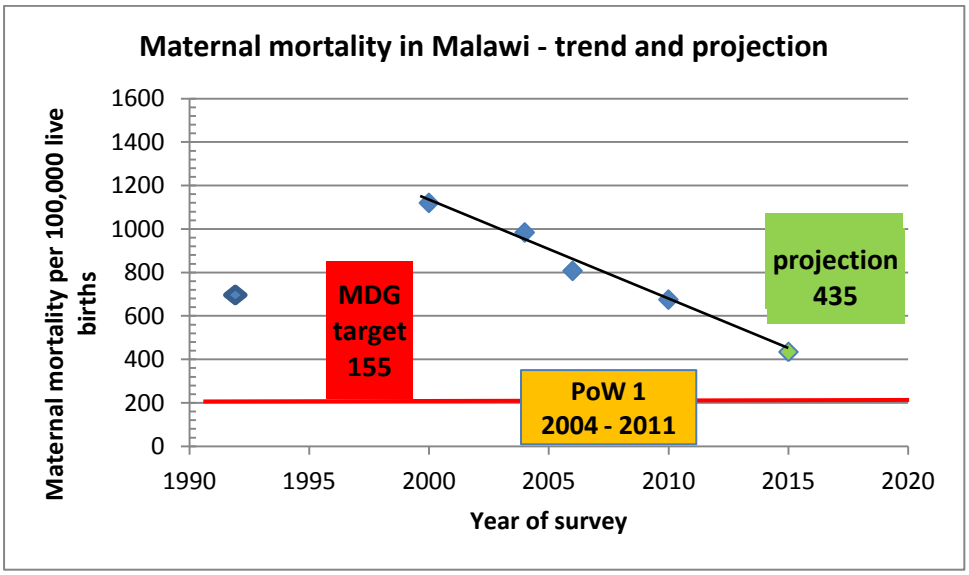


Figure 6 Maternal mortality in Malawi – trend and projection

According to the zonal reports, data from district maternal death audits shows that sepsis and post partum haemorrhage are the most likely causes of death in the majority of mortality cases based at health facilities. Unlike the MDGs relating to child health, the maternity MDG

targets are unlikely to be met without significant additional investment to increase access to Emergency Obstetric Care (EmOC) for many more pregnant women (Figure 6), and a similar investment in family planning to reduce the total fertility rate. Using data from the 2010 EmOC survey, it is estimated that only half of the births requiring emergency care are receiving such care.

Currently, the neonatal mortality rate (NMR) is estimated at 33 deaths per 1,000 live births and it is higher in rural areas (34/1,000) compared to urban areas (30/1,000). It is also higher among male children (38/1,000) compared to female children (30/1,000)[20]. About 69 per cent of women were protected against tetanus at their last birth.

Figure 7 (below) shows the proportions of births attended by skilled attendants over time.

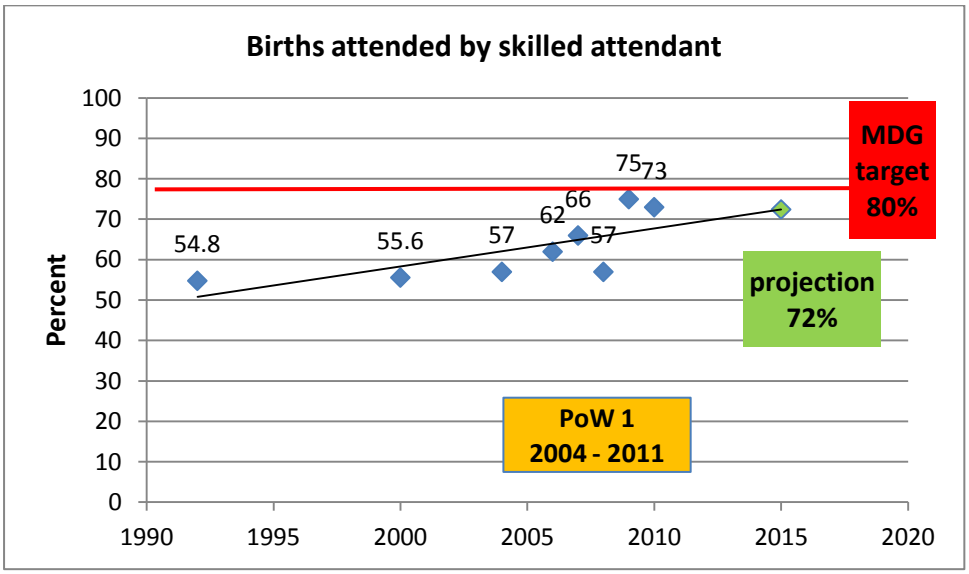


Figure 7 Births attended by skilled attendant – trend and projection

2.2 Family planning

The population projections using the 2008 census data reinforce the importance of scaling up interventions ~~to~~ meet the family planning MDG targets. The TFR is expected to remain high and only fall slowly in the next five years if substantial investment is put into additional family planning services (Figure 8).

The 2010 DHS report confirms the slow increase in contraceptive use. The projected percentage of women aged 15-49 years who will be using any form of contraceptive in 2015 it is anticipated to be 55%, while the MDG target for 2015 is 65% using modern methods (Figure 9). The Malawi Reproductive Health Strategy (2010-2015) echoes this target of 65% for the CPR.

[20] *DHS 2010*

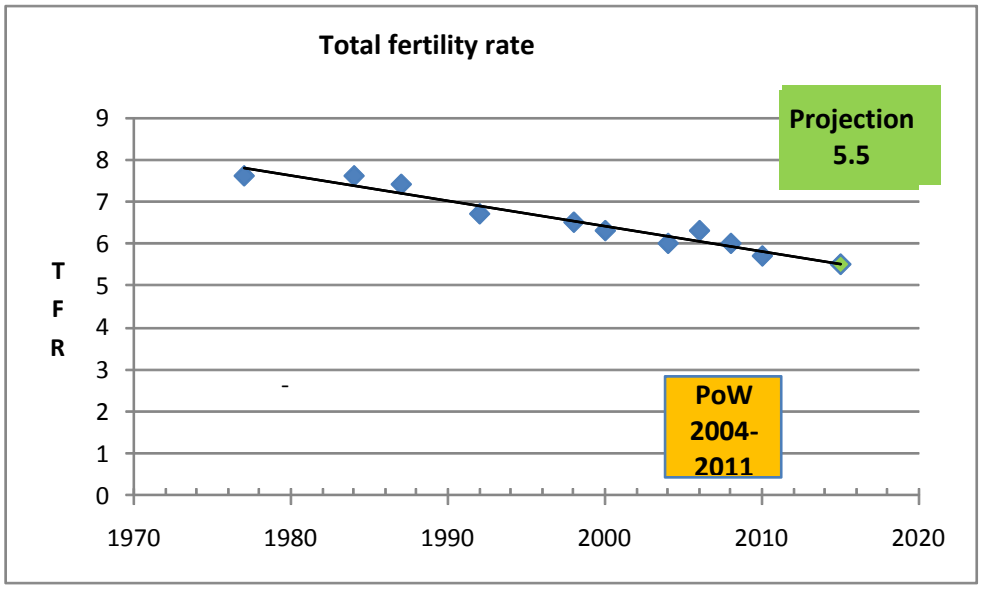


Figure 8 Total Fertility Rate

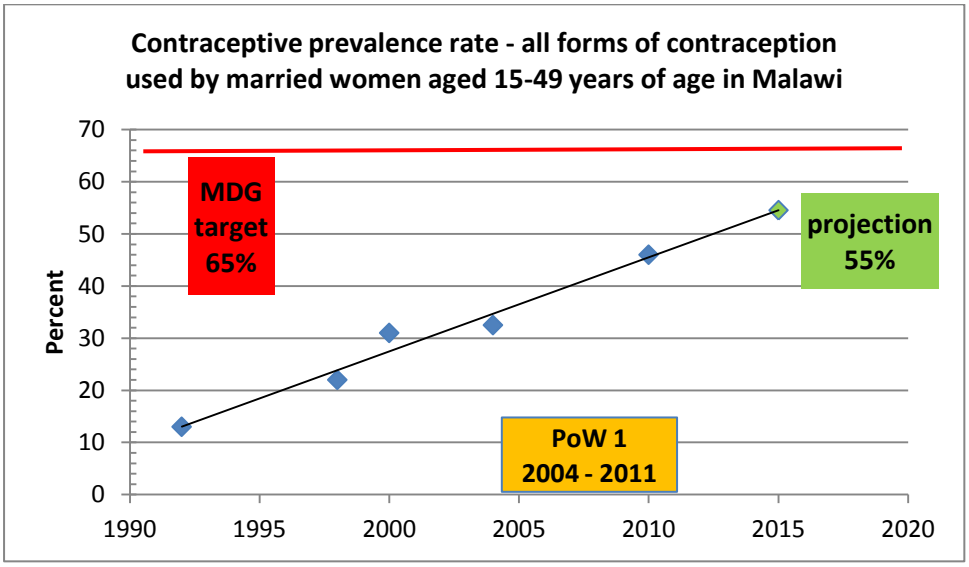


Figure 9 Contraceptive Prevalence Rate – trend and projection

The 2010 DHS report further showed a significant unmet need for contraception, with 73% of women wanting to delay pregnancy or have no more children. Therefore there is need to increase the availability of family planning services to reach the 65% modern methods target (using the services of the MoH, the Christian Health Association in Malawi (CHAM) and Banja La Mtsogolo (BLM)).

2.3 Major Communicable Diseases

Apart from malaria, the major communicable diseases are tuberculosis, HIV/AIDS and STIs.

2.3.1 Tuberculosis

With regard to tuberculosis, the effort to collaborate and support the HIV/AIDS programme is paying off. More cases of tuberculosis are being detected and treatment failure is

diminishing. There is some success in reaching the MDG targets for tuberculosis (Figure 10).

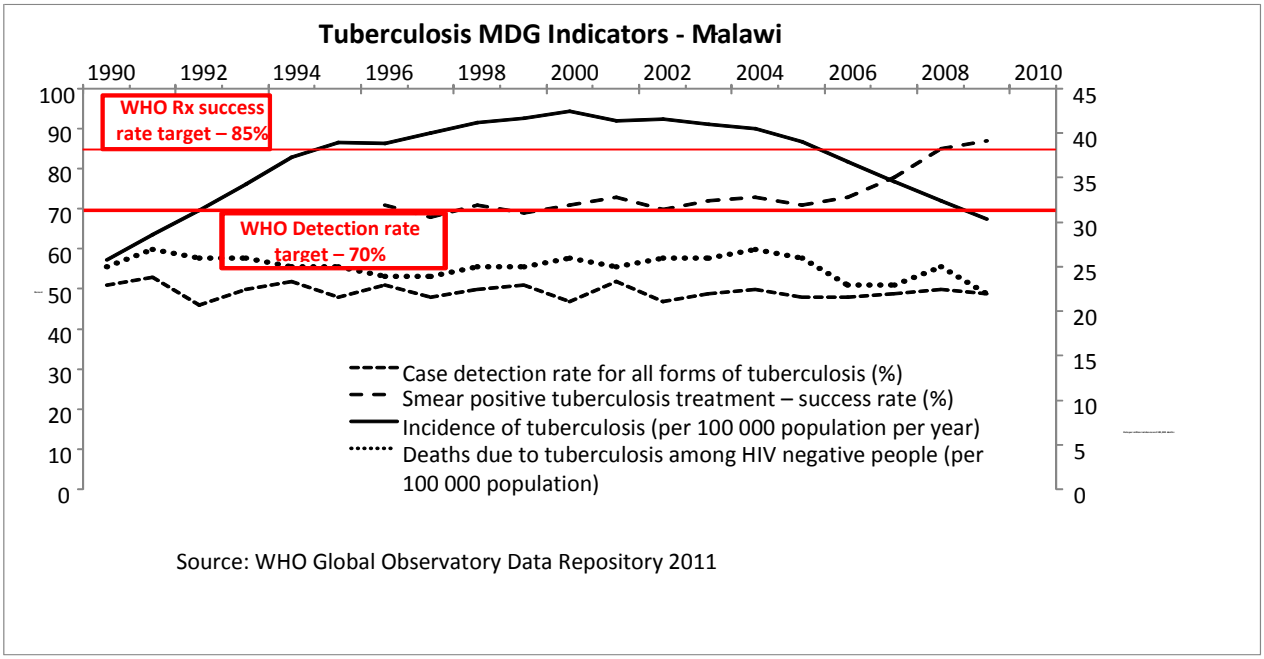


Figure 10 Tuberculosis MDG Indicators

The treatment success rate at 86% is slightly above the World Health Organization (WHO) target of 85%. However, the case detection rate (46%) is still below the WHO target (70%).

2.3.2 Sexually Transmitted Infections including HIV/AIDS

This component of the EHP consumes the greatest resources with direct costs in the order of an estimated 16% of the direct costs for the first year of the EHP programme. Moreover, this is expected to increase as the country moves towards universal coverage for the new ART regime. As part of the HIV prevention strategy, the health sector provides 25 million male and 1 million female condoms each year. HIV testing and counselling (HTC) is an integral part of the HIV prevention strategy and approximately 1.8 million people were counselled and tested for HIV in 2009/2010, representing 28% of the sexually active population. HIV testing among couples is limited, and the high level of HIV discordant couples has prompted the inclusion in the HSSP of strategies to promote couple testing (Figure 11). Another key prevention component is Prevention of Mother to Child Transmission (PMTCT). In 2009/10, 37% of HIV positive mothers received appropriate drugs and counselling. The HSSP provides strategies for increasing this by 10% annually over the five year period.

Testing and treatment of other STIs is an important HIV prevention activity. About half the number of cases estimated in the BoD study were treated in 2010.

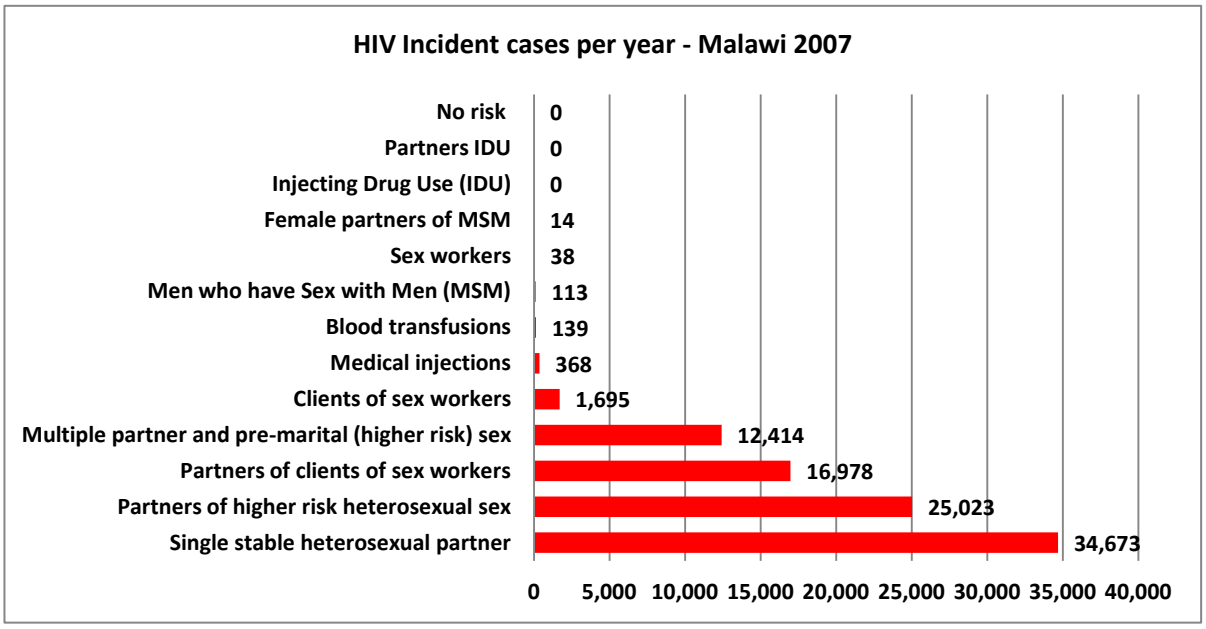
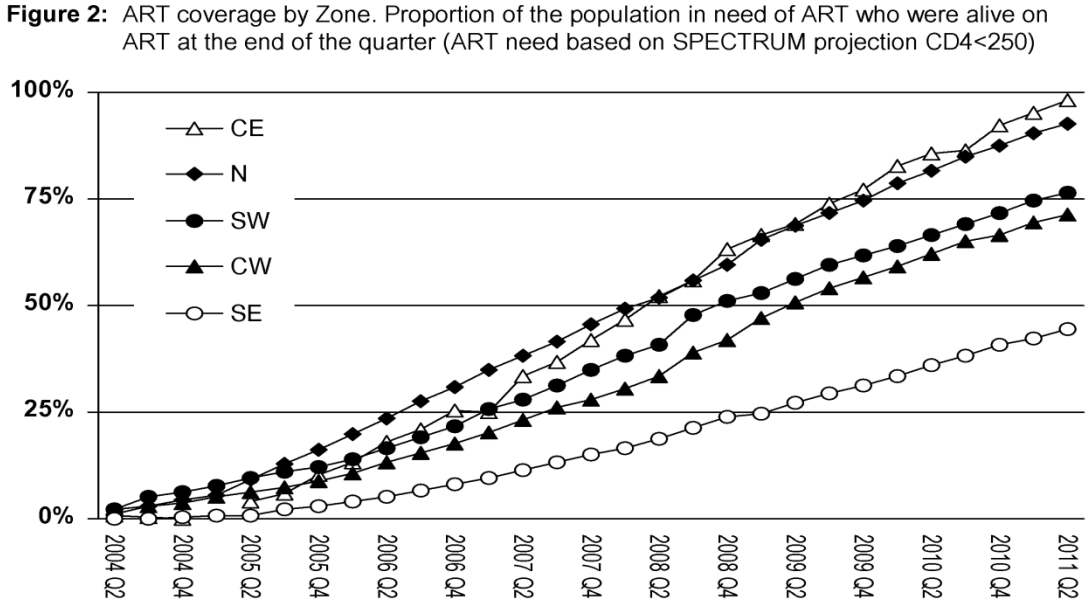


Figure 11 HIV cases 2007



Source : Malawi Antiretroviral Treatment Programme Quarterly Report June 2011

Figure 12 ARV coverage by zone

ARVs are the mainstay of treatment. The criteria governing who benefits from ARVs change as and when advice from WHO is updated. So far the implications are that more people will benefit from them. In June 2011 with the criteria for starting ARVs based on a CD4 count of less than 250 cells per mm^3, there were 251,790 adults on ARVs, equivalent to 76% of eligible cases, and 25,197 children on ARVs equivalent to only 32% of eligible children, as shown by zone in Figure 12. Strategies have been put in place to increase adult coverage to 80% in 2011/2 and by 20% each year in children, in order to reach the MDG target of 80% ahead of time (Figure 13). If additional resources are mobilized to fund the increase in

cases derived from the CD4 count change to 350 and the increase in maternity cases, numbers will have to be revised upwards in the course of the implementation of the HSSP.

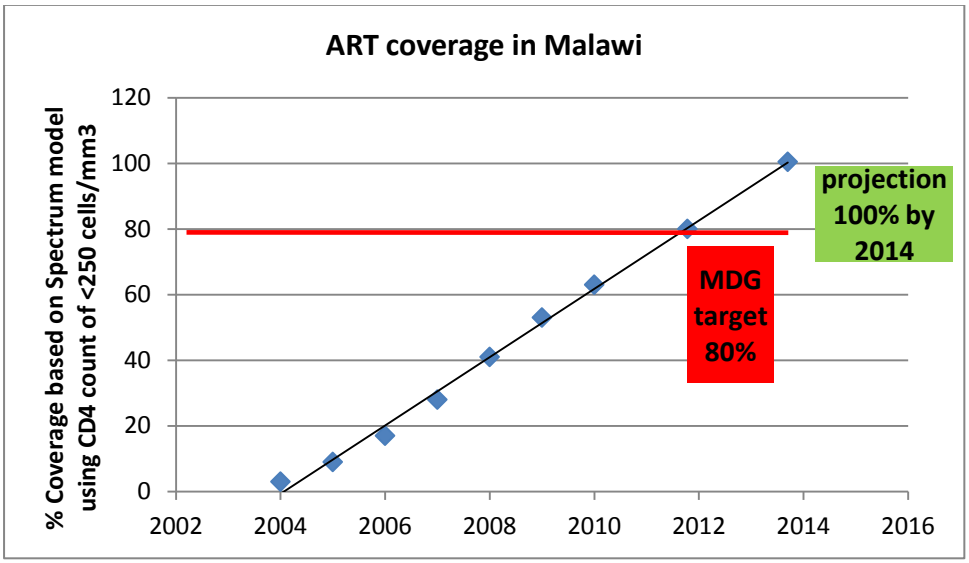


Figure 13 Adult and child ART coverage in Malawi

ART is complemented by the treatment of Opportunistic Infections (OIs) and community-based home care for AIDS patients. Currently, the coverage of OI treatment is about 20% of need and there are plans to increase coverage by 10% annually. The coverage of home-based care is adequate given the resources available, but the quality of care and the availability of drugs are important and need improvement.

2.4 Disability including Mental Illness

The prevalence of disability in Malawi, as defined by the ICF model, is 4.18%. This is higher than earlier estimates of 2% in 1983 and 2.9% in 1993. Ntchisi District has the highest prevalence of disability at 7.79% and the lowest is Mchinji at 1.20%. The most common types of disabilities are physical disabilities (43%) followed by seeing (23%), hearing (16%) and intellectual/emotional disabilities (11%), communication disabilities (3%) and old age (1%). Other types of disabilities constituted 3% of the sample population. Nearly half of these disabilities were due to physical illness. The other major causes of disability were natural/from birth (17%) and accidents (10.6%). In a survey conducted by SINTEF[21], nearly 7 in 10 respondents had become disabled at less than 20 years of age. In terms of health services, even though respondents mentioned that they needed the services, a significant proportion of respondents did not receive the services. For example, while 84% of the respondents were aware of health services and about the same proportion expressed the need for such a service, only 61% received health services. These results generally demonstrate that even though services may be available and the Constitution and the MGDS call for provision of services to all Malawians, Persons With Disabilities (PWDs) do face barriers to accessing health services because of their disability.

[21] SINTEF, CSR and FEDOMA. (2004). *Living conditions of persons with activity limitations in Malawi*. Oslo: SINTEF.

Interventions to address mental illness were not part of the EHP under the PoW 1. It is estimated that 14% of the global burden of disease can be attributed to neuropsychiatric disorders, with around 20% of the world's children and adolescents estimated to have mental disorders or problems, with similar types of disorders being reported across cultures. In Malawi the majority of patients with common mental health problems present in primary health centers, and one study involving 22 health centers with outpatient facilities in Machinga district and 3,487 patients attending those health centers, found that 28.8% of patients had a common mental health problem and 19% had depression. None of them had been detected or treated at baseline before primary health workers had received the relevant training.

The availability of skilled mental health workers is minimal, and there is a 100% vacancy rates for clinical psychologist positions. There is one consultant psychiatrist in post. The country has a graduate psychiatric nursing course in Mzuzu graduating 10-12 nurses each year, and training in clinical psychology is currently under development. Service level agreements exist with St John of God Hospital in Mzuzu in the North.

2.5 Non-Communicable Diseases (NCDs)

Malawi is currently faced with a double burden of both communicable and non-communicable diseases. The STEPS survey conducted in 2009 identified a high level of high blood pressure (see Annex 8) and diabetes[22]. The level of hypertension is higher in Malawi (35% of adults) than in the United States of America and the United Kingdom (27%). District and central hospitals have been treating such patients for a number of years outside the EHP. At present a strategy is being developed by the MoH on treatment regimes and outcome measures to deal with both conditions. The first phase is a pilot site opportunistic screening and treatment using effective but cheap drugs.

NCDs account for approximately 12% of the Total Disability Adjusted Life Years (DALYs)[23] which is fourth behind HIV/AIDS, other infections, parasitic and respiratory diseases. NCDs are thought to be the second leading cause of deaths in adults after HIV/AIDS. The HSSP has therefore incorporated NCDs in the EHP, and interventions include screening for cervical cancer, hypertension and diabetes and providing treatment. Cervical cancer is the most common cancer in women in Malawi and accounts for 9,000 DALYs per year. The chosen intervention of one VIA visit using colposcopy with acetic acid and cryotherapy is the best value for money at $74/DALY and it has already been successfully piloted in a number of districts in the country.

2.6 Social Determinants of health

The Commission on Social Determinants of Health in their final report acknowledged the fact that misdistribution and poor quality of health care delivery systems are one of the social

[22] Msyamboza KP, Ngwira B, Dzowela T, Mvula C, Kathyola D, et al. (2011) *The Burden of Selected Chronic Non-Communicable Diseases and Their Risk Factors in Malawi: Nationwide STEPS Survey.* PLoS ONE 6(5): e20316. doi:10.1371/journal.pone.0020316

[23] One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYS across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability. (WHO)

determinants of health, 'however the high burden of illness responsible for appalling premature loss of life arises in large part because of the conditions in which people are born, grow, live, work and age'. [24]

Annex 1 highlights some of the underlying risk factors for the major diseases in Malawi that are preventable. The factors influencing health status can be divided into:

- environmental, including safe water, sanitation and vector control, safe housing and work environments;
- physical, including lifestyles and behaviours that adversely affect health status such as alcohol and drug abuse, lack of exercise, unsafe sex;
- access to health and social services;
- mental and spiritual health, including gender based violence and child sexual abuse;
- access to education, and
- socio-cultural factors.

One of the leading determinants of health is the level of education. 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, underweight and the prevalence of diarrhoea and malaria among children under five both decreased the higher the educational level of the mother. Health indicators are also better among higher income groups, so improving income and educational levels would therefore help to bring improvements in health status. In terms of living conditions in 2004, 64% of Malawian households had access to clean water and this ratio slightly increased to 79.7%[25]. In 2004 16.1% of households in the rural areas did not have a toilet facility, and by 2008 the proportion in rural areas with no toilet facility decreased slightly to 13.5%[26]. The proportion of households with soap to use at critical times was quite low at 45%[27]. Only 2% of the population were using electricity for cooking. The majority of households in 2008 were using solid fuels (approximately 98%), which puts children at higher risk of respiratory infection if the rooms are not well ventilated.

Nearly a third of women aged 15-49 years have experienced domestic violence since the age of 15[28] with poor uneducated women in urban areas more likely to experience this. It was mostly the husbands who perpetrated violence against married women. The percentage of ever married women who sought help from the formal health system, social services, their employer or a lawyer after experiencing physical violence was low, at 3.3%. The causes of gender based violence (GBV) are complex and often deeply rooted in cultural beliefs, power relations, and the idea of male dominance exacerbated by alcohol and drug abuse resulting in or as a result of mental instability.

During community consultations as part of the development of the HSSP, community members mentioned a number of diseases common in their areas. These were cholera, malaria, HIV/AIDS, tuberculosis, pneumonia and malnutrition. Even though there were some misperceptions about the causes of these diseases, in most cases community members were aware of the causes and they did mention that they sought treatment from health facilities

[24] 2008 Commission on Social Determinants of Health: *Closing the gap in a generation: Health equity through action on the social determinants of health*
[25] DHS 2010
[26] NSO (2009) *Malawi Population and Housing Census 2008* Zomba:NSO
[27] Social Cash Transfer Evaluation 2010
[28] NSO (2010) *Demographic and Health Survey 2010* Zomba: NSO

during illness episodes. Community members also consult traditional healers on issues relating to witchcraft. Prevailing cultural beliefs influence health, for example, in the way people seek health care and prevent illness. Beliefs in witchcraft, ancestors and taboos as causes of ill health still prevail. Some cultural norms and practices have also been shown to contribute to unsafe behaviour causing risks to sexual and reproductive health, as well as affecting access to timely health services and key commodities.

2.7 Health Systems Challenges

2.7.1 Drugs and Medical Supplies

While the overall availability of tracer drugs improved over the PoW period, the shortage of drugs and other medical supplies continues to be a major challenge in health facilities. Factors such as lengthy procurement processes, poor specifications, weak logistical information systems, inadequate and unpredictable funding for medicines and inadequate infrastructure contribute to shortages of drugs. A significant proportion of districts overspend on drugs through buying at higher prices from the private sector. In some cases the health sector is subjected to inappropriate donations of medicines and other medical supplies. Also, there is a shortage of pharmaceutical staff, which is exacerbated by low output from health training institutions.

2.7.2 Human Resources for Health (HRH)

Since the implementation of a six-year Emergency Human Resource Plan (EHRP) under the PoW, the human resource situation within the health sector has improved significantly. The total number of professional Health Care Workers (HCWs) increased by 53% from 5,453 in 2004 to 8,369 in 2010; the capacity of health training institutions increased across a range of programs and staff retention improved, among other things. However, only four of the 11 priority cadres (namely clinical officer, environmental health officers, radiology and laboratory technicians) met or exceeded their targets as set in the original EHRP design. Despite an investment of $53 million during the EHRP on pre-service training capacity, annual output of nurses only increased by 22%. An expanded staff establishment among priority HCW cadres (nurses, physicians, clinical officers, environmental health officers, laboratory and pharmacy technicians), has led to significant vacancies (see Annex 2).

The human resource challenges remain both acute and complex and HR projections show that at current output levels it will take many years to come anywhere near the numbers of health staff needed to provide minimum standards of service delivery.

2.7.3 Laboratory and Radiology Services

The delivery of laboratory and medical imaging services to support delivery of the EHP has been affected by the shortage of human resources. This is mainly due to low outputs from health training institutions, high attrition of personnel (especially from the public sector), inadequate funding and insufficient and inappropriate equipment. Furthermore, the National Reference Laboratory is lacking in capacity to provide reference laboratory services and the number of voluntary and non-remunerated blood donors for blood safety programs is low.

Radiology also faces challenges, including a shortage of human resources, inadequate supervision and a lack of appropriate infrastructure to comply with the minimum space requirements stipulated in RSOG. Other challenges include the donation of equipment without accompanying guidance on procedures, and the absence of provision for the disposal of radiological waste, which poses a serious threat to the environment and to health. Currently, there are no laws governing the disposal of radiological waste, protective materials are inadequate, no site has been designated for the disposal of radiological waste and equipment for monitoring radiation is not available.

2.7.4 Quality Assurance

Despite intentions stated in the PoW and the National Quality Assurance Policy, only a limited number of interventions have been implemented. These include the filling of the posts of a national QA Manager and central hospital and district level QA managers, operationalisation of Action Teams at ZHSO, and the establishment of QA committees. To date the Standard Based Management and Recognition (SBM-R) initiative in Infection Prevention (IP) has been rolled out to all district and central hospitals and some CHAM hospitals have also achieved recognition. Evaluations show that the perception of risks of hospital acquired infections has reduced among both hospital staff and guardians. While knowledge on IP has improved, compliance with IP practice according to recommended norms and standards still needs to be strengthened. Another SBM-R program covering Reproductive Health (RH) has since been rolled out to all district and central hospitals and the MoH is in the process of developing standards for IP and RH for health centres. Many stakeholders, however, are already implementing QA measures and are ready to harmonise their approaches with national guidelines and standards, aiming at continuous quality improvement at systems level. This constitutes the potential for the development of a sustainable QA/QM system with significant impact on outcomes during the HSSP period[29].

2.7.5 Essential Medical Devices (Medical Equipment)

At the time of developing the HSSP, the status of medical equipment in health facilities was unknown, as the last such exercise was carried out in 2007. The only available study of equipment in health facilities is the 2010 EmONC Needs Assessment which was conducted in 309 health facilities. This study showed that generally all instrument kits were incomplete; there was no resuscitation equipment for babies; and other vital pieces of equipment needed for newborn care were in short supply in both hospitals and health centres. The study also found a shortage of some basic diagnostic equipment and supplies; for example, only 29% of the hospitals and 7% of health centres had blood sugar testing sticks, and uristix for measuring protein were found in only 52% of hospitals and 13% of health centres[30]. During annual and semi-annual reviews of health facilities the Zonal Offices report on the status of equipment, but these are incomplete as not all districts submit data.

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[29] EPOS Health Management. (2010). *Quality improvement of health care services in Malawi:Mission report*. Lilongwe: MoH and GTZ.

[30] MoH (2010) *Malawi 2010 EmONC needs assessment draft report*. Lilongwe: Ministry of Health.

2.7.6 Health Financing

Significant resources have been invested in the health sector and by the end of the PoW a total of almost $US900 million had been spent, with GoM dramatically increasing its level of spending from an estimated $US46.3 million in 2004/05 to $US134 million in 2009/10. Equally, support from HDPs increased from $US21.3 million in 2004/05 to $US63.4 million in 2009/10. However, there was a significant decline from the $US103.2 million of DP pooled funds provided in 2008/09, down to $US56.2 million disbursed in 2009/10. Untimely disbursement of donor funds has forced GoM to borrow from the domestic market at high interest rates, which increases the cost of health service delivery. A significant amount of donor funds remain off budget, and without detailed analysis of interventions and activities per donor in relation to specific outcomes of the HSSP, it is difficult overall to attribute which resources have the highest impact on particular health service outcomes, or indeed on some outputs. In addition to this, administrative costs associated with contractors, including NGOs, have yet to be reviewed in detail. The number of projects funded by donors that fall outside the PoW increased over the period of the Program. Total health spending rose from $US5.3 per capita in 2004/5, peaked at $US16.3 per capita in 2008/09 and declined slightly to an estimated $US14.5 per capita in 2009/10. The GoM budget allocated to the health sector increased from 11.1% in 2005 to 13.6% in 2008/9 before falling back to 12.4% in 2009/10.

Progress is being made by GoM towards achieving the Abuja Declaration (2001) target of 15% of government funding to be spent in health. A resource allocation formula, which is subject to review after three years, has been developed jointly by the MoH and Ministry of Local Government and Rural Development (MoLGRD). Despite public services being offered free of charge, household out-of-pocket payments increased rapidly during the PoW. The capacity to regularly track sources of health financing and their uses using internationally recognized tools such as National Health Accounts remains weak.

2.7.7 Financial Management

Financial management has strengthened over the period of the PoW. The external audits commissioned each year have continually generated unqualified audit reports – that is to say, they have certified that the financial statements have fairly recorded the income and expenditures of the health sector without any qualifying remarks.

One challenge is that in real terms (after adjusting for inflation), funds managed in the health sector have more than doubled to reach 229.6% of their 2004 levels, resulting in a corresponding increase in transactions, however staffing levels have not changed. The ratio of staff to manage funds is especially poor at MoH headquarters compared to other levels. A review of the finance staff establishment will be undertaken in the course of implementing the HSSP to assess how to accommodate the increased workload. Financial management at district level is now the responsibility of MoLGRD[31]. At this level, harmonisation is underway so that the sector and the common service accounting staff will be brought together to form one unified team in order to increase efficiency. The capacity of health finance staff at district level was strengthened through the Financial Management Coaching of Cost Centres Programme which was active from March 2009 to March 2011. Building financial management capacity in the districts and central hospitals has also been strengthened

[31] More detailed discussion on decentralisation is in Chapter 6.

through the deployment of Financial Analysts in all districts under the auspices of National Local Government Finance Committee (NLGFC) of the MoLGRD.

While financial management skills have been steadily improving, a significant proportion of common service personnel in MoH lack relevant accounting qualifications, and training of such staff has been infrequent. The Financial Management Implementation Plan (FMIP) includes training for non-financial managers and such training has yet to be carried out. Finance staff in MoH and central and district hospitals require better access to computers and internet services. Lack of office space for finance staff is evident throughout MoH and in many District Health Offices (DHOs). While the health sector recognizes the value of oversight and audit and welcomes both, the capacity of the Finance Section is continually challenged because of the poor alignment of HDPs with financial systems and the associated *ad hoc* organization of oversight arrangements and audits which are not only unharmonised, but also time wasting and often duplicative. A major effort during the implementation of the HSSP will be to minimize the oversight burden without compromising the quest for continuous system strengthening.

There are other challenges in financial management. The flow of funds from central level to districts in some cases does not match cash flow forecasts; the flow of funds within districts is unreliable, especially to rural health facilities; the absorption of funds at MoH headquarters, especially in infrastructure, is low due to procurement bottlenecks; financial reporting is weak; donors' requirements for individual financial reports increases the workload of finance staff; uptake of internal audit findings is low; finally, there is a high number of external audits. Strategies will therefore be put in place to explore the possibility of the direct transfer of funds to rural facilities, and to strengthen collaborative efforts between the finance and procurement units at the central level. Notwithstanding the challenges highlighted above, the Finance Section, supported by the Department of Accountant General, has continued to make steady gains in key areas, including audit completion, financial reporting and upgrading of skills.

2.7.8 Procurement

Like any government entity, the public health sector has continued to follow procedures for procuring goods, works and services as laid down in the Public Procurement Act (2002) and elaborated in the Public Procurement Regulations of 2004. During the implementation of the PoW, major challenges in procurement have included: lack of capacity, especially at the central level; poor coordination between the Procurement Unit and other departments, including districts; lack of well documented procurement procedures; unclear role of the central level in procurements undertaken at the district level, and excessive emergency procurements. Procurement capacity challenges in the public health sector have been exacerbated by the commissioning of multiple audits by different partners and the operation of a parallel system of oversight to provide reassurance to HDPs. In these areas the development partners have failed to align to country systems in accordance with the 2005 Paris Declaration on Aid Effectiveness and the 2008 Accra Agenda for Action.

2.7.9 Monitoring, Evaluation and Research

The MoH has been implementing a comprehensive Health Management Information System (HMIS) countrywide since 2002. The draft HMIS Strategic Plan (2011) explains how data is managed at all levels. Routine data on age and sex is collected but reporting is not always

disaggregated. The other sources of data are the DHS, MICS and other national surveys. While systems for monitoring and evaluation are in place, challenges exist which impact on the effective functioning of the HMIS. These challenges include: inadequate staffing; insufficient disaggregated data; inadequate funding; occasional stock-outs of HMIS forms, pencils and other supplies; inadequate support for ICT at district and lower levels: untimely submission of data to CMED by districts, and low data quality due to infrequent data validation exercises. Lack of trust in the data generated by the HMIS has resulted in donors supporting the creation of parallel data collection systems. The existence of parallel data collection systems for vertical programs such as HIV/AIDS and malaria puts a strain on already scarce HRH.

Civil statistics are vital, yet Malawi still lacks a coherent system for registering births and deaths, although it would be possible for HSAs to collect such data effectively. The MoH has recruited Statistical Data Entry Clerks and 65% of them have already reported for duties, and will attend Training of Trainers courses at zonal level.

The National Commission on Science and Technology (NCST) regulates the conduct of research in Malawi by the various institutions involved. Challenges are as follows: the absence of legal and policy frameworks to regulate research; weak coordination and monitoring of research being carried out within the country; limited multidisciplinary research, largely due to the lack of highly qualified and experienced indigenous researchers; and poor utilization of research findings for practice and policy formulation, due to limited interactions between researchers and those to whom the research findings may be of use. As a way of addressing some of the problems being faced in the area of research, the NCST is implementing a five-year Health Research Capacity Strengthening Initiative (HRCSI) with support from the Wellcome Trust, the Department for International Development (DFID) and the International Development Research Centre (IDRC). The HRCS initiative offers an opportunity for Malawi to improve the capacity of Malawian researchers to conduct high-quality research.

2.7.10 Universal access

The MoH is committed to ensuring that services in the EHP are available with universal coverage for all Malawians. The signing of Service Level Agreements (SLAs) with CHAM facilities for the delivery of Maternal and Neonatal Health (MNH) services is one way of ensuring that the services are accessed by everyone regardless of their socio-economic status. Evidence shows that the removal of user fees in CHAM facilities has resulted in an increase in the number of patients seeking care in these facilities. Universal coverage also includes geographical coverage. An analysis of the proportion of Malawi's population living within an 8km radius of a health facility (Annex 3) shows that there are certain districts that are better served than others. On Likoma Island, where there is no government facility, none of the population is served, and this district is followed by Chitipa where 51% of the population live more than 8km from a health facility, Kasungu (38%), Balaka (32%), Chikwawa and Mangochi (27%). On the other hand, in Chiradzulu, Blantyre, Mulanje and Zomba Districts less than 5% of the population reside more than 8km from a health facility.

In some rural places, the health infrastructure is absent or dysfunctional. In others, the challenge is to provide health support to widely dispersed populations. In high density urban areas, health services can be physically within reach of the poor and other vulnerable populations, but provided by unregulated private providers who do not deliver EHP services.

Annex 4 compares the number of health facilities in Malawi in 2003 and 2010: about half of the facilities in both 2003 and 2010 belonged to the MoH. Between 2003 and 2010 the number of health facilities in Malawi increased overall from 575 to 606, largely due to an increase in the number of health centres (from 219 to 258). The significant increase in MoH health centres is attributed to some public facilities, mainly maternity units and health posts, being upgraded to health centres in line with the aims of the Program of Work for the Health Sector (PoW) 2004-2006.

While new health facilities have been constructed and some existing health facilities have been renovated or upgraded, challenges still exist. The construction of Umoyo Houses[32] has not been completed and staff accommodation remains a challenge, especially in hard to staff/serve areas. Rehabilitation of infrastructure is rarely done, hence the need for refurbishment. Other challenges relating to infrastructure include the lack of ICT in most health facilities, inadequate staff in the Infrastructure Unit at MoH headquarters, and inadequate funding for construction and maintenance of infrastructure and equipment.

2.8 Policy Context

2.8.1 National Policy Context

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*"[33]. The Constitution therefore guarantees that all Malawians will be provided with free health care and other social services of the highest quality within the limited resources available. It also guarantees equality to all people in access to health services. The Malawi Growth and Development Strategy (MGDS II) is an overall development plan for Malawi and aims at creating wealth through sustainable economic growth and infrastructure development as a means of achieving poverty reduction. The MGDS recognizes that a healthy and educated population is necessary if the country is to achieve sustainable economic growth, and achieve and sustain MDGs. The long-term goal of the MGDS with regard to health is to improve the health of the people of Malawi regardless of their socio-economic status, at all levels of care and in a sustainable manner with increased focus on public health and health promotion. The National Health Policy is in its final draft and the National Public Health Act is in the process of being reviewed. The HIV Bill is in draft form and is expected to be passed during the period of the HSSP. The development of the Health Sector Strategic Plan took into consideration this and other existing legislation, namely the Prevention of Domestic Violence Act, the Wills and Inheritance Act and the Child (Care, Protection and Justice) Act. Other pieces of legislation, such as the Divorce, Marriage and Family Relations Bill and the Deceased Estates Bill (to replace the Wills and Inheritance Act) are being reviewed.

In 1999 the GoM defined the MoH's strategic vision for health care in Malawi into the 21st century under the title "*To the year 2020: A vision for the Health Sector in Malawi",* outlining the broad policy direction for the health sector at all levels. The document acknowledged that financial resources for health in Malawi are inadequate to address the increasing population, the disease burden and the awareness of rights for Malawians. It was in this document that

[32] Staff housing programme designed to improve availability of staff houses in remote, hard to reach areas
[33] Section 13 (c) of the Constitution of the Republic of Malawi

GoM first defined the EHP for Malawi which would be made available to every Malawian at his or her first contact with the formal health care system[34]. This EHP was revisited in 2004 during the development of the PoW and then again in 2010 during the development of the HSSP. It is the policy of GoM that the EHP should be provided free of charge to all Malawians and hence contribute to reducing poverty, as it addresses the damaging social and environmental conditions that most poor people endure.

The HSSP has also been informed by the draft National Health Policy (NHP) whose overall goal is to improve the health status of all the people of Malawi by reducing the risk of ill health and the occurrence of premature deaths. This overall goal will be achieved by implementing strategies and interventions that address critical areas in health services delivery, such as management, hospital reforms, quality assurance, Public and Private Partnerships (PPPs), HRH, Essential Medicines and Supplies (EMS), blood safety, infrastructure and health financing. The NHP also redefines the EHP based on the Burden of Disease assessment and the STEPS survey, and it lays emphasis on the need for an effective monitoring, evaluation and research system that will address the data needs of the sector. The HSSP takes on board all these issues. Highlighting the inadequate resources available for the health sector, the National Health Policy also defines the EHP, confirming that it will be available to all Malawians free of charge.

The provision of health services has been decentralised, so that the responsibility for service delivery has passed from MoH headquarters to the MoLGRD in accordance with the Decentralisation Policy and Decentralisation Act. Thus, districts have been given greater responsibility for managing health services at district and lower levels.

2.8.2 International and Regional Policies

Malawi is a signatory to a number of international conventions, of which the most important is the 2000 Millennium Declaration with its eight Millennium Development Goals or MDGs, four of them relating directly to health. These are: Reduce extreme poverty and hunger (malnutrition - MDG 1), Reduce child mortality (MDG 4), Improve maternal health (MDG 5) and Combat AIDS, malaria and other diseases (MDG 6). The country is on course to achieving MDG 4, however, MDG 5 may be difficult to achieve before 2015, due to a number of factors. Therefore the HSSP has included strategies and interventions aimed at accelerating progress towards achieving the MDG targets by 2015.

As a member state of the WHO, Malawi is also a signatory to the *Ouagadougou Declaration on Primary Health Care (PHC) and Health Systems in Africa: Achieving better Health for Africa in the New Millennium* in which African countries reaffirmed their commitment to PHC as a strategy for delivering health services, and as an approach to accelerate the achievement of the MDGs as advocated by the World Health Report of 2008. Other important international declarations to which Malawi is a signatory are:

1. The Abuja Declaration which calls on African Governments to increase their budgetary allocation to health to at least 15%

[34] MoH (1999) *To the year 2020: a vision for the health sector in Malawi.* Lilongwe: MoH and Population

2. The Paris Declaration on Aid Effectiveness, the Accra Agenda for Action and the Busan Partnership for Effective Development Cooperation[35], which call for harmonization and alignment of aid in all sectors

3. The Africa Health Strategy 2007-2015

4. The 1986 Ottawa Charter on Health Promotion

5. Libreville Declaration on Environment and Health

6. AU Maputo Plan of Action on Sexual and Reproductive Health and Rights.

Malawi is committed to these declarations and strategies but challenges still remain. For example, as mentioned above (2.7.6), the country has yet to achieve the target of 15% budgetary allocation for the health sector as detailed in the Abuja Declaration. This long-term goal is expected to be achieved, but within the context of the overall budgetary balance, recognizing other developmental priorities including education, water and sanitation, agricultural development, and infrastructure. Such areas of spending have their own developmental merits, while also contributing significantly to health outcomes.

2.9 Summary of the analysis

As this chapter has demonstrated, the PoW (2004-2010) has registered overall progress in many spheres of the health sector. For example, there has been a decline in the maternal mortality rate (MMR); staffing levels have improved, although this has been offset by an expanded staff establishment, which has created more vacancies; there has been a general improvement in the availability of drugs and other medical supplies, and there have been many other successes. Annex 5 details the strengths, weaknesses, opportunities and threats that may affect the implementation of the HSSP. Some key risks might hinder the MoH and its stakeholders in the implementation of the Plan, and so Annex 6 provides a risk analysis outlining key risks and how they may be mitigated.

[35] Fourth High Level Forum on Aid Effectiveness (HLF-4, 29 November – 1 December 2011)

3 INTRODUCING THE HEALTH SECTOR STRATEGIC PLAN

3.1 Development of the HSSP: Rationale and Process

The HSSP (2011-2016) has been developed following the expiry of Sector Wide Approach (SWAp) Program of Work, a fore-runner strategic document for the health sector in Malawi which covered the period 2004-2010 and guided the implementation of interventions aimed at improving the health status of the nation. The MoH, HDPs and other stakeholders in the health sector collaborated in the development and implementation of the PoW. Progress towards achieving the targets set in 2004 was measured using program monitoring and evaluation (M&E) data routinely collected using the Health Management Information System (HMIS), and the PoW also provided for Joint Annual Reviews (JARs) for the health sector, a Mid-Term Review (MTR) and a final evaluation.. Although the PoW expired in June 2010, it was extended for one year partly to allow for the final evaluation. The results from both the MTR and the final evaluation therefore informed the development of the HSSP. The development of the HSSP also coincides with the development of the MGDS, the overall development agenda of the Government of Malawi.

In mid-2010 the MoH formed a Core Group (CG) to coordinate the development of the HSSP. In order to ensure that the process was participatory the CG drew membership from all departments in the MoH, health workers' training institutions, the private sector, Civil Society Organizations (CSOs) and HDPs. The CG was chaired by the Director of the SWAp Secretariat in the MoH and members met regularly to discuss the progress made in the drafting of the HSSP as well as other emerging issues. Technical Working Groups (TWGs) were given the responsibility of contributing towards the development of the situation analysis for their thematic area, identifying objectives, strategies and key interventions and key indicators and also looking at implementation arrangements. The following TWGs participated in the development of the HSSP: Finance and Procurement, Hospital Reform, Human Resources (HR), Health Promotion, Public Private Partnerships (PPP), Health Infrastructure, Essential Medicines and Supplies (EMS), Laboratories, Essential Health Package, Quality Assurance and Monitoring, Evaluation and Research.

Consultations were conducted with individual departments and disease programs. The development of the HSSP also benefited from technical assistance provided by both local and international experts and supported by HDPs, namely DFID, WHO, GTZ, FICA, USAID and UNFPA. A number of agreements were made during the 2010/2011 JAR meeting in October 2010 including:

- Revision of the Essential Health Package (EHP) based on the Burden of Disease (BoD) study conducted by the College of Medicine (CoM) and the STEPS study on NCDs conducted by the MoH and WHO.
- Discussion of some critical issues that should be addressed in the HSSP for example alternatives for sustainably financing the non-EHP conditions.

Traditional authorities, religious leaders and MPs, among other interest groups, participated in this JAR workshop. As part of the development of the HSSP, literature was also reviewed including the Malawi MDG reports, the MGDS and specific disease strategic plans. The

development of the HSSP also benefited from existing or draft strategic plans namely Malaria; Pharmaceuticals; Tuberculosis; Environmental Health; Nutrition and Food Security Policy and Strategic Plan; the Extended National AIDS Action Framework; Health Information Systems (HIS); the comprehensive Multi-year EPI Plan; and the Sexual and Reproductive Health and Rights Strategic Plan. The HSSP was also informed by the draft National Health Policy and the draft Health Bill.

Focus Group Discussions (FGDs) were conducted with community members in six districts, two from each region, to get their inputs into the HSSP. The major outcome of this consultation was that community members also identified as important the diseases that have currently been included in the EHP. Thereafter, a national consultative workshop with participants from the Zonal Health Support Offices (ZHSOs), MoH headquarters, DHOs, chiefs, CSOs, HDPs and other government Ministries and Departments was held at Crossroads Hotel in Lilongwe on 2nd December 2010 to review the first draft of the HSSP. This workshop was also attended by Traditional Authorities, religious leaders and MPs. Comments were then incorporated into the document and a consultant was hired to cost the HSSP.

As part of developing the HSSP two internal JANS[36] assessments were done by the CG and stakeholders. The comments from these assessments were incorporated into the HSSP. In April-May an external team was invited to conduct the JANS with support from the HDPs. A further internal JANS was conducted at the end of June 2011. The comments from the external JANS were used to finalize the HSSP document. Annex 7 shows the roadmap for development of the HSSP and stakeholders who were involved, external JANS reports and response by MOH to the JANS.

3.2 Priorities for the HSSP

3.2.1 Major recommendations from evaluation of the PoW 1

The following are the major recommendations from the evaluation of the Program of Work:

1. Both MoH and HDPs are experiencing high staff turnover with great loss of institutional memory. Over the period of the HSSP mechanisms need to be put in place in order to retain staff as well as to address the critical staff shortages at all levels.

2. Monitoring and evaluation in the health sector focuses on the measurement of impact and outcomes, and so there is need to ensure that hospital statistics are added to the routine HMIS and made available. The M&E system needs be extended to monitor quality of care, and data should be disaggregated by gender, age and place of residence. The use of a broad baseline survey linked to impact evaluation is recommended to complement the DHS, and this survey should be carried out and the role of research should be made clear.

3. The EHP was defined in 2004 and disease patterns have changed since then. The evaluation recommended that the EHP should be revised to take into consideration the introduction of new technologies, changing disease patterns and available resources. There should also be gradual expansion of the EHP (e.g. by including cost-effective interventions for non-communicable diseases such as cardiovascular disease and

[36] Joint Assessment of National Strategic Plans

diabetes, mental health interventions, and a package of highly cost-effective surgical procedures to be provided in rural and district hospitals).

4. The drug supply system needs to be strengthened and dependence on emergency tenders has to be reduced**.** The logistics management information system needs to be improved to generate accurate data at facility level and departments have to provide accurate and complete specifications. There is also a need to recapitalise Central Medical Stores (CMS).

5. The HSSP should address issues of equity, including gender and geographical location. Preventive and curative health care should target hard to serve and vulnerable groups, e.g. adolescents seeking sexual and reproductive health care and antiretroviral treatment, orphans and other vulnerable children, women and girls seeking post-abortion care, the disabled, rural and traditional communities, and border and migrant populations.

6. Quality assurance approaches need to be strengthened and become systematic, as over the years QA has been implemented on a piecemeal basis. The implementation of interventions at district level should be based on need and public health priorities.

7. The HSSP should address issues of HRH management, coordination and oversight at all levels of implementation.

8. DIP guidelines should be revised to allow for better alignment of PoW planning and budgeting formats with those of MoLGRD/MoF.

These recommendations have been taken into consideration during the development of this plan.

3.2.2 Burden of Disease (BoD) for Malawi

In 2006 the College of Medicine (CoM) conducted a BoD study looking at the incidence and prevalence of all major diseases and disease-specific death rates, ranking the top ten conditions according to these rates. This study shows the top ten risk factors and diseases causing deaths in Malawi, as shown in Annex 8. HIV/AIDS is the major cause of mortality, followed by Lower Respiratory Infection (LRI), malaria, diarrhoeal diseases and conditions arising from perinatal conditions. The ranking of the top diseases and conditions was useful as it enabled an assessment of priority diseases for inclusion in EHP. Cost-effective interventions are available for most of these diseases and conditions.

As has been mentioned earlier on, the STEPS survey clearly demonstrates that NCDs are also a significant public health problem, as can be seen in Table 2 below and this has led the MoH to establish an NCD Unit at headquarters.

Table 2 Prevalence of Non- Communicable Diseases (NCDs) in Malawi

Disease/condition	Prevalence	Data sources
Hypertension	32.9%	NCD STEPS survey 2009
Cardiovascular diseases (using cholesterol as a marker)	8.9%	NCD STEPS survey 2009 (N=3910, age 25-64 years)
Injuries other than RTA	8.5%	WHS Malawi 2003[37] (N=5297, age >=18years)
Diabetes	5.6%	NCD STEPS survey 2009
Asthma	5.1%	WHS Malawi 2003 (N=5297, age >=18years)
Road Traffic Accidents (RTA)	3.5%	WHS Malawi 2003 (N=5297, age >=18years)

Since the diseases and conditions identified by the BoD study and the STEPS survey contribute to high levels of morbidity and mortality in Malawi, the national Technical Working Group on the EHP used the studies in identifying the 13 conditions to be prioritized within the EHP. After wide consultations, the original EHP as contained in the PoW 2004-2010 was modified to include new interventions, while maintaining the original set of interventions. The full list of conditions is as follows (with new ones marked with an asterisk):

1. HIV/AIDS
2. ARI
3. Malaria
4. Diarrhoeal diseases
5. Perinatal conditions
6. * NCDs including trauma
7. Tuberculosis
8. Malnutrition
9. * Cancers
10. Vaccine preventable diseases
11. * Mental illness and epilepsy
12. * Neglected Tropical Diseases (NTDs)
13. Eye, ear and skin infections

During the FGD with community members, participants agreed with research findings, giving HIV/AIDS, ARIs, tuberculosis, malaria and diarrhoea as the most common diseases in their communities. The evidence used to assess each intervention is derived from core datasets comprising a revised Burden of Disease assessment for 2011[38], an assessment of the cost-effectiveness of past and potential interventions, the preliminary report of the Demographic Health Survey of 2010 (DHS 2010), *ad hoc* epidemiological surveys (such as the Malaria and EMOC surveys of 2010), projections of Millennium Development goals (MDGs) and published research evidence. The EHP TWG used the following criteria for prioritising interventions for inclusion and the setting of targets in the EHP:

[37] World Health Survey Malawi (2006) http://www.who.int/healthinfo/survey/whsmwi-malawi.pdf
[38] Burden of Disease estimates for 2011, College of Medicine 2011, at http://www.malawi-mph.co.uk/data/bod%202011/Burden%20of%20BOD%20and%20EHP1.doc

- Burden of disease
- Cost effectiveness
- Access to the poor
- MDG condition
- Proven successful intervention
- Discrete earmarked funding through bilateral agreements

The following table gives an overview of the key cost effective interventions for EHP conditions:

Table 3 Cost effective interventions in the EHP

EHP condition	Interventions
HIV/AIDS/STIs	• Multi level BCC across all sectors • Health promotion[39] • Screening (HIV testing and counselling through all entry points) • Provision of home based care • Procurement and provision of male and female condoms • Provision of ART • Provision of PMTCT services • CPT • Blood and needle safety • STIs - Screening and treatment and promotion • Treatment of opportunistic infections • Peer and education Programs for high risk groups • Condom promotion and distribution
ARIs	• Health promotion on recognition of danger signs for ARIs • Early treatment of ARIs using standard protocols • Treatment of pneumonia
Malaria	• Health promotion • Early treatment of malaria at household, community and health centre level • Promotion and use of LLITNs • Promotion and use of IRS • Vector control - Larvaciding and control of breeding sites • IPT pregnancy
Diarrhoeal diseases	• Health promotion • Early care seeking – use of ORT • Provision of zinc • Construction of low cost excreta disposal • Provision of home solutions • Promotion of exclusive breastfeeding • Surveillance of water and food quality [40]
Adverse maternal and neonatal outcomes	• Health promotion • Promotion and provision of family planning methods • Promotion of institutional deliveries • Provision of services for complications of delivery (BEmONC and EmoNC) • Screening for cervical cancer using VIA

[39] Health promotion includes IEC, behaviour change communication, social mobilisation, screening, etc.
[40] Other stakeholders such as Ministry of Irrigation and Water Development are involved.

EHP condition	Interventions
	• Repair of obstetric fistula
NCDs and trauma	• Health promotion on awareness about health risks such as smoking and drinking of alcohol, safe driving and gender based violence • Screening for risk factors and conditions (cardiovascular, diabetes) • Promote physical activity • Promote healthy diets • Community and facility based rehabilitation, first aid
Tuberculosis	• Community DOTS • Health promotion • Treatment of TB including MDR
Malnutrition	• Promotion of exclusive breastfeeding • Growth monitoring • De-worming • Micronutrient supplementation • Treatment of severe acute malnutrition
Cancers	• Health promotion • Early screening (cervical and breast cancer, Kaposi's sarcoma) • Treatment with cryotherapy and surgery (scaling up)
Vaccine preventable diseases	• Health promotion • Pentavalent • Polio • Tuberculosis • Measles • Tetanus
Mental illness including epilepsy	• Health promotion interventions to create awareness about mental health • Mental health promotion in schools and workplaces • Treatment of epilepsy • Treatment of acute neuropsychiatric conditions – inpatient • Rehabilitation
NTDs	• Case finding and treatment of Trypanosomiasis • LF mass drug administration • Mass drug administration for onchocerciasis • STH mass drug administration in school children • Mass drug administration
Eye, ear and skin infections	• Health promotion on prevention of eye, ear and skin infections • Treatment of conjunctivitis, acute otitis media, scabies and trachoma

As has been the case in the PoW, the EHP will continue to be provided free of charge over the period of the HSSP. For each disease and condition, the level of burden of disease and the estimate of the cost effectiveness of the relevant intervention are found in the BOD 2011 and in the publication *Disease Control Priorities in Developing Countries*[41]. The findings are summarised below in Figure 14, which shows:

- the conditions with disease burdens above and below 10,000 DALYs per year,
- interventions above and below $150/DALY (the threshold below which interventions are particularly good value for money in developing countries) and

[41] Second edition, World Bank, 2006

- $1050/DALY (the threshold above which interventions are considered too expensive for the economy of the country (amounting to three times the GNP).

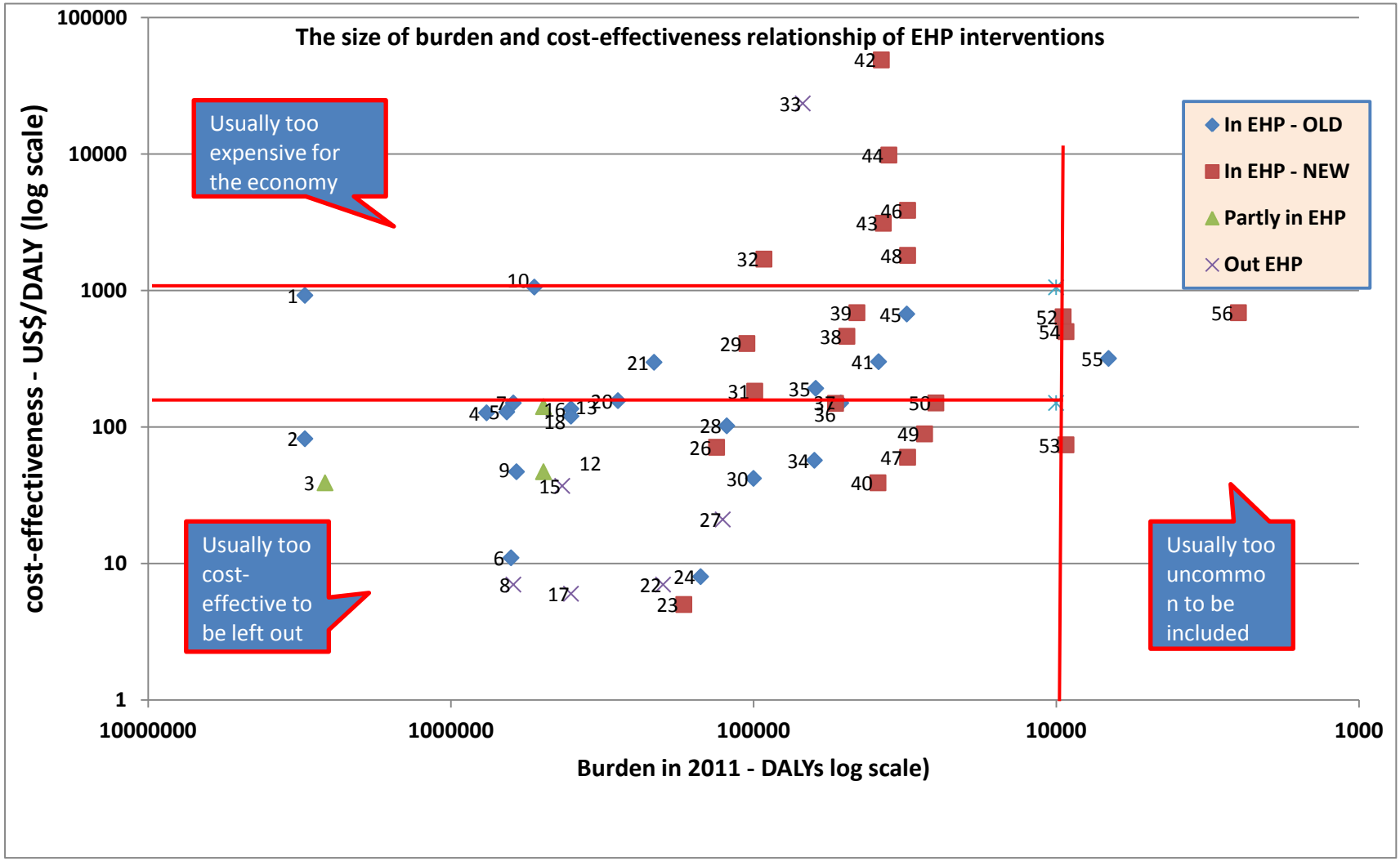

Figure 14 Burden of disease and cost effectiveness of interventions in Malawi

Legend

1-ARV; 2-HIV prevention; 3-IMCI; 4-Maternal care; 5-ARI in under-5s; 6-Malaria – bednets; 7-Malaria in under 5s using ACT; 8-IPT child; 9-HCT; 10-Dehydration Thanzi; 11-Home made ORS; 12-Water supply; 13-Improved sanitation; 14-Family planning; 15-School health; 16-Wounds, fractures; 17-First aid training of volunteers; 18-Emergency ambulance service; 19-IRS; 20-Management of OIs; 21-Penta vaccine; 22-DPT Polio; 23-NTD mass treatment; 24-Measles vaccine; 25-Supplementary Feeding; 26-Rotavirus vaccine; 27-Prevention of RTAs; 28-Treatment - smear pos. TB; 29-BP - polypill; 30-Growth monitoring; 31-Cataract extraction; 32-Depression; 33-Cancer; 34-STIs; 35-PMTCT; 36-Aspirin for stroke; 37-Malaria in 4-year-olds + ACT; 38-Anxiety disorders; 39-IHD - drugs; 40-Trachoma surgery; 41-Treatment - smear neg. TB; 42-Drug misuse; 43-Bipolar disorders; 44-Schizophrenia; 45-CBHBC; 46-Diabetes - screening; 47-Diabetes - lifestyle change; 48-Diabetes - drugs; 49-Epilepsy; 50-CCF drugs; 51-IPT Preg; 52-Alcohol misuse - PC advice; 53-Cervical screening - cryotherapy; 54-HPV; 55-TB relapsed; 56-Rheumatic h d[42].

The key decisions over priorities, based on an assessment of past and potential interventions are:-

1. All the interventions from the previous EHP are appropriate, with good reasons to justify the three outliers. ORS with Thanzi is much more expensive than homemade ORS with a health education input, but it is largely funded by USAID and UNICEF; ARVs are expensive but funded by Global Fund; and relapsing cases of TB are uncommon but dealing with them is an integral part of TB control.

2. The interventions to be partly included in the EHP (marked "Partly EHP") are IMCI, water and sanitation and school health. These are good value interventions which are partly implemented in the EHP and partly in other development programmes, water and sanitation being the responsibility of the Ministry of Agriculture, Irrigation and Water Development.

3. Certain items fall outside the EHP (marked "Out EHP") although they are good value interventions. Intermittent prophylaxis in children is an intervention being considered by the Malaria Unit but it is not yet included in their strategy. First Aid for volunteers as part of trauma services could be, but is not yet, a component which can be run by the Red Cross on a national scale. The prevention of road traffic accidents is the responsibility of the National Roads Authority. Homemade ORS and DTP vaccine are being covered by alternative interventions. There are no other "value for money" interventions which could have been included in the programme of the HSSP.

4. Most of the new items in this EHP are cost effective and cover a significant burden of disease. Those that are expensive with cost-effectiveness ratios over $150/DALY but dealing with high burden conditions such as mental illness and non-communicable diseases, are being piloted in year 1, so that services are set up which are cheaper than those elsewhere, thus bringing their cost-effectiveness ratios down to affordable levels.

[42] BoD 2011 College of Medicine *Cost-effectiveness ratios from BDDC 2nd Edition 2006*.

3.2.3 What is new in the HSSP?

The Health Sector Strategic Plan 2011-2016 is different from the Program of Work (PoW) 2004-2010 because it:

- Places emphasis on health promotion and disease prevention, as the majority of the diseases affecting Malawians are preventable;
- Focuses on community participation, in line with the Ouagadougou Declaration;
- Promotes integration of EHP services delivery at all levels;
- Redefines the EHP based on the Burden of Disease study and the STEPS survey, and as a result mental health and NCDs will constitute part of the new EHP;
- Promotes the expansion of SLAs;
- Defines EHP by level of service delivery;
- Encourages exploration and implementation of alternative sources of financing;
- Places emphasis on the reform of central hospitals;
- Promotes the implementation of quality assurance interventions;
- Promotes increased coordination and alignment, and the reduction of transaction costs.

4 VISION, MISSION, GUIDING PRINCIPLES, GOAL AND BROAD OBJECTIVES OF THE PLAN

4.1 Vision and mission

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.

The Mission of the health sector is to provide strategic leadership by the Ministry of Health for the delivery of a comprehensive range of quality, equitable and efficient health services to all people in Malawi by creating an enabling environment for health promoting activities.

4.2 Guiding principles

The guiding principles for the HSSP are inspired by the primary health care approach contained in the international aid effectivness agreements signed in Paris, Accra and Busan. The principles are:

1. ***National ownership and government leadership:*** In the interest of national development and self-reliance, all partners in the health sector will respect national ownership of this HSSP, and the extent to which this principle is reinforced will be measured.

2. ***Human rights based approach and equity***: All the people of Malawi shall have access to health services without distinction by ethnicity, gender, disability, religion, political belief, economic and social condition or geographical location. The rights of health care users and their families, providers and support staff shall be respected and protected.

3. ***Gender sensitivity***: Gender issues shall be mainstreamed in the planning and implementation of all health programs and tracked for impact.

4. ***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.

5. ***Efficiency:*** All stakeholders shall use available health care resources efficiently to maximize health gains. Opportunities shall be identified to facilitate the integration of health service delivery where appropriate to address client needs efficiently and effectively.

6. ***Accountability****:* All stakeholders shall discharge their respective mandates in a manner that takes full responsibility for the decisions made in the course of providing health care. All health workers at all levels and all DPs shall be accountable to the people of Malawi.

7. ***Inter-sectoral collaboration:*** In addition to the MoH there are also other Government Ministries and Departments and CSOs that play an important role especially in

addressing social determinants of health; hence inter-sectoral collaboration shall be promoted.

8. ***Community Participation***: Community participation shall be encouraged in the planning, management and delivery of health services.

9. ***Evidence-based decision making***: Interventions shall be based on proven and cost-effective national and international best practices.

10. ***Partnership***: Public Private Partnership (PPP) shall be encouraged and strengthened to address the determinants of health, improve service provision, create resources (e.g. training of human resources) and share technologies among others.

11. ***Decentralization***: Health services management and provision shall be in line with the Local Government Act of 1998 which entails devolving health service delivery to Local Assemblies.

12. ***Appropriate technology***: All health care providers shall use health care technologies that are appropriate, relevant and cost effective.

4.3 Goal

The Goal of the Health Sector Strategic Plan is 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.

4.4 Objectives of the HSSP

The broad objectives of the HSSP are:

1. Increase coverage of the Essential Health Package interventions, paying attention to impact and quality.

2. Strengthen the performance of the health system to support delivery of EHP services.

3. Reduce risk factors to health.

4. Improve equity and efficiency in the delivery of quality EHP services.

5 STRATEGIES, INTERVENTIONS AND IMPLEMENTATION ARRANGEMENTS FOR THE HSSP

5.1 The Essential Health Package

Objective

To ensure universal access to quality EHP services consisting of promotive, preventive, curative and rehabilitative services to all people in Malawi.

Strategies

1. Strengthen the delivery of community health services.
2. Strengthen community participation.
3. Improve access to quality EHP services.
4. Strengthen the prevention, management and control of EHP conditions using cost effective interventions.
5. Improve diagnostic services at all levels.
6. Strengthen health promotion activities at all levels.
7. Deliver EHP services in an integrated manner.

Implementation arrangements

The key interventions/services that will be provided are listed in Annex 9. It is important to define the EHP not only in terms of diseases and conditions (as listed in Chapter 3.2.2 Table 3), but also in terms of the level of the health care system at which the services are to be delivered, namely community, dispensary health centre, district and central hospitals.

The comprehensive range of services that will be offered at each level of health care (Annex 9) takes issues of cost effectiveness into account. For example, a number of interventions have been taken from the Accelerated Child Survival and Development (ACSD) strategic plan for Malawi, because they have proved effective in the control of childhood diseases.

As was the case in the PoW, the EHP will continue to be provided free of charge over the period of implementing the HSSP. Currently many non-EHP services are also provided free of charge; a district expenditure tracking study estimated that approximately 20% of resources are spent on non-EHP conditions. The problem, however, is that it was difficult to translate the EHP in the PoW into service delivery realities. Health workers tended to pay attention to non-EHP conditions as well[43].

[43] MoH. (2010). Final evaluation of the PoW 2004-2010. Lilongwe: MoH.

In the HSSP, as will be discussed later, alternative sources of funding will be explored in order to fund non-EHP conditions. Proper referral mechanisms will be respected and where this is not done, a 'bypass' fee will be charged to patients.

The EHP will be implemented in an integrated manner across clinics and across technical areas, in order to maximise efficient delivery. Currently, some services are run in a vertical manner, which not only fragments service delivery and uses a large amount of staff time, but which could also contribute to a loss of follow-up, especially among HIV-positive women detected during ANC. By creating one integrated ANC service, it will be possible for a woman to be tested for HIV by the same nurse who is in charge of the rest of her ANC visit. Similarly, a woman delivering in a facility should have access not only to skilled birth attendants, but also to attendants who have been trained in PMTCT protocols, post-partum family planning, breastfeeding, etc. Orienting clinical staff to respond comprehensively to client's needs gives that client better opportunities to improve their overall health status. Moreover, human resources will be more efficiently utilized.

Making access to EHP services equitable

The following population groups are considered vulnerable: poor people, women, children, orphans, people with disabilities and the elderly, persons living in hard to staff/serve areas and displaced persons (including refugees and persons displaced due to natural disasters). The Ministry of Health and stakeholders will ensure that the special health needs of these vulnerable groups are addressed in line with the Constitution of the Republic of Malawi which calls for the provision of adequate health care, "*commensurate with the health needs of Malawian society and international standards of health care*".

In order to address the needs of vulnerable groups, Government and stakeholders will:

- continue conducting outreach/mobile clinics in order to reach hard to serve populations;
- sign strategic SLAs with CHAM to enable populations in their catchment areas to access free services; and
- consider the construction of new health facilities in underserved areas, taking into consideration issues of access by vulnerable groups. The MoH and stakeholders will also conduct sensitisation meetings in communities in order to create awareness about available services and the need for these special groups to access them.

5.2 HSSP Objectives

5.2.1 Objective 1: Increase coverage of Essential Health Services

In order to improve access to and coverage of EHP services, the MoH and stakeholders will ensure that the majority of Malawians live within an 8 kilometre radius of a health facility that provides free EHP services.

Strategies and key interventions

5.2.1.1 Infrastructure: Improve access to and coverage of EHP services through the development of infrastructure

1. Install and maintain utility systems in existing facilities.

2. Rehabilitate existing buildings.
3. Upgrade existing health facilities.
4. Construct new health facilities.
5. Construct Umoyo houses.
6. Ensure stronger involvement of districts in following up construction works.
7. Strengthen coordination mechanisms to ensure linkages with hospital reforms and equipment purchase.

Bwaila Maternity Hospital, Lilongwe

5.2.1.2 Service Level Agreements: Develop Service Level Agreements with CHAM / private-for-profit health providers

1. Review coverage of Essential Health Services.
2. Identify gaps and priority areas by district.
3. Review costs, cost effectiveness and value for money for SLAs.
4. Sign Service Level Agreements.
5. Ensure regular monitoring of SLAs.

5.2.1.3 Transport: Improve the Health transport system

1. Review current transport management system.
2. Conduct a regular inventory of emergency transport, especially in hard to serve areas and trauma centres.
3. Purchase essential transport to ensure access to referral and emergency services.

Implementation arrangements

Locations are being identified for constructing new facilities and rehabilitating and upgrading existing ones, based on the mapping exercise of health facilities conducted as part of the HSSP design process. The MoH will ensure that proper procurement procedures are followed in identifying contractors for carrying out these works. Public Private Partnerships will be reviewed during the first year (see Sections 6 and 9 on Governance and Financing). The Infrastructure Unit will be responsible for major contracts, in consultation with the

Districts. Monitoring shall be carried out by the District Health Office, the Infrastructure Unit and Department of Buildings.

5.2.2. Objective 2: Strengthen the performance of the health system to support delivery of EHP services

In order to implement the EHP as defined above, adequate health systems must be in place to support service delivery. This section summarizes the objectives, strategies and key interventions for these support systems.

5.2.2.1 Human Resources for Health

While the Emergency Human Resource Plan (EHRP) has assisted in addressing the human resource crisis in Malawi, the country continues to experience critical shortages of key health technical cadres that can adequately respond to Malawi's disease burden. Over the next five years of implementing the HSSP, interventions will aim at addressing: HR management; development and planning issues including the use of technical assistance; creating more posts in the critical cadres; the distribution and motivation of health workers. A functional review of the MoH establishment shall be conducted during the five year period.

Human Resource Planning, Development and Management

Objective: *To provide human resources that are adequate, properly trained and remunerated, well motivated and capable of effectively delivering the EHP to the Malawi population.*

Strategies and key interventions

Improve the capacity for HRH planning in the health sector

1. Establish staffing norms for all levels of the health care facilities
2. Recommend new establishment figures to Department of Public Services Management based on results of workload analysis.
3. Expand, maintain and integrate HRMIS with existing management databases, enable greater coverage of other cadres and facilitate its use with other relevant organizations such as CHAM and the private sector.
4. Scale up the training of key health workers in the use of HRMIS at all levels.
5. Orient directors, and managers at all levels in human resource policy, planning, data management and dissemination.
6. Improve data management capacity to provide accurate and timely information on numbers, cadres, qualifications, deployment, transfer and attrition of health staff in order to make effective HR decisions.

Strengthen human resource management for effective EHP delivery at all levels

1. Recruit new and returning staff according to staffing norms for all cadres.
2. Create and clarify job descriptions and career paths for appropriate health cadres.
3. Review and standardize policy on Locums to ensure equity and cost-effectiveness.
4. Review and standardize policy on scope of work for HSAs.

5. Sustain top-ups for existing priority cadres and support a phase-in strategy to integrate top-ups into salaries.
6. Institutionalize performance based management as a management tool (leveraging an effective appraisal system, merit-based processes and supportive supervision).
7. Improve supervision structures and mechanisms at all levels of the health system.

Improve retention of healthcare workers at all levels, particularly in hard to staff areas

1. Maintain the 52% salary top-ups.
2. Institutionalise a performance management incentive scheme.
3. Extend housing scheme to health cadres according to needs.

Strengthen HRH training and development

1. Increase the numbers of key health workers being trained, and ensure high quality training at all training institutions by increasing the number of clinical tutors and clinical training opportunities. Create a tracking mechanism on the bonding of students.
2. Pilot (and revisit existing pilot studies relating to) cost-effective further qualification training, such as e-learning, distance learning, applied and part-time learning.
3. Scale up the training of specialists, i.e. nurses, physicians, etc.
4. Support the rolling out of continuing professional development for various cadres, including applied epidemiology and public health management as core components of district and zonal health managers' skill sets, and leadership and management.
5. Review existing in-service training schemes, pilot new in-service training methods including mentoring and coaching, and tailor in-service training for particular needs (e.g. for newly appointed health care workers at rural health centres, including support staff).
6. Strengthen linkages and coordination with Health regulatory bodies to track in-service trainings.
7. Orient health managers at all levels who have responsibility for human resources on effective HRM practices.
8. Review the in-service training plans and mechanisms and develop a revised fair and transparent system.
9. Lobby for an internship program for all health workers-in-training.
10. Lobby for establishment of a loan scheme to support student fees and of mechanisms for bonding.

Build capacity of health training institutions

Establish a working forum involving Ministry of Education, regulatory bodies and other stakeholders, with a mandate and finances to work together to accomplish the following:

1. Produce an appropriate number of tutors with required qualifications in conjunction with larger student intakes and facilitate their continuing professional development;
2. Implement training program on leadership, management and professional development for training institution staff.
3. Orient and assign existing cadres for clinical instruction activities, thus increasing the number of clinical instructors.
4. Optimize existing infrastructure and staffing according to training needs, and utilize flexible accommodation arrangements (e.g. non-residential students).
5. Review cost-effective interventions to increase student intake.

6. Continue equitable incentive packages for tutors, taking into consideration placement (e.g. urban vs. rural).
7. Provide infrastructure and equipment to accommodate increased numbers of students.
8. Delineate training responsibilities of priority health cadres between College of Medicine, Mzuzu University, Kamuzu College of Nursing, Malawi College of Health Sciences and CHAM training institutions.
9. Revise curricula for training health workers to ensure that training programs address the health needs of modern Malawi in line with WHO recommendations on transformative education for health professionals.
10. Implement the National Nurse/Midwife Training Operational Plan over five years to double training capacity at nursing and midwifery training institutions, as a specific response to the significant shortage of nurse/midwives.

Strengthen capacities for HRH stewardship in policy, partnerships and monitoring and evaluation at national level

1. Review existing regulatory Acts.
2. Champion capacity building of key HR functions at all levels.
3. Review the management and coordination of technical assistants (regional and international) at all levels.
4. Promote multi-stakeholder cooperation though a Human Resources Observatory[44] and other platforms.
5. Enhance collaboration between Health Services Commission and Ministry of Health (e.g. review the Health Services Commission Act).
6. Strengthen partnership agreements with other health service providers (e.g. CHAM, private sector).
7. Review and implement the HRH Strategic Plan, the National Health Sector Deployment Policy and the HRH Deployment Policy.
8. Enhance interdivisional collaboration on HRH for EHP delivery.
9. Advocate for the strong presence of Ministry of Health HR Department in decisions relating to health training institutions and student fees.
10. Promote the sustainability and growth of gains made in EHRP, i.e. pre-service training, recruitment and retention.
11. Advocate for decentralization of HR management at district level.
12. Develop a strategy to control migration of health workers out of Malawi.
13. Provide adequate resources and skills in the MoH for health planning, management and sector development, using a comprehensive capacity development approach that embraces the organizational context and the institutional environment.

Strengthen the capacity of the MOH to deliver the EHP through use of technical assistance

This strategic plan identifies where capacities within the MoH to effectively deliver the EHP are lacking. Over the years the MoH has engaged technical assistance (TA) to help to build capacities in various priority areas of the health sector. The MoH and stakeholders have identified some critical areas where there will be a need for TA over the HSSP period. These include:

[44] Malawi Health Workforce Observatory 2010 http://www.hrh-observatory.afro.who.int/images/Document_Centre/Malawi_HRH_Country_Profile_2010.pdf

1. ***Financial management and procurement*** in order to ensure that credible financial and procurement systems are in place and adhered to. At global level there is a general decrease in availability of financial resources and so Malawi should not expect a substantial increase in funding from the donor community over the period of the HSSP. The costs of delivering health services are much higher than the projected resource envelope, therefore there is a need to develop a financing strategy that aims to ensure better use of existing resources, and proposes options for alternative means of financing.
2. ***Specialist doctors***: TA is required until such time that Malawi is able to train recruit and retain sufficient specialist doctors, especially in the areas of clinical psychology, internal medicine, paediatrics, obstetrics and gynaecology, and pathology.
3. Other areas that will require TA are health promotion, monitoring and evaluation, epidemiology, human resources planning and management, diagnostic services, the Zonal Health Support Offices (ZHSO) and Central Medical Stores.

Implementation arrangements

The Department of Human Resources in the MoH has the overall responsibility for managing human resources, in consultation with other Departments in the Ministry. The HRH Technical Working Group (TWG) provides technical guidance on human resource issues in the health sector. The MoH in conjunction with the stakeholders will be conducting an ongoing workload analysis upon which the new staffing norms to provide essential health services will be based. The Health Services Commission will continue to be responsible for the recruitment of health workers into the MoH. Before the start of implementing the HSSP the MoH and stakeholders will also work collaboratively with the Ministry of Education to plan and implement a human resource training program that will be aimed at addressing the HR needs for Malawi's health sector.

To ensure maximum benefit of TA to the health sector the draft TA strategy will be finalized under the leadership of the HRH TWG. The strategy recommends the provision of counterparts for the proposed TA for proper transference of skills. The HRH TWG will monitor progress by the TA in their fields of speciality and ensure the continuous availability of counterparts.

5.2.2.2 Essential Medicines and Supplies

Over the period of PoW significant progress has been made to ensure that EMS are made available in all health facilities. However, numerous challenges remain: there is inadequate space for storage of EMS; procurement processes are lengthy; pilferage is still a major problem; supply chain management is weak; some health facilities still report a shortage of drugs. Over the period of the HSSP, the MoH will strive to ensure the availability of adequate quantities of high quality safe and affordable EMS for effective delivery of the EHP to all Malawians.

Objective: *To ensure the availability, equitable access and rational use of good quality, safe and efficacious medicines and supplies at affordable costs.*

Strategies and interventions

Strengthen collaboration with stakeholders in the pharmaceutical sector, including the private sector

1. Develop guidelines on rational use of traditional and complementary medicines.
2. Enforce utilization of guidelines for donated medicines at all levels.
3. Advocate and promote local production of medicines, as appropriate.
4. Strengthen coordination between all partners providing Essential Medicines in the health sector.

Strengthen the security system within the supply chain of commodities

1. Form a high-level committee, including members from outside MoH (Ministry of Justice, Ministry of Local Government & Rural Development, and Ministry of Labour), and assisted by a logistics security expert, to review the recommendations of the Leakage Study[45] and set priorities for cost-effective interventions to strengthen security.
2. Revive and build capacity of the Drug Committees at all levels (central hospital, district hospitals and health centres).
3. Improve transport security for EMS through piloting the use of 'roll cages' for packing at CMS, transport and delivery to SDPs.
4. Account in writing for medicines that have been dispensed to the patient.

Strengthen warehousing and distribution of pharmaceuticals through PPP arrangements

1. Outsource warehousing.
2. Outsource distribution.
3. Review and fast-track the construction of a modern warehouse for CMS and refurbish the Regional Medical Stores. Thereafter install appropriate software for warehouse management.
4. Recapitalize the CMS.

Build and maintain capacity for procurement of medicines and medical supplies

1. Review (by high level committee) the latest (2009/10) external auditors' reports on procurements carried out under the SWAp PoW 1, in order to determine how the CMS can better leverage its procurements for improved savings for the Government of Malawi.
2. Contract an internationally-known and reputable procurement agent for the medium term.
3. Develop capacity in the utilization of the LMIS and reinforce compliance to the system, paying attention to the accurate collection and reporting of dispensed-to-user data.
4. Build capacity for forecasting and quantification using the bottom-up approach.
5. Continuously review the forecasting and quantification system.
6. Develop and maintain a rolling, three-year quantification, particularly of high value/volume commodities.
7. Establish commodity contracts for multiple deliveries in a year to avoid overburdening storage and ensure fresh products.
8. Consider multi-year framework contracts, particularly for high value procurements.

[45] Drug leakage study 2006 MOH

9. Develop capacity of the CMS Trust to carry out its mandate.
10. Strengthen the monitoring of Essential Medicines (tracking key indicator medicines).

Build the capacity of health workers and general public on rational use of medicines (RUM)

1. Review of formulary and guidelines, national drug policies and other reference material related to RUM.
2. Sensitize training institutions and health workers on formulary and guidelines, policies and other reference material related to RUM.
3. Review pre-service curricula to incorporate RUM.
4. Develop a communication strategy on RUM.
5. Build capacity (health workers and laboratory infrastructure) for quality control of medicines at Pharmacy, Medicines and Poisons Board.

Improve financing mechanisms for Essential Medicines

1. Advocate for an increased drug budget.
2. Advocate for free supply of some Essential Medicines (e.g. family planning commodities) for districts (waiving the CMS fee).

Implementation arrangements

The MoH, in particular the Pharmaceutical Division, will coordinate and provide guidance on procurement and distribution of medicines within the health system. The Central Medical Stores will be responsible for procurement and distribution of medicines at all levels including ensuring rational use. The DHO shall be responsible for the purchase of Essential Medicines from the CMS. The Pharmacy Board will be responsible for monitoring the quality of medicines and health supplies.

5.2.2.3 Essential medical devices (medical equipment)

Strategies and interventions

To facilitate availability of safe medical and laboratory equipment at all levels of service delivery

1. Standardise equipment for each level of health care delivery including branding of equipment.
2. Build capacity of medical equipment and infrastructure maintenance services.
3. Review Physical Assets Management (PAM) policy and disseminate the revised policy.

Strengthen capacity of maintenance services

1. Upgrade engineers, physicists and technicians.
2. Improve spare parts procurement and management systems.
3. Carry out planned preventive and corrective maintenance that is quality assured, regular and comprehensive. Construct and equip standard workshops for district and central hospitals.

Strengthen physical assets management information systems

1. Train maintenance staff on Planning and Management of Assets in the Health Sector (PLAMAHS) software.
2. Train other stakeholders on PLAMAHS software.
3. Conduct regular inventories of all medical equipment

Strengthen the organisation and management of equipment

Review responsibility for technical and administrative management of infrastructure and equipment (as part of functional review).

5.2.2.4 Diagnostics and support for patient management

In order to ensure availability of diagnostic services for EHP services delivery the Plan will focus on: building capacity in diagnostics; training staff; improving staffing levels; having adequate and standardized equipment, and mobilizing resources for the sector.

Laboratories

Objective: *To provide high quality laboratory services to support the effective delivery of the EHP at all levels of health care.*

Strategies and key interventions

Strengthen the organization and management of laboratory services

1. Introduce the accreditation and licensure of laboratories in accordance with international standards.
2. Review responsibility for administrative and technical management of the medical diagnostics and public health laboratory services (as part of functional review).
3. Train laboratory managers/supervisors at the zonal level in management.
4. Promote collaboration between private medical laboratories and MoH.

Improve blood transfusion and blood safety

1. Provide budgetary support for Malawi Blood Transfusion Service (MBTS) for blood safety activities (recruitment and retention of voluntary, non-remunerated blood donors; blood testing; blood cold chain; quality assurance, and appropriate use of blood and blood products).
2. Publish and disseminate the Blood Policy and the Guidelines on Recommended Practice for Blood Transfusion in Malawi.
3. Devise and implement strategies which increase the proportion of voluntary, non-remunerated blood donations.
4. Improve quality assurance programs and blood safety training to ensure quality blood transfusion services.
5. Build capacity for blood safety and quality transfusion services.

Microscopic analysis of CSF

Strengthen supply chain management

1. Disseminate guidelines on standardization of equipment to stakeholders and CMS Develop a laboratory management information system, and revise the current logistics management system to ensure the integration of health and laboratory commodities.
2. Design a Laboratory Logistics System.
3. Update the laboratory pre-service training curriculum on laboratory logistics and supply chain management, and conduct TOT on logistics management for tutors.
4. Designate a laboratory officer to assist with the management of laboratory commodities at CMS.

Improve quality management systems

1. Implement the National Laboratory QA Framework, including the identification of a National QA Officer.
2. Introduce a system for national certification of medical laboratories.
3. Strengthen capacity of the Public Health Reference Laboratory at CHSU, including renovations, equipment, personnel and training, so that it will become the focal point for all QA activities.
4. Finalize and disseminate SOPs, QA guidelines, Safety guidelines, and Good Clinical Laboratory Practice (GCLP), and train laboratory personnel to apply these provisions.

Improve service delivery

1. Rapidly scale up laboratory services at each level of the health care system for screening, diagnosis, confirmation, and monitoring patients on treatment.
2. Strengthen capacity and functions of the National Public Health Reference Laboratory.
3. Strengthen national systems for sample transportation, referrals and reporting of results.
4. Standardize test menus across tiers of laboratories.
5. Improve the physical laboratory infrastructure through building and refurbishment according to agreed national standards.
6. Improve availability of appropriate rapid diagnostic tests, especially at peripheral levels.

Strengthen the Laboratory Management Information System, and research and surveillance

1. Develop a system for effective collection and analysis of laboratory data.

2. Monitor laboratory performance and implementation of strategic plan.
3. Strengthen capacity and functions of the National Public Health Reference Laboratory.
4. Strengthen laboratory capacity to contribute to research.
5. Strengthen and sustain laboratory services to ensure evidence-based disease surveillance and response.

Radiology

Objective: *To ensure the availability of high quality medical imaging services in support of the EHP at all levels of health care.*

Strategies and interventions

Build capacity of medical imaging personnel in routine and specialized services

1. Expand training to increase the number of medical imaging personnel.
2. Introduce a degree course in medical imaging in Malawi.

Create adequate space, conforming to international standards, so that medical imaging personnel can manoeuvre equipment and provide requisite quality services

Construct and/or refurbish medical imaging infrastructure according to set standards.

Improve capacity to provide medical imaging services

1. Maintain medical imaging equipment.
2. Purchase medical imaging equipment.
3. Explore technological advances in medical imaging and possibilities for adaptation to Malawi's situation.

Institute and continuously monitor radiological standard operating guidelines, to ensure adequate and proper use of medical imaging equipment

1. Develop a mechanism for monitoring medical imaging equipment.
2. Institute radiation protection and proper disposal of radiological waste materials to protect staff, patients, the public and environment.
3. Initiate and maintain a functional system for effective radiation protection.
4. Provide and maintain appropriate infrastructure for disposal of radiological waste materials.

5.2.2.5 Hospital Reform

A number of hospital reforms have been suggested for introduction over the period of the HSSP, in order that central hospitals (CH) should run more efficiently and effectively. In particular, the reforms detailed below will help to ensure that CHs provide tertiary level services as defined in the EHP (see Annex 9) in an efficient and equitable manner. While some suggested hospital reform interventions are directed at lower level facilities (district and community hospitals and health centres), their main aim is to ensure that central hospitals deliver services efficiently. For example, urban health centres will be strengthened in order to decongest central hospitals.

Objective: *To ensure that central hospitals provide equitable access to quality tertiary health care for all Malawians.*

Strategies and key interventions

Strengthen quality of care for referral level patients

1. Establish gateway clinics at CHs to be managed by DHO.
2. Build capacity in urban health centres to provide comprehensive ambulatory care.
3. Advocate for the creation of district hospitals in the urban settings where there is a central hospital.
4. Develop clinical guidelines, protocols and procedure manuals.
5. Monitor adherence to guidelines and protocols governing clinical standards through supportive supervision and mentoring.
6. Compile inventories of hospital equipment by area and status, and improve maintenance of infrastructure and equipment.
7. Provide an effective emergency ambulance system.
8. Develop and implement Service Level Agreements and performance management systems.

Improve use of public resources in an efficient, effective, accountable and transparent way

1. Improve central hospital information systems, including key performance indicators.
2. Orient cost centre managers on accountability and responsibility.
3. Computerize accounting and financial systems.
4. Standardize medical equipment.
5. Improve personnel management systems.
6. Improve security, storage and the dispensing environment for EMS.
7. Design and develop a computerized pharmaceutical management system.
8. Advocate for the increased autonomy of CHs.

Mobilise additional resources for tertiary level facilities

1. Develop a new revenue management system for tertiary facilities.
2. Revise patient fees based on re-costing of services and ability to pay.
3. Establish guidelines for collection and use of “user fees” and submit for approval by Treasury.
4. Refurbish private wards.
5. Advocate for and develop and implement an incentive system to improve revenue generation.
6. Inform public hospital users about private wards.
7. Initiate dialogue with private health insurance companies, with a view to signing agreements with them.

Create an enabling environment for improving quality of care and management in central hospitals

1. Take lessons learnt from the field for evidence-based decision making with regard to hospital reform.
2. Conduct operational research to improve service delivery.
3. Develop networking with partner institutions within and outside Malawi so that they learn from each other.
4. Develop a hospital reform policy.

5. Develop a communication strategy on the need for hospital reform to be used with decision makers, the public, staff, etc.
6. Improve capital investment planning (offices, accommodation for staff, etc.) for central hospitals.
7. Advocate for sufficient funding and adequate HR for central hospitals.
8. Improve relationships between CHs, training institutions and research centers.
9. Develop and implement clinical and nursing care standards.

Implementation arrangements

The Directors of the CHs will be responsible for implementing the hospital reform agenda in conjunction with the Department of Planning and Policy Development, the Directorate of Clinical Services and the Department of Nursing. The Department of Planning and Policy Development, the Department of Human Resources and other relevant departments will work with the DHOs in order to strengthen the urban health centres so that CHs are not congested. In addition to this, gateway clinics will be established at the CHs which will be run by the DHOs.

5.2.2.6 Quality assurance

Quality assurance cuts across all the components of the HSSP. However, quality improvement in the health sector in Malawi is hindered by poor facilities, lack of equipment, lack of qualified human resources, and weak management. The health sector has already started addressing these issues and specific strategies and key interventions have been designed to improve quality in the delivery of EHP services.

Objective: *To develop and implement a comprehensive approach to quality improvement at all levels for effective service delivery.*

Strategies and key interventions

Improve the policy environment for implementing quality improvement interventions

1. Review the National Quality Assurance Policy.
2. Development a 5 year comprehensive strategic plan for quality improvement.

Improve quality in standards and accreditation

1. Develop/revise and systematically introduce clinical midwifery and nursing guidelines/pathways for the conditions included in the EHP.
2. Define minimum norms for infrastructure, staffing, Essential Medicines and consumables, equipment and budgets.
3. Establish a continuous Monitoring & Evaluation and reporting system on service quality indicators (processes, outputs and outcomes).
4. Develop and implement a licensing/accreditation system for health facilities.

Improve performance management

1. Strengthen M&E of internal performance at all levels through the use of standardized and harmonized tools.
2. Support efficient resource management (through M&E and reporting).

3. Establish QI (Quality Improvement) Teams at all health facilities and zones.
4. Conduct training on M&E of service performance and on specific audits and research, e.g. on maternal mortality.
5. Introduce a staff appraisal and incentive system that includes Performance Related Pay.
6. Explore possibility of Output Based Financing for public and private providers through SLAs.
7. Institutionalize the concept of a Service Charter in all facilities, units and departments.

Improve client and provider satisfaction

1. Conduct client satisfaction surveys in a systematic way, focusing on the client's perception of: waiting time and staff attitude, availability of Essential Medicines and consumables, appropriateness of user fees, and quality of care in general.
2. Ensure that quality deficiencies identified through surveys are addressed
3. Train staff on client/provider interpersonal relationships, and on professional ethics.
4. Pay special attention to providing health workers in remote areas with appropriate working conditions, such as staff accommodation and other facilities, uniforms and incentive packages.
5. Establish and support health centre committees.
6. Set up customer complaints desks so that concerns can be addressed.
7. Carry out periodic external reviews.

Implementation arrangements

The health sector has a Quality Assurance TWG which will continue coordinating and providing guidance on quality assurance issues within the health sector. For the time being the Department of Planning and Policy Development, the Department of Clinical Services, the Department of Nursing Services and Health Technical Support Services will take the lead in the development of policies, standards and guidelines on quality assurance and they will ensure that all stakeholders at different levels adhere to set guidelines and standards. Each department at headquarters and all service delivery points will have a focal person for QA. The ultimate aim will be to create a Secretariat within the MoH Headquarters, attached to the PS, which will coordinate quality assurance within the health sector. The ZSHO will provide technical support to districts to ensure that quality standards are adhered while DHOs will ensure that this is done at district and lower levels. CHAM and professional associations, namely the Medical, the Nursing and Midwifery and the Pharmacy Councils will be involved in implementing interventions for quality improvement at various levels, including an accreditation system for all facilities.

5.2.2.7 Financial Management

Significant progress has been made in financial management over the period of PoW 1. This is evidenced by the fact that the health sector has embraced the advent of external audit by local firms of Chartered Accountants, and has risen to the challenge. Audit reports for all years have been issued without any qualification, that is to say auditors have certified that the financial statements have fairly recorded the income and expenditures of the health sector without any qualifying remarks. That said, in the normal way of audits, health sector auditors have continually noted areas in which improvements can be made, and financial

management strengthening strategies indicated in this document focus upon those areas. Challenges therefore remain and Chapter 2.7.7 has highlighted some of them.

MoH recognizes the value of oversight and audit, and welcomes both. However, capacity of the Finance Section is continually challenged by the poor alignment of HDPs with financial systems and the associated ad hoc collection of oversight arrangement and audits which are not harmonised, time wasting and often duplicative. A major effort over the next five years will be to minimize the oversight burden without compromising the quest for continuous system strengthening. In its reform process MoH will seek to observe the first Public Financial Management (PFM) reform principle as set out in the recent Public Expenditure and Financial Accountability (PEFA) report: that it is better to devote time, effort and resources to getting existing systems, processes and practices working better, since often there is a sound system in place but for various reasons, it is not working properly.

The MoH will continue improving financial management by adhering to financial management rules and regulations of the GoM and at the same time ensuring transparency and accountability. During the course of HSSP the Financial Management Improvement Plan (FMIP) will be regularly revised and monitored through the Finance and Procurement Technical Working Group. A revised FMIP is expected at the beginning of the 2011/12 Financial Year. The FMIP will detail interventions in financial management and indicate the responsible officers or units. It will provide indicators to support the monitoring process. The following interventions, to be implemented over the next 5 years, will help to address the challenges MoH is experiencing.

Objective: *To design and implement transparent and user-focused financial management systems to serve the needs of all SWAp stakeholders.*

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Improve budget execution

Review the causes of under-execution (poor availability of funds, delays in procurement, over-ambitious plans, etc.) and take appropriate action.

Strengthen the capacity of staff

1. Improve staffing levels for the Finance Section and all cost centres In collaboration with the Accountant General's Department (AGD), develop and maintain task-focussed financial management manuals for HQ, Districts and other Cost Centres, which are consistent with the GoM financial management framework, legislation and regulations.
2. In collaboration with AGD, develop a six-pronged training strategy which:
    - Emphasises task-focussed training for financial and non-financial staff, both in-house and at the Staff Development Institute (SDI), guided by an annual training plan;
    - Supports training through a systematic process of supervision;
    - Supports staff to acquire practical further education e.g. polytechnic certificates or diplomas, or in exceptional cases, Masters degrees;
    - Monitors the transfer of skills from TAs (Technical Assistants);
    - Supports staff to gain professional qualifications such as AAT or ACCA and retain such staff within MoH;
    - Includes refresher training courses on practical issues affecting accounting and financial reporting.

3. Monitor the effectiveness of different training approaches and prioritise those which produce the best results.
4. Ensure that staff are properly equipped with IT hardware and software, including anti-virus software regularly updated, reliable internet in all locations, and a continuous power supply.

Strengthen financial reporting

1. Continue to improve the format of the Financial Management Report (FMR) so that it is increasingly informative and user friendly, ensuring that it can be produced in its entirety within MoH (without consultant input).
2. Adopt all IFMIS improvements as soon as they are available and maximise their use, including the new Chart of Accounts with multi-part code (which is to be revisited).
3. Explore ways to generate useful management information from IFMIS including activity costing related to the EHP, and financial data to be used in analysis of key expense areas such as transport costs and allowances.
4. Introduce effective output accounting to assess the impact of the PoW.
5. Disseminate financial information more widely to users including through the MoH Intranet (to be established).
6. Support AGD to develop a set of standard reports in IFMIS suitable for sector management.
7. Engage fully with the IPSAS pilot to secure early benefits for MoH.

Improve the flow of funds at all levels

1. Monitor the flow of funds in a systematic manner, especially to rural health centres, community hospitals and CHAM.
2. With MoF and NLGFC, explore the possibility of transferring funds directly to rural health service delivery points at sub-district level, to ensure adequate within-district availability of funds.
3. Engage with MoF and NLGFC to secure a smoother flow of funds throughout the year in accordance with cash flows submitted.

Strengthen grant management and liaison with Development Partners

1. Create a financial management environment that encourages DPs to pool funds.
2. Minimize separate/parallel financial reporting and audits, through a series of measures including:
    - Development of an audit protocol and guidelines for carrying out audits in the health sector;
    - Continued sensitisation of Development Partners to the burden created in the health sector by uncoordinated, duplicative and unplanned audits;
    - Ensuring that the provisions of the MOU set out a sufficient but appropriate audit regime;
    - Including indicators for audit rationalisation in the FMIP.
3. Communicate regularly with DPs through regular Finance and Procurement TWG meetings (at least every other month).

Strengthen financial management in districts and central hospitals

1. Liaise with NLGFC and DCs to ensure a coordinated approach in the districts.

2. Institutionalize the coaching program and in the short term arrange for MoH staff take part in coaching visits, so that such staff can carry on coaching visits.
3. In the longer term, identify HQ staff to work as district and central hospital support.
4. Ensure the constant use of the FM Guidelines and related training programs.

Implementation arrangements

The health sector will follow the financial management systems and financial reporting procedures of the GoM as detailed in the laws of Malawi. Where necessary financial management procedures will also follow guidelines provided by HDPs. In order to effectively implement the rules and regulations guiding financial management and reporting the MoH shall train or orient health workers and finance staff in financial management and reporting. The Internal Audit Department in the MoH shall provide objective audit services to the MoH and mechanisms will be put in place in order to ensure that these are adhered to. There will be periodic external audits in the MoH by independent auditors. The District Commissioner shall account for district expenditures at the district level while the Secretary for Health will be responsible for expenditures at national level (including the ZHSOs) and central hospitals. The HSSP audits shall be fully endorsed by the NAO.

On expenditure tracking, this HSSP acknowledges the critical importance of tracking disbursed funds and distributed resources (medicines and medical supplies) to ensure that they reach service providers at district and sub-district health facility levels in a timely and predictable fashion, and that they support specific programs at district level. With this in mind, the forthcoming FMIP will include proposals for institutionalized internal tracking of funding based upon regular reporting and periodic visits. Proposals for the tracking of medicines and medical supplies appear in Chapter 5.5.2 of this HSSP. Additionally, tracking of funds and resources will be specifically addressed in the forthcoming study of Results Based Financing.

5.2.2.8 Oversight and fiduciary risk

The health sector will continue its efforts to mitigate fiduciary risks and to strengthen financial management, and fiduciary oversight at all Cost Centres. The primary controls in this will come from close adherence to procedures in financial management as well as procurement; and from stronger supervision to ensure compliance with laid down procedures for the proper management of budgets, the scrutiny of transactions, and timely financial reporting. Ministry of Health, working together with officers of National Local Government Finance Committee, will devise routines for internal scrutiny and reporting at Cost Centres, and a schedule of regular monitoring visits to document shortcomings and improvements. These procedures, together with measures to raise the skill levels and understanding of finance staff, will be specified in the forthcoming FMIP and its successor plans. These efforts will be supported by coordinated, risk-based examinations of activity from both Internal and External Audit, and the strategies for strengthening these functions are outlined below.

5.2.2.9 Internal Audit

Internal Audit is a central part of the fiduciary oversight process. The health sector is audited by Central Internal Audit (MoF), Ministry of Health Internal Audit, and District Internal Audit (for DHOs). The proposals indicated below are intended to strengthen MoH Internal Audit and to ensure that its efforts are better coordinated with District Internal Audit:

Strategies to strengthen Internal Audit in MoH

1. Ensure a full complement of Internal Audit staff, including 50% graduates, by 2016.
2. Provide computers with full virus protection and MS Office for all professional staff.
3. Explore the usefulness of dedicated audit programs, and if acquired, provide training.
4. Provide urgent training in Excel and IFMIS, and also develop internal task-focussed training.
5. Engage with MoLGRD, NLGFC, DPSM and DCs to ensure and agree an effective Internal Audit approach for health that recognizes the new dispensation under devolution, and includes full collaboration with District-based IA.
6. Regularly review the vehicle needs for HQ IA.
7. Monitor more closely the development and implementation of IA plans on a quarterly basis through a revived Audit Committee. Review the plans to ensure that they are justified by a sound analysis of risk.
8. Extend the activities of Internal Audit into non-financial areas such as supply chain management, transport management and plan implementation.

5.2.2.10 Procurement

The procurement capacity in the MoH is quite limited, as has been highlighted earlier. This is exacerbated by the commissioning of multiple audits by different partners. The interventions proposed here are aimed at building capacity within the MoH for procurement and also ensuring that the recommendations made in the 2009/2010 external procurement audit are implemented. There will also be a need to practice the current single source procurement (branded names) for essential medical equipment to ensure safety and reliability for patients and staff.

Improve the internal procurement Standard Operating Procedures (SOPs) and processes for health sector procurement

1. Review and adapt the guidelines to suit the current ODPP guidelines for the Health Sector. Disseminate the revised guidelines to Cost Centres.
2. Review and redesign policies on emergency procurement of Essential Medicines and Supplies by CMS, central and district hospitals.
3. Streamline procedures for procurement and reporting for different SWAp pool partners.
4. Advocate for a single procurement audit report that will address the needs of all donors.
5. Revisit and revise VFM bidding and evaluation criteria.

Enhance professional procurement capacity at all levels of the health system

1. Lobby and recommend that procurement officer posts be created in all Departments.
2. Develop a plan of work to implement recommendations made by the 2009/2010 external procurement audit.
3. Finalise the work plan for capacity building for the Procurement Unit.
4. Strengthen the capacity of the Procurement Unit through the provision of technical assistance.

Implementation arrangements

Procurement in the health sector will be governed by the Public Procurement Act and the Public Procurement Regulations (2004) which operationalise the Act. Where necessary the

sector shall also ensure that procurement guidelines provided by donors are adhered to. The health sector shall procure goods and services in a transparent and accountable manner. A procurement plan will be developed, with approval by senior management and parliament, as part of the budget during the annual budget process. This will be endorsed by the Health Sector Working Group and progress reviewed by senior management and the Budget Review Committee, which meets every six months. Progress with the procurement plan will be reported on during the mid-year and annual reviews.

5.2.2.11 Monitoring, evaluation and surveillance

Over the period of the HSSP the MoH and stakeholders will ensure that monitoring, evaluation and epidemiology (including surveillance) are strengthened, and that the functionality of the HMIS will be improved.

Objective: *To provide reliable, complete, accessible, timely and consistent health-related information, and ensure that it is used for evidence-based decision making at all levels of the health system.*

Strategies and key interventions

Strengthen the Health Information System (HIS) policy and legislative environment

1. Review, print and disseminate Malawi's community-based HIS policy.
2. Develop and disseminate the ICT policy for the health sector.
3. Implement a comprehensive M&E strategic plan for the health sector.

Build the capacity of the health sector to effectively generate, manage, disseminate and utilise health information at all levels of the sector for programme management and development

1. Undertake a functional review of the Central Monitoring and Evaluation Department (CMED).
2. Fill the vacancies (including HIS personnel) at CMED, district and health facility levels.
3. Set up a National Public Health Institute (NPHI) at CHSU with leadership for epidemiology and surveillance in Malawi's health sector as one of its core functions.
4. Strengthen Malawi's approach to vital registration and mortality surveillance.
5. Provide the necessary tools (computers and software, data collection forms, etc.) for data collection, analysis and reporting.
6. Train health workers at all levels in computer skills, data collection, entry, analysis, report writing and monitoring and evaluation.
7. Work with training institutions to introduce HMIS into pre-service training curricula for health workers.
8. Mobilise adequate resources for M&E activities.
9. Conduct routine validation of data and audits.
10. Promote utilisation of data for evidence-based decision making at points where data is generated.
11. Develop and provide guidelines for data utilisation.

Strengthen monitoring and evaluation together with epidemiology and surveillance systems for Malawi's health sector

1. Develop a health sector performance framework to monitor the performance of the sector.
2. Support population based surveys such as the DHS and ensure they are conducted in a timely way so that appropriate data for planning and management is available.
3. Strengthen epidemiology and surveillance programs including Integrated Disease Surveillance and Response (IDSR) within CHSU, or within a newly established National Public Health Institute (NPHI) at CHSU.
4. Develop HMIS sub-systems.
5. Develop a hub for Health Information System data in MoH/CMED.
6. Supply MASEDA (http://www.maseda.mw/) with timely and accurate health, population and demography data.
7. Develop and maintain a National Health Observatory.
8. Conduct annual health sector reviews, continuously improving their quality.
9. Establish electronic connectivity to and from health facilities.
10. Extend the HMIS to the private sector, conditional upon compliance with reporting requirements.
11. Establish and operationalise the linkage between the community-based Health Information System and the HMIS.
12. Promote the collection of vital information by the HSAs.
13. Develop and implement an incentive mechanism for achievers to be recognised.

Implementation arrangements

The Department of Planning and Policy Development will have the overall responsibility for coordinating, monitoring and evaluating the progress made in the implementation of the HSSP. Within this department, the CMED will be responsible for the production of quarterly, biennial and annual reports using data from HMIS. The SWAp secretariat will have responsibility for producing the annual health sector performance report which shall be deliberated during the Joint Annual Review meeting held in October of each year. In addition to HMIS data, other data will be sourced from surveys conducted by stakeholders such as NSO and the University of Malawi. Annex 12 shows the list of indicators that has been agreed upon by the stakeholders to monitor sector performance.

5.2.2.12 Research

Research is an important component of the HSSP as it will generate evidence to be used to inform the development of policies and interventions. The MoH will play an important role in terms of developing and implementing the national health research agenda. Under the leadership of the National Commission for Science and Technology, and with support from DFID and the Wellcome Trust, the health sector will continue implementing the activities under the Health Research Capacity Strengthening Initiative (HRCSI).

Objectives: *To coordinate and regulate health research in such a way that it generates information that will inform policy development and evidence-based decision making in programme implementation.*

Strategies and key interventions

Build capacity for high-quality health research at all levels

Train DHMTs and program staff in research methods applied to health systems and public health.

Strengthen the governance and stewardship role of the Ministry over the conduct of health research

1. Implement the National Health Research Agenda.
2. Develop and implement a National Health Research Policy based on priority health problems and areas of the health system.
3. Support the National Health Sciences Research Committee (NHSRC) in the review and approval of research proposals.
4. Set up a National Public Health Institute (NPHI) at CHSU with leadership over public health research as one of its core functions.
5. Ensure that all health research institutions sign MoU's with the Ministry of Health.
6. Support the conduct of regular inspections and monitoring visits of all health research institutions.

Mobilize resources for health research

Advocate, as a ministry, for 2% of the national health budget to be spent on research, in line with the recommendations of the Commission on Health Research for Development (COHRED), and as endorsed by Ministers of Health in Abuja (March 2006), Accra (June 2006), Algiers (June 2008) and Bamako (November 2008).

Promote the utilization of research findings for policy and programme formulation

1. Create a website for the Research Unit and NHSRC.
2. Establish a health policy analysis unit which will produce policy briefs and newsletters for the MoH.
3. Develop leadership for the integration of public health research into policy formulation and program planning within the new Malawi NPHI.
4. Organize annual conferences for the dissemination of health research findings.
5. Promote evidence-based policy debates.
6. Coordinate the research activities being undertaken by various departments within the ministry.

5.2.3 Objective 3: Reduce risks to health

Public health carries out its mission through organized, multi- and inter-disciplinary efforts that address the multiple determinants of health (biological, behavioural, environmental, socio-cultural, and living and working conditions, among others) in communities and populations at risk of disease and injury. Its mission is achieved through the application of health promotion and disease prevention technologies and interventions designed to improve and enhance quality of life. Health promotion and disease prevention technologies encompass a broad array of functions and expertise, including the three core public health functions: (i) Assessment and monitoring of the health of communities and populations at risk in order to identify health problems and priorities; (ii) Formulating public policies, in collaboration with community and government leaders, designed to prioritize and solve identified local and national health problems; and (iii) Ensuring that all populations have

access to appropriate and cost-effective care, including health promotion and disease prevention services, and evaluation of the effectiveness of that care.

5.2.3.1 Health promotion

The majority of Malawi's EHP conditions are preventable as they are caused by poor hygiene and sanitation among other factors, and all these factors are exacerbated by the high prevalence of poverty. Effective preventive measures do exist for such diseases as malaria, ARIs, diarrhoea, AIDS and vaccine preventable diseases. The strategies and key interventions identified in the HSSP address barriers to the uptake of healthy behaviours and encourage timely access to health services and products. The determinants of good health are addressed through advocacy, the encouragement of community and stakeholder participation in tackling risk factors, and mediation between different interests in society[46].

Objective: *To promote healthy lifestyles and living and working conditions*

Strategies and interventions

Create supportive environments by promoting healthy public policies and other initiatives

1. Advocate for the review, development and implementation of specific healthy public policies based on EHP priorities (including legal instruments and regulations that affect gender equity and the health of marginalised populations).
2. Advocate for systematic assessments of the health impact of rapidly changing environments, including the areas of technology, working practices, sources of energy, commercial production and urbanisation.
3. Advocate for proper strategies to ensure that the environment is contributing towards good health.
4. Develop and implement national standards and guidelines for the design of health promotion strategies and interventions for EHP priorities, based on geographical targeting and segmentation of key populations to be reached.
5. Develop national communication strategies that reflect integrated approaches to addressing EHP priorities at all levels

Promote community action and participation

1. Develop and disseminate a community participation policy.
2. In conjunction with other partners, civil society, NGOs and other Ministries, support community action interventions to address the determinants of health (based on EHP priorities) by working with existing structures, such as village, area and district development committees using the 'healthy settings' approach[47].
3. Integrate resources from specific health programs in order to sustain community based workers and volunteers, and clarify their roles.

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[46] Ottawa Charter for Health Promotion First International Conference on Health Promotion Ottawa, 21 November 1986 - WHO/HPR/HEP/95.1

[47] These committees will assess /profile village/town/urban settings, set priorities, make decisions, plan strategies and implement them to achieve better health for themselves using both the existing human and material resources, and identify areas for support.

4. Train community based workers in health promotion.
5. Advocate for a special focus on understanding and advising on the gender issues that may impact on health and require attention in the delivery of health care services.
6. Advocate for the development of bye-laws at district and community level that would empower communities to take certain actions for the sake of their own health and to demand services that they believe are important.
7. Promote community participation in DIP development, monitoring and evaluation.

Promote personal skills

Health promotion supports personal and social development through providing information, education for health, and enhancing life skills. By so doing, it increases the options available to people to exercise more control over their own health and over their environments, and to make choices conducive to health[48].

1. Promote healthy lifestyles based on global and national evidence in order to prevent communicable and non-communicable diseases[49].
2. Advocate for personal strategies to enable people to learn throughout life, to prepare themselves for all the stages of life and to cope with chronic illnesses and injuries.
3. Work with relevant multi-sectoral committees to promote healthy diets and physical exercise.

Reorientation of health services

The role of the health sector is now moving beyond the traditional curative health service delivery model to an expanded mandate, where at all levels healthier lifestyles and living conditions are promoted, and links are made with other sectors that impact on the determinants of health.

1. Ensure health promotion permeates all entry points to health care delivery, i.e. training of health workers, review of curricula, screening in health facilities and communities.
2. Strengthen community engagement with health care delivery to ensure that health services are responsive to community needs both in facility and community settings.

Enabling structures for health promotion delivery

1. Strengthen and position the Health Education Unit (HEU) to effectively manage the significant roles identified in the HSSP.
2. Establish and sustain an inter-sectoral National Health Promotion Committee that will give guidance to the HEU.
3. Establish multi-sectoral structures for coordinating health promotion planning and implementation at all levels.
4. Advocate for the inclusion of health in all policies of the public, private and CSO sectors.
5. Strengthen the capacity for health promotion among all cadres, including strategic planning, design, and monitoring and evaluation of health promotion actions
6. Identify research priorities that impact on the planning and effective delivery of health promotion.

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[48] Ottawa Charter for Health Promotion First International Conference on Health Promotion Ottawa, 21 November 1986 - WHO/HPR/HEP/95.1

[49] The promotion of healthy lifestyles shall be based on the harmful use of alcohol, drinking and driving, safe sex, physical exercise, tobacco, health hazards, healthy diets and food security, road safety, among others.

Implementation arrangements

Health promotion will be implemented at a number of levels. Recognizing that health promotion is multi-sectoral, the Health Education Unit at MoH headquarters shall work with programs and various stakeholders to develop standards, guidelines and communication strategies. The HEU will then support them being put to use by the programs, districts and partner implementing agencies including public, not-for-profit and for-profit organizations and the private sector. This will entail establishing multi-sectoral coordination bodies at national, district and community levels to define key strategies based on situational analysis and formative research. Moreover, interventions and communications products that are developed will be reviewed by the appropriate committees, using guidelines governing the implementation of healthy settings, and will be monitored for impact.

District health teams (especially Environmental Health and Health Education officers) will be responsible for ensuring that health promotion is an integral part of the District Implementation Plan (DIP) and the District Development Plan (DDP), based on priority areas and local epidemiology of diseases and, for lifestyle interventions, on particular target groups. This will include advocating for healthy public policies at district and community level through the development and enforcement of bye-laws. All health workers at district, health centre and community level will ensure that screening for priority diseases and conditions shall take place at service delivery points as appropriate.

The Assistant Environmental Health Officers will support the HSAs and VDCs in the implementation of healthy settings programmes. At community level, HSAs, Village Health Committees (VHCs), organizers of Drug Revolving Funds, volunteers and other community based workers across sectors shall work through all settings and committees (villages, health centres, households and individuals) to promote healthy lifestyles and healthy environments. HSAs will be oriented in health promotion; they will be responsible for training VHCs and making sure that they remain functional.

5.2.3.2 Environmental health

Environmental factors contribute significantly to the burden of disease. As an integral part of Health promotion strategies during the HSSP implementation period efforts will be made to provide adequate resources, both human and financial, for environmental health interventions as specified below. Special attention will be given to water and sanitation (e.g. improving the quality of drinking water) and to food safety and hygiene.

The impact of climate change on the environment has an influence on health and the Ministry of Health will be strengthening the monitoring and response to disease through Integrated Disease Surveillance and Response (IDSR) system as mentioned below. Also, the health component in Environmental impact assessments will be strengthened.

Objective: *To reduce morbidity and mortality associated with environmental and related factors.*

Strategies and key interventions

To reduce the incidence of food borne diseases

1. Conduct food inspection and auditing of food premises.
2. Conduct routine medical examinations of food handlers.

3. Establish mechanisms for food testing.
4. Conduct investigations and encourage reporting of food borne diseases and food poisoning incidents.
5. Train owners of food premises in FSH standards.
6. Conduct monitoring of salt iodisation.
7. Conduct monitoring of compliance with the code on marketing of breast milk substitutes.

To reduce the incidence of water and sanitation related diseases

1. Conduct water chlorination at household level.
2. Conduct testing of water quality.
3. Detect and report diseases related to Water, Sanitation and Hygiene (WASH).
4. Conduct promotional activities for WASH, including hand washing.
5. Advocate and work with relevant stakeholders (e.g. Ministry of Agriculture, Irrigation and Water Development) to improve access to safe water and proper sanitation.

Strengthen the response to disasters and emergencies

1. Monitor community health status and proactively identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Strengthen epidemiology and surveillance capacity at national level.
4. Strengthen public health assessment and response capacity at district and zonal levels.
5. Develop guidelines for emergency assessment and response at community, district and national levels.
6. Train existing committees on the above guidelines.
7. Establish a national health coordinating committee for disaster assessment and response.
8. Strengthen cross-sectoral planning and coordination for emergency response.

Improve the management of health care waste in health facilities

Conduct management of health care waste according to set standards[50].

Promote sustainable vector control methods

1. Conduct Larvaciding.
2. Advocate for clearing of mosquito breeding sites.
3. Monitor mosquito breeding sites.

Reduce trans-boundary transmission of diseases

1. Conduct health checks at all border posts.
2. Vaccinate unvaccinated immigrants.

Implementation arrangements

The responsibility for environmental health issues does not lie with the Ministry of Health alone. There are many CSOs and other government Ministries and Departments that play an important role in addressing environmental health problems in Malawi. The MoH will spearhead the development of strategic alliances with the Ministry of Natural Resources, Energy and the Environment and other stakeholders to see that interventions addressing environmental health are implemented. The MoH will ensure that a multi-sectoral approach

[50] National health care Waste management policy is in the process of being finalized.

is used in addressing these issues and that relevant line Ministries (such as Ministry of Agriculture, Irrigation and Water Development, Ministry of Labour, Ministry of Natural Resources), development partners and CSOs shall participate in implementing the proposed interventions.

At national level, the Directorate of Preventive Health Services and relevant stakeholders shall share responsibility for coordinating environmental health interventions. Special attention will be given to: developing policies, standards and guidelines; providing technical support to districts and lower levels; building the capacity of people involved in the implementation of environmental health interventions; diagnosing and investigating outbreaks through the epidemiology section and the public health laboratories.

At district level, the DHO, especially the District Environmental Health Office, shall coordinate these interventions with other stakeholders. At community level, the HSAs and VHCs shall be responsible for creating awareness about environmental health issues, such as the need for households to have toilets, to properly dispose of their household waste, and related issues.

5.2.4 Objective 4: Improved equity and efficiency of the health system

5.2.4.1 Health financing

The main focus for health financing over the next 5 years will be to: increase the total amount of health funds; improve efficiency, equity and effectiveness in resource allocation; introduce/strengthen innovative purchasing mechanisms; and strengthen national health financing capacities at all levels of the health system.

Objective: *To increase overall financial resources and allocate them efficiently and equitably.*

Strategies and key interventions

Increase overall financial resources in the Malawian health sector

1. Develop and implement a health financing policy and strategy for Malawi.
2. Lobby with Ministry of Finance to increase actual budget allocation to the health sector as a share of total government expenditure in order to meet key international commitments in health care financing, especially the Abuja target of allocating at least 15% of the budget to health.
3. Identify ways of broadening the tax base and non-tax revenues.
4. Lobby with Ministry of Finance to introduce taxes on tobacco and alcohol ('sin taxes') and on environmental pollutants to finance the health sector.
5. Lobby with Ministry of Finance to introduce or replace some fuel levies with a health levy.
6. Lobby appropriate parliamentary committees for increased domestic appropriation.
7. Annually conduct modelling of expected resource needs versus expected resource availability, identifying the resource gap that needs to be filled, and the service priorities for available resources. Present the findings to the Ministry of Finance, donors and all other stakeholders.

8. Lobby with donors to increase their budgetary support for the health sector.
9. Undertake a resource mapping exercise to establish the amount, activities and funding modalities used by government (including MoLGRD), donors, NGOs and other sources, and produce a report for Round Table Resource Mobilization.
10. Conduct comprehensive studies on the modalities of introducing social health insurance.
11. Explore and review the evidence for social health insurance to determine its suitability for Malawi
12. Institutionalise data collection and analysis in support of the health financing policy.

Strengthen Public Private Partnership for health financing and management

1. Investigate the potential and feasibility of using Public Private Partnership to mobilize additional revenues, in particular for infrastructure development.
2. Introduce a Public Private Partnership Unit within the Department of Planning and Policy Development at MoH.
3. Promote private sector investment in health systems such as corporate social responsibility initiatives, employer financed health care, and increasing access to local international capital for private investors in health.
4. Review Service Level Agreements, and evaluate the extent to which they are performance based and have an impact on equitable access to quality health services.
5. Review and strengthen current systems (including guidelines) for fee collection at district and central hospital private wings, retaining fees at the collecting district and central hospitals.
6. Introduce a computer-based financial management system for billing and payment of user fees in all private wings at district and central hospitals.
7. Train staff in fee collection, banking and utilization of proceeds from user fees in private wings of district and central hospitals.
8. Renovate/refurbish private wings in district and central hospitals to attract more paying patients.

Improve efficiency and equity in financial resource allocation and utilization

1. Re-design the resource allocation formula, which should incorporate internationally known proxy indicators of health needs, and use it in resource allocation.
2. Explore the potential for performance based health financing.
3. Undertake detailed studies on unit costs of providing health services in different health services and make comparisons so as to identify efficient and inefficient health facilities.
4. Review and expand by-pass fees from lower level health facilities (health centres, rural hospitals, etc.) to higher level health facilities (district and central hospitals).
5. Investigate the feasibility of direct funds transfer to health centres and rural hospitals and/or splitting the DHO budget into two – a district hospital budget and a budget for peripheral health facilities, including prevention and public health programs.
6. Design a financing mechanism for paying for non-EHP services, and for referrals to private health facilities and abroad.
7. Lobby with donors to pool funds in a basket, moving away from the project funding approach with its “islands of excellence” towards broader support for an integrated budgetary process.

8. Lobby with donors to allocate their funds in line with the SWAp II priorities that reflect the spirit of the 2005 Paris Declaration on Aid Effectiveness, the 2008 Accra Agenda for Action and the Busan Partnership for Effective Development Cooperation.

Strengthen national health financing capacities all levels

1. Train staff at all levels in tools/frameworks used to generate health financing evidence, such as National Health Accounts, District Health Accounts, economic evaluation (cost effectiveness analysis, cost utility analysis, cost benefit analysis), Burden of Disease, Essential Health Package, health financing mechanisms, provider payment mechanisms, etc.
2. Train health workers from both the public and private sectors in order to strengthen health financing structures, processes and management systems. The focus will be on training for revenue collection, pooling and strategic purchasing, through modules on strategic planning, sectoral investment plans, financial management, and information management.

Implementation arrangements

Significant proportions of Malawians are poor and cannot afford to pay for health services. The MoH shall therefore continue providing the EHP services free of charge but will charge user fees in paying wings of central and district hospitals. Over the period of the HSSP patients will have to follow strict referral procedures and where this is not followed a by-pass fee will be charged to patients. The GoM will continue to provide subsidies to CHAM and its institutions. SLAs with CHAM and other private providers will continue in order to ensure that poor people are able to access EHP services. While donors will still constitute a major source of financing for the health sector over the period of the HSSP, GoM will also explore alternative sustainable sources of financing. This is especially important because funding for the sector is already inadequate to effectively implement the EHP services.

5.2.4.2 Partnerships

While acknowledging that the MoH is the major provider of health services, there are also other partners playing an important role, above all the private sector. In order to effectively implement the HSSP, partnerships need to be created and strengthened with the private sector, especially with CHAM, the private-for-profit sector, CSOs and other government agencies. Currently, there are no structures, policies or guidelines giving a framework in which the private sector can work with the public sector. Over the 5 years of the HSSP, the GoM will strengthen partnerships with all stakeholders in order to effectively provide the EHP services and achieve the objectives as set out in this plan.

Objective: *To improve the participation of the private sector in the implementation of the HSSP, with a specific focus on the delivery of EHP services.*

Strategies and interventions

Strengthen the policy environment for effective Public Private Partnership

1. Develop and implement policy guidelines on Public Private Partnership.
2. Disseminate the national policy on PPP at all levels.

Operationalise Public Private Partnership in health

1. Establish structures at national and district levels to coordinate PPP activities.
2. Conduct a partner mapping exercise in all the districts in order to determine those districts and areas which are underserved.
3. Review and sign a new MoU with CHAM regarding delivery of EHP services.
4. Revisit SLAs signed with the private sector in order to get value for money.
5. Explore signing of SLAs with the private-for-profit sector.
6. Develop innovative mechanisms that would attract private-for-profit practitioners to under-served and difficult to reach areas.
7. Develop and train private-for-profit providers to provide HMIS data to CMED.
8. Work with CSOs to strengthen community HIS.
9. Advocate for CSOs' involvement in issues of health rights and awareness-raising on prevention of disease and on disability.
10. Develop, implement and regulate standards for the health promotion activities being implemented by CSOs.
11. Promote, through provision of incentives, delivery of EHP services by private sector.

Strengthen partnerships with government ministries

1. Take every opportunity to raise health issues with when working with other ministries and departments
2. Advocate for inclusion of health in all policies.

Implementation arrangements

The Department of Planning and Policy Development in the MoH shall be responsible for coordinating the creation and strengthening of partnerships with other government agencies, the private sector and CSOs. It will also lead the process of developing policies on Public Private Partnerships for EHP services delivery.

6 GOVERNANCE OF THE HEALTH SECTOR

The implementation of the HSSP will be the responsibility of all health sector partners. The SWAp MoU lays down the coordination mechanisms for the health sector. The GoM has put in place sector Technical Working Groups in all ministries in recognition that better coordination of aid and alignment to government systems enhance efficiency and effectiveness, reduce duplication and ultimately improve health outcomes. This chapter discusses the governance structures for the health sector during the period of implementing the HSSP. Annexes 10 and 11 present these governance structures at both national and district levels.

6.1 Governance structure at national level

The MoH is a government agency that, through its various departments, sets the agenda for health in Malawi in collaboration with stakeholders. It is responsible for developing, reviewing and enforcing health and related policies for the health sector; spearheading sector reforms; regulating the health sector including the private sector; developing and reviewing standards, norms and management protocols for service delivery and ensuring that these are communicated to lower level institutions; planning and mobilizing health resources for the health sector including allocation and management; advising other ministries, departments and agencies on health related issues; providing technical support for supervision; coordinating research; and monitoring and evaluation.

The MoH has established five Zonal Offices, whose role is to provide technical support to District Health Management Teams (DHMTs) in the planning, delivery and monitoring of health service delivery at the district level and to facilitate central hospitals' supervision of districts.

The health sector at national level is guided by the following structures:

- *Cabinet Committee on Health:* The health sector as represented by MoH will work very closely with the Cabinet Committee on Health. This committee will be responsible for providing overall political and policy direction for the health sector in Malawi. It will ensure that the health sector develops and implements health and related interventions to achieve objectives as set out in the Malawi Growth and Development Strategy 2011-2016, the National Health Policy and the Health Sector Strategic Plan.

- *Parliamentary Committee on Health:* The Parliamentary Committee on Health will interact closely with the Senior Management Committee and it will be responsible for lobbying for the health sector in Parliament. In order to do this effectively Members of Parliament will be oriented about the health sector.

- *Health Sector Working Group (HSWG)***:** The HSWG is mandated by GoM as a Sector Working Group and is the overall coordinating body for the sector. Its membership comprises various constituent groups: MoH and other GoM ministries and departments, training institutions, local government, regulatory bodies, research institutions, CSOs, the private sector (including CHAM) and HDPs. These groups are responsible for

ensuring that all their members are consulted and informed of any issues arising from the HSWG. The HSWG will be responsible for endorsing the budget and the Annual Implementation Plan (AIP), overseeing the implementation of the AIP and the HSSP, and recommending policy directions that will be discussed by the Senior Management Committee if there are any policy bottlenecks in the implementation of the HSSP.

- *Senior Management Committee:* This committee will comprise all the Directors and Heads of Departments in the MoH and will be chaired by the Secretary for Health. It meets fortnightly, taking responsibility for final approval of policies and plans and for giving technical advice to the HSWG.

- *Technical Working Groups*: There will be 11 TWGs in the health sector, namely: Finance and Procurement, Hospital Reform, Human Resources (HR), Health Promotion; Public Private Partnerships (PPP); Health Infrastructure; Essential Medicines and Supplies (EMS); QA; Laboratories; Essential Health Package (EHP); and Monitoring, Evaluation and Research. Other TWGs will be established as need arises. These TWGs will be guided by guidelines produced by the Office of the President & Cabinet (OPC). The TWGs will provide guidance to the SMC and will be responsible for following up milestones agreed during the MYR and the JAR.

- *Zonal Health Support Offices:* There will be five ZHSOs, namely North, Central West, Central East, South East and South. These offices will be technical extension offices of the central MoH and will provide supportive supervision to District Health Management Teams in the implementation of the AIP.

The implementation of the interventions within this Plan shall adhere to the SWAp approach which promotes effective partnerships and coordination in all health sector interventions, including financing, planning and monitoring. The SWAp process will be coordinated through a Secretariat headed by a Director within the MoH's Department of Planning and Policy Development. The MoH as a line ministry dealing with health and related issues shall take the responsibility of coordinating the SWAp process with support from all stakeholders. The MoH shall put in place mechanisms that will ensure transparency in the way finances are managed as advocated in this plan.

6.2 Decentralization for the health sector: governance at district level

Cabinet approved the National Decentralization Policy in 1998, and subsequently the Local Government Act was endorsed and local governments were established. Guidelines were developed to further define the roles of District Assemblies in the decentralization process. The health sector was one of the earliest to start the process of decentralization. In 2004 health devolution guidelines were formulated taking into consideration prevailing legislation, the policy framework and available local capacities for implementation of the decentralization process. The guidelines further identified the functions and activities to be devolved to district assemblies, and the role of the central MoH in monitoring and evaluating these devolved functions in terms of the Ministry's overall goals, overarching sectoral plans and policies. In 2005, the MoH developed "Guidelines for the Management of Devolved Health Service Delivery" which envisioned that the managerial autonomy given to District Assemblies will help in achieving improved health outcomes. One of the key challenges with regard to decentralization is weak coordination of decentralization at national level; the

MoLGRD lacks the capacity to closely follow up on local activities. A further challenge is the underfunding of DIPs, and finally, the health sector staff movements tend to affect health services delivery at district level. The MoH is committed to the GoM's process of decentralization and will continue supporting efforts by District Assemblies to be wholly responsible for health services delivery at that level. While the Ministry of Local Government is represented in TWGs, and DCs are invited to attend meetings related to the MYR and JAR, there will still be a need over the period of the HSSP to strengthen this collaboration through joint planning of interventions as well as monitoring the implementation of DIPs. There will also be a need to harmonize the planning documents for MoH and MoLGRD.

6.2.1 Health services planning at district level

This process is effectively done by all local stakeholders at district level, namely DHO, CHAM, NGOs, communities, civil society groups and the private sectors within the decentralised environment. Under full devolution, the planning process is anticipated to be coordinated by the Health Services Directorate in conjunction with the Director of Planning and the Health and Environmental Committee of the District Council, based on planning guidelines issued by Central MoH departments. In addition, Zonal Health Support Offices and the District Health Management Team (DHMT) provide technical support to the District Assemblies during planning, taking into account a review of the DIP implementation, especially outstanding issues. While this is well elaborated in the planning guidelines, a number of challenges remain with regard to planning at district level, including a lack of capacity in health sector planning and frequent changes in planning formats without accompanying training for staff. The district plans are not widely shared with the MoH, thereby raising doubt as to whether districts are planning and implementing activities in line with national health sector plans. During the HSSP there will be a need to strengthen the capacity of Zonal Offices through training, provision of an adequate budget and improved staffing levels so that improvements will be made in the provision of technical support to the districts and in reporting to MoH headquarters. A core team is therefore envisaged at the zonal level that will be provided with a proper supervision checklist to monitor all the services at district level. The DHMTs will also need to be properly oriented in planning frameworks in order to enhance efficient delivery of EHP services. The Ministry of Local Government and Rural Development shall be requested to share DIPs with the MoH.

6.2.2 Budgeting and resource allocation

The funds are managed by the DHMTs under the responsibility of the local authorities, thus enabling local solutions to health problems to be developed and implemented, using funds more efficiently. Planning rules and guidelines stipulate that planning must be undertaken within the boundaries of available resources, and financial ceilings are normally communicated to the various DHMTs to enable them to develop realistic plans. While this is in the spirit of decentralization, it does lead to double reporting, as District Assemblies have to report both to the MoLGRD and MoH.

In principle the cost of service delivery is supposed to reflect the cost and quantity of EHP interventions as detailed in the costing documents for the EHP and the proposed coverage of the district population. However, there are still a number of costing tools for individual departments such as HIV/Malaria and reproductive health. Harmonisation of the various tools and linking to district budgeting processes is essential for better planning and more

realistic costing. The control and accountability for health sector activities and resources at district level rest with local government, but some project resources are under the control of Headquarters.

In order to address budgeting and resource allocation there is a need to build capacity at the district and zonal levels in budgeting and reporting. Capacity-building at the zonal level will be useful in terms of scrutinizing certain key areas in budgeting and resource allocation that constitute core functions of DHOs and are in the national plans. There will also be a need to harmonize reporting: while DHOs are answerable to District Assemblies, the MoLGRD should share program and financial reports with the MoH.

6.2.3 District Implementation Plans (DIP)

DIPs are based on national priorities. However, the DHMTs find the DIP process most helpful in the identification of longer term development goals, and they do not use the DIP as a guiding force for their internal budgeting purposes in the management of routine needs. The emergence of DIPs has pushed more activities to the districts, unfortunately without a corresponding change in budgets to handle the greater volume of activities. In addition, a lot of activities that fall outside the DIPs are coming to the districts, and yet they still draw from the DIP funding; this results in DHOs being forced to divert resources away from pertinent issues on the ground. These include emergencies such as measles and H1N1, as well as national events days. All this happens within the context of DIPs being underfunded by Treasury. In order to address these problems there is a need for central level Ministries, including health, to let go of the devolved functions and hand them over to district assemblies. Emergency budget lines should be incorporated in the budget and DHOs should only enter into SLAs in geographical locations without MoH facilities.

6.2.4 Monitoring and evaluation of devolved functions

It is intended that the DHMT should be responsible for ensuring that data collected at the district, health centre and community levels is used at the point of collection for decision making; data should be of acceptable quality and submitted in a timely manner. The DHMT is required to analyze the data, compile it, use it for decision making, provide feedback to the lower levels and submit the required information to the zones and to national level. This process entails that supervision, annual performance reviews, the Joint Annual Review of HSSP, scheduled meetings, regular HMIS returns and special surveys should form the basis for the M&E function in health services delivery in the districts.

However, district staff cadres within the health sector seem to have limited understanding and appreciation of their M&E roles. While the system is in place for M&E to feed into management for decision-making, the quality of staff is not in tandem with requirements to fulfil this role. For example, even after the review of DIPs no action is taken to inform subsequent planning. In most cases reviews are merely undertaken to fulfill activity plans, rather than as inputs into a systematic planning process. There is also limited utilization of data at point of source to inform programming, and the quality of data seems to be low. In order to address these challenges there is a need to train health workers in data collection, analysis and reporting and to teach them how to use the data for programming. DHMTs should also be trained in operations research so that they are able to design relevant studies to be used in the preparation of interventions. Adequate resources, both human and financial, should be provided to DCs to fill these gaps.

6.2.5 Human Resources

Under decentralisation, it was anticipated that human resources (HR) management and development would be guided by the appropriate circulars and policies of the Department of Human Resources Management and Development, the Health Service Commission (HSC) and the Local Government Service Commission. The District Assemblies were expected to appoint, promote and discipline staff in accordance with the provisions of the above-stated bodies, applying the Civil Service Commission regulations and the Malawi Public Service Regulations, as appropriate. However, up to now human resources remain the responsibility of the central MoH. There is limited capacity at the District Council level to handle HR effectively. Currently, staff are graded in an unstructured way leading to conflicting grades, for example, while all DHOs report to the District Commissioners, some District Commissioners are ranked below the level of DHOs. A further problem lies in staff retention in hard to staff/serve areas, and medical graduates working within the health sector are too often given administrative responsibilities. The MoH will strengthen the zones so that they are able to manage HR responsibilities at district level until districts are able to take up the full responsibilities of a decentralised human resource management function.

6.2.6 Governance structures at district level

Different structures are responsible for implementing the HSSP at district level. Currently, the performance of these structures is variable and strategies will be put in place to ensure that they become properly functional.

- *District Executive Committee (DEC)*: In line with decentralization, the DEC is responsible for the development of overall policy for the district, including for the health sector, the prioritization of interventions to be implemented, and approval of all expenditures. It is chaired by the District Commissioner and the DHO is a member of this committee. There is a *Health Sub-Committee* of the DEC which interacts with the DEC members and responds to health needs for the district. Other structures at district level include the *Hospital Advisory Committee* (HAC), *Area Development Committee* (ADC) and the *Village Development Committees* (VDC) which are responsible for identifying development issues at the respective levels, including in the health sector, and take them to the DEC. ADCs and VDCs are composed of community members.

- *Health Centre Management Committee*: Each health centre has a HCMC whose responsibility is to oversee planning and implementation of health services in line with the HSSP.

- *Health Centre Advisory Committee*: At each health centre there is also a Health Centre Advisory Committee, composed of the health workers from the health centre and members of the community.

- *Village Health Committees:* These committees are established and supervised by HSAs at village level. VHCs promote PHC activities through community participation and they work with HSAs to deliver preventive and promotive health services such as hygiene and sanitation.

At village level, village action plans are developed that feed into the District Development Plan (DDP), of which health services delivery is a part. The MoH works with the MoLGRD to strengthen the process of including the public in planning and monitoring health services at all levels, through the VHCs and VDCs. Tools such as the village health register will be reviewed to ensure inclusion of relevant health information, with profiles of all areas affecting health. The process of feeding back to communities will be strengthened during the HSSP period ensuring that public rights and responsibilities are clearly disseminated through the Patients' Charter and other appropriate channels.

6.3 Roles of different partners

As has been mentioned earlier, the Ministry of Health headquarters is involved in development of policies and standards, and in monitoring progress in the implementation of the health sector plan. The Ministry of Local Government and Rural Development has the overall responsibility for delivering health services at district and lower levels in line with the Decentralization Act (1997). Over the period of implementing the HSSP, MoH will strengthen its relationships with other GoM ministries and departments, the private sector and HDPs with the aim of effectively delivering quality EHP services. The roles and responsibilities of other stakeholders in the delivery of EHP services will be as follows:

- *Ministry of Finance and Development Planning*: The Ministry of Finance is responsible for mobilizing financial resources for the GoM and allocating these resources to government Ministries and Departments in accordance with priorities. The MoH, together with other stakeholders in the sector, will lobby for increased allocation of financial resources to the sector for effective delivery of EHP services. The MoF chairs the Finance and Procurement TWG within the health sector. *The Department of Development Planning*: This Department coordinates the development and implementation of the Malawi Growth and Development Strategy, the overall development agenda for Malawi. The Ministry of Health will work with the Department of Development Planning in monitoring the health sector's contribution to the national development agenda. Successful implementation of the HSSP will contribute to the achievement of the overall goal of the Malawi Growth and Development Strategy.

- *Ministry of Local Government and Rural Development*: The MoLGRD is responsible for the delivery of health services at district and community levels and mobilization of additional resources for delivery of EHP services at that level. Community members participate actively in the management and delivery of health services through HCACs, ADCs, VDCs and VHCs. The MoH provides technical support to the MoLGRD through the ZHSOs. The MoLGRD is also a member of the Finance and Procurement and the PPP TWGs of the MoH.

- *National Local Government Finance Committee (NLGFC)*: The NLGFC examines submissions from local authorities in respect of expenditure and requests for special disbursements. It has the power to supervise and audit accounts of local authorities.

- *Ministry of Education, Science and Technology*: The health training institutions belong to the Ministry of Education and this Ministry will therefore be responsible for the training of all health workers in Malawi. It will work collaboratively with the MoH in terms of developing training curricula so that the trained health workers are competent to meet

the health needs of the people of Malawi. The Ministry of Education will work collaboratively with the MoH to effectively implement school health and nutrition programs.

- *Ministry of Agriculture, Irrigation and Water Development*: This Ministry will be responsible for the development and implementation of policies and plans to ensure that the people of Malawi have adequate and nutritious food and safe drinking water. The MoH will work with this Ministry (i) to increase access to safe water for the people of Malawi in order to reduce water borne and related diseases; and (ii) to ensure that potable water is provided in all health facilities including staff houses.

- *Ministry of Labour*: The Ministry of Labour is responsible for implementing the Occupational Safety, Health and Welfare Act which is aimed at prevention of diseases and conditions arising from exposure to workplace health hazards. The MoH will work with this Ministry in order to ensure effective implementation of the Act, in line with the HSSP focus on health promotion and disease prevention.

- *Ministry of Gender, Children and Community Development*: This Ministry's responsibility for gender awareness and mainstreaming includes the health sector. Knowledge about gender can contribute to the prevention of Sexual and Gender Based Violence, which is an important component of this PoW.

- *Health Services Commission*: The HSC will be responsible for the recruitment of health workers and reviewing their conditions of service.

- *The private sector*: Through signing SLAs with DHOs, the private sector will contribute to the delivery of effective and high quality EHP services to the people of Malawi, especially to benefit the poor and hard to staff/serve population groups.

- *Department of Nutrition, HIV and AIDS:* This Department was established in August 2004, within the OPC, with the mandate to provide policy direction, guidance, oversight, coordination, monitoring and evaluation and to facilitate the creation of implementation structures and capacity building on issues of nutrition, HIV and AIDS in Malawi. The MoH will collaborate with this Department on issues of HIV/AIDS and nutrition.

- *National AIDS Commission*: This also falls under the Office of the President and Cabinet, and its function is to coordinate the national response to the HIV/AIDS epidemic.

- *Health development partners*: In addition to funding the HSSP priority interventions through budget support, the HDPs will also play an important role in monitoring the implementation of the Plan, actively participating in the health sector review meetings, such as the Joint Annual Reviews.

- *Department of Public Service Management:* This Department is responsible for human resource planning, management and development within the civil service including the MoH and has been empowered by the Public Service Act of 1994 to be responsible for Public Service administration and management. It is a member of the HRH TWG in the health sector.

- *Department of Disaster Management Affairs*: The Department of Disaster Management Affairs (DoDMA) is responsible for coordinating and directing disaster risk management programmes in the country in order to improve and safeguard the quality of life of Malawians, especially those vulnerable to and affected by disasters.

- *Ministry of Industry and Trade: As ever,* the Ministry of Industry and Trade, in conjunction with Malawi Bureau of Standards, will be responsible for screening and monitoring fortified foods in the country.

- *Health regulatory mechanisms and professional associations:* The health regulatory bodies are the Medical Council of Malawi, the Nurses and Midwives Council of Malawi and the Pharmacy, Medicines and Poisons Board, and their responsibility is to register professional health workers. Established by Act of Parliament, the health regulatory bodies receive various forms of subvention from the MoH and all practicing health workers are required to register with them. These bodies will continue to be important for the health sector over the 5 years of the HSSP because of the major role they play in monitoring the quality of services by focussing on the health care workers, training institutions and health facilities. They also ensure that health services are provided following the highest possible ethical standards.

  Medical Council of Malawi: The Medical Council of Malawi was established by the Medical Practitioners and Dentists Act No. 17 of 1987. Its overall objective is to set and maintain standards of health care in relation to premises, equipment and supplies, and in relation to the qualifications and credentials of personnel employed at health establishments, including their behaviour and conduct towards patients and clients. The functions of the Medical Council are: to assist in the promotion and improvement of the health of the population of Malawi; to control and exercise authority affecting the training of persons in, and the performance of the practices pursued in connection with the diagnosis, treatment or prevention of physical or mental defects, illness or deficiencies in human beings; to exercise disciplinary control over the professional conduct of all persons registered under the Medical Practitioners and Dentists Act and practicing in Malawi; to promote liaison in the field of medical training both in Malawi and elsewhere, and to promote the standards of such training in Malawi; and to advise the Minister of Health of information acquired by the Council relating to matters of public health. In general, the Medical Council of Malawi is responsible for the registration and licensing of medical and dental practitioners and the maintenance of a database of these staff once registered. It is also responsible for the coordinating and regulating the registration of providers of clinical services in the country.

  Nurses and Midwives Council of Malawi: The Nurses and Midwives Council of Malawi is guided by the Nurses and Midwives Act, No. 16 of 1995, and its remit is to regulate the training, education and practice for all nursing and midwifery services. Thus the Nurses and Midwives Council has an important role in the development of human resources. The Council carries out the following functions to fulfil its role in HR development: it gives approval to nursing/midwifery colleges to train nurses and midwives; sets standards for nursing/midwifery education and practice; sets monitoring and evaluation criteria for the training institutions and checks if the set standards are being followed to ensure compliance; sets and conducts licensure examinations for the

nurses and midwives that have undergone training; gives certificates to those nurses/midwives who pass the licensure examinations; keeps the registers for all nurses/midwives that are licensed and practicing; and conducts monitoring and evaluation of health facilities to ensure that standards of care are adequately complied with.

Pharmacy, Medicines and Poisons Board: The Pharmacy, Medicines and Poisons Act, 1978 and the Pharmacy, Medicines and Poisons (Fees and Forms) Regulations 1990 provide for the establishment of the Pharmacy, Medicines and Poisons Board by the MoH to regulate, register and control the quality of Essential Medicines in Malawi. The Board is also responsible for the registration, ethical control and training of pharmacy professionals; it regulates the quality and distribution of Essential Medicines in the country; and it inspects the inflow of these Essential Medicines to ensure they are of quality and valid.

- *Health Services Commission:* Established by Act of Parliament in 2002 it is responsible for the recruitment and promotion of health workers and the setting of other conditions of service. During the HSSP period the HSC will continue this role, and will also explore new strategies for retaining health workers in the public sector.

6.4 Developing and implementing annual implementation plans

As part of implementing the HSSP, the MoH headquarters will develop Annual Implementation Plans (AIPs) with targets to be reached by the end of the year that need to be in line with the targets set in the HSSP. The ZHSOs, CHs and other central level institutions will also prepare their own annual work plans. At district level, annual District Implementation Plans (DIPs) will be prepared by the DHMTs based on needs and priorities of the districts as identified by health facilities, ADCs and VDCs. Thus the HSSP will be the basis for all annual work plans. The District Commissioners in the Ministry of Local Government and Rural Development shall coordinate the development of District Implementation Plans. During the HSSP there will be a need to strengthen the capacity of Zonal Offices through training, provision of an adequate budget and improving staffing levels so that they are able to provide technical support to the districts and report to MoH headquarters. The DHMTs will also need to be properly oriented in planning frameworks in order to enhance efficient delivery of EHP services. The Ministry of Local Government and Rural Development will be requested to share DIPs with the MoH. The annual health sector plan shall consist of all the plans at different levels and this shall be ready by February each year in order to inform the budget for the following financial year which begins on 1st July.

6.5 Managing finances at district level

In line with decentralization, the District Assemblies will be responsible for budgeting for their activities in line with the District Implementation Plans and these budgets will be submitted to the MoLGRD with copies to the MoH. The management of funds and other resources at the district level shall be managed by the District Commissioners. Auditing shall be the responsibility of the MoLGRD and financial reports prepared by the District Assemblies shall be sent to the Ministry of Local Government with copies to Ministry of Health.

7 DELIVERING THE EHP SERVICES

In Malawi health care services are delivered by both the public and the private sectors. The public sector includes all facilities under the MoH and MoLGRD, those of other ministries such as Education, and the Police, the Prison Service and the Army. The private sector consists of private-for-profit and private not-for-profit providers (mainly CHAM). The public sector provides services free of charge while the private sector charges user fees for its services. In accordance with the Decentralization Act (1997) the MoLGRD is responsible for the delivery of health services at district and lower levels with technical guidance from the MoH. As has been mentioned earlier, the MoH headquarters is mainly responsible for development of policies, standards and protocols and for providing technical support for supervision. It also manages central hospitals. As was the case during the PoW 2004-2010, during the HSSP 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.

7.1 Levels of care

7.1.1 Primary level

Training HSAs in how to monitor nutritional status at a village clinic

This level consists of community initiatives, health posts, dispensaries, maternity facilities, health centres, and community and rural hospitals. At community level, health services are provided by community-based cadres such as HSAs, community-based distributing agents (CBDAs), VHCs and other volunteers, mostly from NGOs. HSAs provide promotive and preventive health services including HIV testing and counseling (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.

At primary level, 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[51]. At a higher level there are community hospitals (also known as rural hospitals), which provide both primary and secondary care, and each has an admission capacity of 200 to 250 beds.

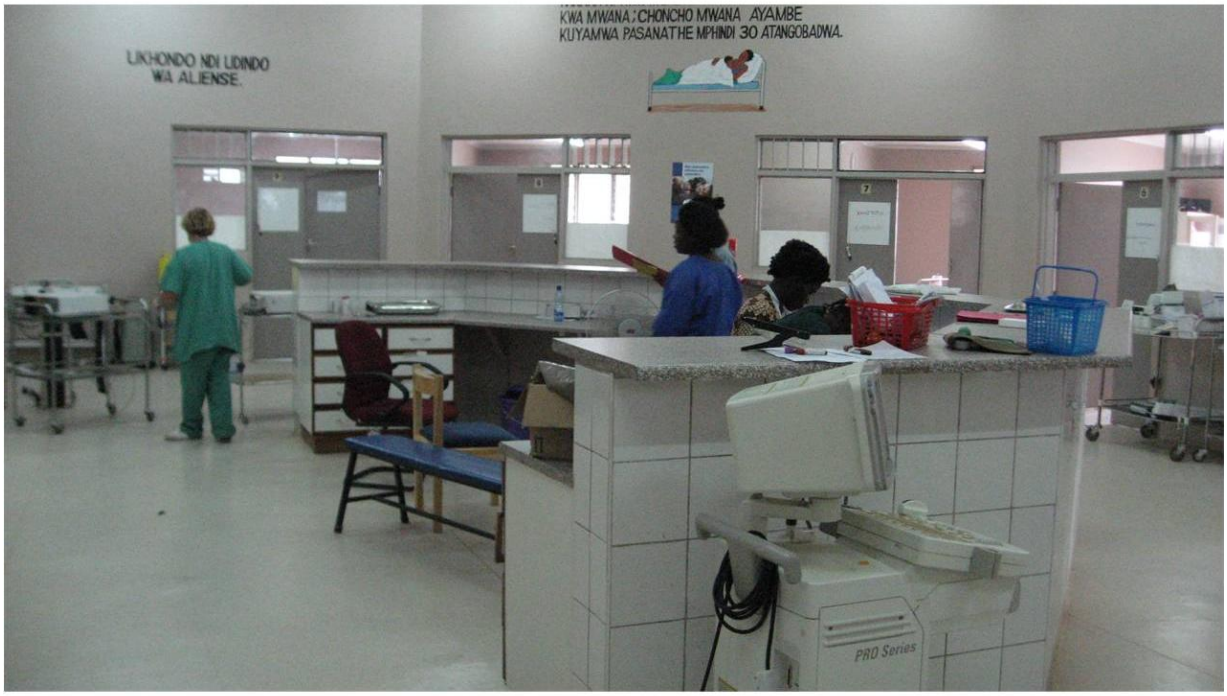
7.1.2 Secondary level

Antenatal clinic

District hospitals constitute the secondary level of health care and each district should have a district hospital. They are referral facilities for both health centres and rural hospitals, and district hospitals have an admission capacity of 200 to 300 beds. They also deliver both in-patient and out-patient services to the local town population. CHAM hospitals, too, provide secondary level health care. The district or CHAM hospitals provide general services, PHC services and technical supervision to lower units. District hospitals also provide in-service training for health personnel and other support to community-based health programs in the provision of EHP. The provision and management of health services has been devolved to local governments under the Decentralisation Act (1997), and health services are managed by the DHMT, which receives direct technical support for supervision from Zonal Health Support Offices (ZHSOs).

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

7.1.3 Tertiary level



The Labour Ward at Bwaila Maternity Hospital

The tertiary level consists of central hospitals (CH) that provide referral health services for their respective regions. Central hospitals offer specialised services such as obstetrics and gynaecology. There are currently four central hospitals, namely Queen Elizabeth in Blantyre (1250 beds), Kamuzu in Lilongwe (1200 beds), Mzuzu in Mzimba District (300 beds) and Zomba in Zomba District (450 beds). Tertiary care is also provided by Zomba Mental Hospital. Queen Elizabeth and Kamuzu Central Hospitals are teaching hospitals, with links to the College of Medicine and Kamuzu College of Nursing. The CHs are responsible for professional training, conducting research and providing support to districts. Currently, however, CHs also provide EHP services which ought to be delivered by district health services. Gateway clinics will be established at all central hospitals in order to decongest them. These clinics will be run by the DHOs. In addition, urban clinics will be strengthened so that patients can first go to these facilities, and only visit central hospitals if referred.

7.2 The role of the private sector

The private sector plays an important role in the delivery of health services. At community level, numerous NGOs, FBOs and CBOs deliver promotive health services but the majority of the providers and the services they offer are unknown to MoH and stakeholders. Out of these community providers, the MoH and stakeholders in the health sector have mainly engaged with Traditional Birth Attendants (TBAs) with the intention of expanding maternal and child health (MCH) services to the community. On the other hand, the relationship between the MoH and traditional healers has been weak. The Malawi Traditional Medicine Policy has recently been devised to guide the practice of traditional medicine in Malawi, and the health sector will continue to work with traditional healers through the Malawi Traditional Healers Umbrella Organization (MTHUO).

CHAM is a non-profit health services provider and the biggest partner for the MoH. It provides services and trains health workers through its health training institutions. CHAM owns 11 of the 16 health training institutions in Malawi, most of them located in rural areas. CHAM facilities charge user fees to cover operational costs and are also mostly located in rural areas. The charging of user fees constitutes a major barrier to accessing services for most poor rural people, and there is gross inequality among those living in the catchment areas of CHAM facilities, which rarely overlap with GoM health facilities. The GoM heavily subsidizes CHAM by financing some Essential Medicines and all local staffing costs in CHAM facilities. In order to increase access to EHP services, the MoH has encouraged DHOs to sign Service Level Agreements (SLAs) with CHAM and Banja La Mtsogolo (BLM) facilities to remove user fees for most vulnerable populations. SLAs involve the transfer of a fee from the DHO to a CHAM facility in exchange for the removal of user fees. To date the MoH has signed SLAs with 72 of the approximately 172 facilities, mainly for the delivery of maternal and newborn health (MNH) services. A few facilities have SLAs for an entire EHP. Many CHAM SLAs are dormant and contractual conflicts are yet to be resolved. Discussions about the potential inclusion of other sections of the private sector, especially for-profit health care providers, have not started yet[52]. Currently, SLA guidelines with the private sector exist for AIDS and Tuberculosis.

[52] MoH (2010) *Final evaluation of the Health Sector Programme of Work I* Lilongwe: MoH

8 MONITORING THE IMPLEMENTATION OF THE HSSP

In order to effectively monitor the performance of the health sector during the HSSP implementation period, the Health Systems Strengthening framework for monitoring and evaluation will be utilized. This framework is based on the principles of the Paris Declaration on Aid Effectiveness and the International Health Partnerships and other Initiatives (IHP+). The principles in these declarations include DPs' alignment with government systems, harmonization, ownership and mutual accountability.

The Health Systems Strengthening framework provides a single platform for monitoring and evaluation that is relevant both for Malawi and for its global partners. Shown in Figure 15 below, it is results based: the capacity of the health system is demonstrated by system inputs, processes and outputs while outcomes and impacts give the results of investments in the health system and reflect the health system's performance[53]. The Health Systems Strengthening framework is designed in such a way that each block (inputs and processes, outputs, outcomes and impact) has a list of indicators which are supposed to be monitored during the implementation of the HSSP. The performance of the health sector will be measured using an agreed set of indicators which are based on the implementation framework of the Ouagadougou Declaration on PHC, the MDGs and the MGDS. Annex 12 shows a comprehensive list of these indicators. The HSSP recognises the various problems in Malawi's M&E system and a number of ways have been suggested earlier (see Chapter 5.2.2.11) on how these problems will be addressed to improve the availability and quality of data for monitoring health sector performance.

[53] See WHO, World Bank, GAVI and Global Fund (2009) *Monitoring and evaluation of health systems strengthening: an operational framework* Geneva: WHO, World Bank, GAVI and Global Fund

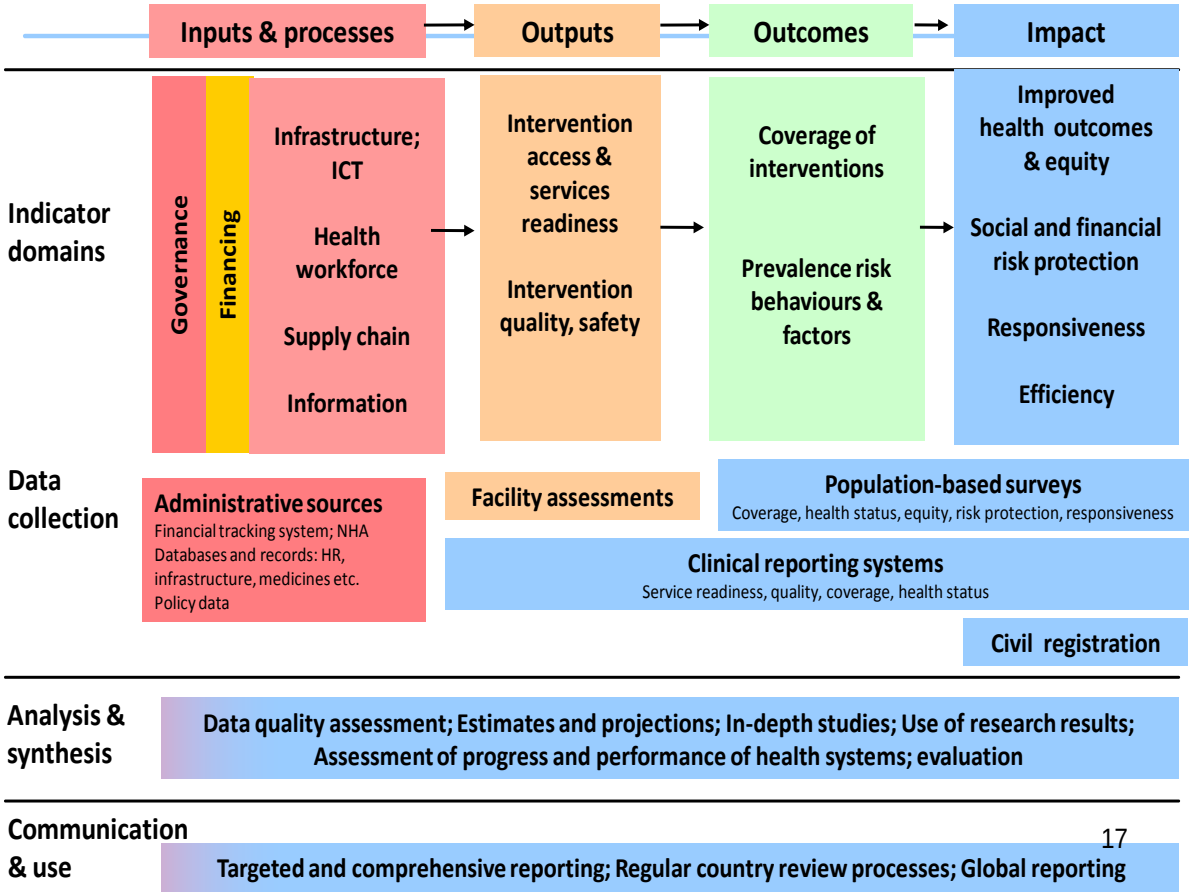


Figure 15 Health Systems Strengthening framework for monitoring health sector performance

During the data collection process particular attention will be paid to the effect of gender on health and health-seeking behaviour. This data will be used to develop appropriate policies and at the same time ensure that resources are allocated appropriately to address gender imbalances in the provision of the EHP services.

An extended indicator framework has been developed which will be reviewed and updated on a yearly basis. By the beginning of the second year of the HSSP a performance assessment framework will have been developed. The M&E Technical Working Group is responsible for reviewing and recommending core and extended indicators and will monitor progress.

A draft logical framework is being circulated to the M&E TWG proposing links between resources and results, and revising targets. The M&E TWG will comment and make recommendations as technical health and M&E experts on the final output of this resources and results linked framework.

8.1 Routine HMIS data and health sector reports

The main source of data for monitoring progress in the implementation of the PoW will be the HMIS. The HMIS is an important source of data on outputs of the health sector, diagnosis of EHP conditions and diseases, and other information on health systems. HMIS

data is available on a monthly, quarterly and annual basis. While specific disease programs have their own parallel systems for collection of data, this shall be discouraged during the implementation of the HSSP. The HMIS will be strengthened to provide timely and reliable data for monitoring the performance of the health sector as has been described earlier (see Chapter 5.2.2.11). The private sector will be encouraged to provide data to CMED, and at the end of each year an HMIS bulletin shall be produced detailing progress made in the health sector. In addition to this bulletin, an annual health sector report shall be produced by the Department of Planning and Policy Development that will form the basis for the Joint Annual Review. The participants in the JAR will be from the MoH, other GoM ministries and departments, health training institutions, the private sector and the HDPs.

8.2 Demographic and Health Surveys and other national surveys

The Demographic and Health Survey (DHS) has been conducted every four years since 1992 by the National Statistical Office, in conjunction with MACRO Inc. This process is important as a source of very useful information on impact indicators such as MMR, IMR, U5MR and CPR, the prevalence of diseases (e.g. malaria, ARIs and diarrhoea) and the way people seek treatment. In addition to the DHS there are other national surveys (such as the Malaria Indicator Survey, the Welfare Monitoring Survey and the Integrated Household Survey) that are important sources of data for measuring the performance of the health sector. Furthermore, over the period of the HSSP the National Health Accounts will be institutionalised and carried out regularly in order to effectively monitor the financing of the health sector.

8.3 Mid-term and end-term reviews

During the implementation of HSSP there will be two reviews, namely the mid-term and end-term reviews. The 2010 DHS provides the bulk of the baseline data but special national level surveys will be required as the DHS may not provide data for some new indicators. At the end of 2013 a mid-term review will be commissioned by the MoH to evaluate progress made in achieving the targets set in this Plan, and to make recommendations on how the health sector can speed up interventions in order to achieve targets by 2015/2016. In 2016 an end-term review will be carried out to assess the degree to which targets have been achieved and to provide recommendations for a new health sector PoW to succeed this plan.

8.4 Joint Annual Review

The MoH in conjunction with other stakeholders shall set the ToRs for the Joint Annual Review (JAR). The JAR will start at zonal level in order to allow for wider participation and analysis of implementation bottlenecks. Participation at national level will include representatives of HSWGs, who will discuss policy recommendations from the zones as well as HSSP and AIP milestones achieved, and the financing and expenditure status. Emphasis will be placed on challenges being experienced in the achievement of the targets and how these can best be addressed. Participants in these review meetings will be from MoH, Ministry of Local Government and Rural Development, other Government Ministries and Departments with interests in health (such as Ministry of Education, Ministry of Agriculture, Irrigation and Water Development, Office of the President and Cabinet, National AIDS

Commission), the private-for-profit and private not-for-profit service providers, HDPs, civil society, training institutions, and communities (represented by Traditional Authorities).

9 FINANCING THE HSSP

As in the previous strategic period, funds are insufficient to meet the basic health needs of the country despite support from development partners. The funding is anticipated to be of the same order of magnitude as in the recent past - at $28 per capita which is about 60% of the required level. Limited resources have been a key element, therefore, in making decisions about the priorities contained in the plan, and this is exemplified by the renewed commitment to the Essential Health Package. This chapter provides an estimate of the proportion of the total health budget which will be spent on the EHP, and it also gives estimates of the funding of the sector by government and development partners over the next five years. The pledges made by partners in the past have not been fully realised and a pragmatic view of the contribution donor funding will make to the priorities in the HSSP is provided, based on notified pledges and, where these are not available, experience from past contributions. The chapter describes in detail the level of funding, the gap between what is anticipated and what is required, and the possible effect of this on services. It considers the potential distorting effect of earmarked funding on the overall balance of services which have been planned. Finally, it is able to demonstrate the value for money which the programme offers making it a sound investment within the developing economy of the country.

9.1 The cost of the HSSP

The HSSP contains plans to increase access and the quantity of quality essential services sufficient to meet MDGs and their targets. Implementation of all these plans will cost what is contained in an “ideal” budget (Table 7). The resource envelope which is thought to be available is called the “resource based” budget and is described later in section 9.2.

The thrust of activities is through the EHP. Non-EHP activities include tertiary care such as cancer care and referrals abroad (that are mainly provided in the central hospitals), and the less essential primary and secondary care services which are performed at all levels of care, such as treatment of musculo-skeletal conditions and other non-communicable disorders.

An estimate of the indirect costs of the ideal budget has been made by the MoH using expert groups, considering human resources, infrastructure, equipment, transport, health promotion and other recurrent transactions. An estimate of direct costs has been undertaken using a cost model which was developed for the first SWAp and Programme of Work and adapted, modified and updated since then (Annex 13 gives details). It models the direct costs of Essential Drugs and Supplies required achieving the planned targets of the HSSP through the EHP interventions. The model is also able to allocate costs to EHP and non-EHP activities and allows a comparison of these costs in relation to the total budget available. A significant feature of this programme is the predominant share of the total budget used by the EHP. It is this, as will be described in detail later, which makes the HSSP so cost-effective.

The cost model can also predict the level of Essential Drugs and Supplies needed for each EHP intervention for any level of funding. For planning purposes two scenarios have been

constructed. One uses the resource based budget and the other the ideal budget. The analysis, described in detail in sub-section 9.3.2, allows a comparison of activity for the two scenarios.

Table 4 The estimated cost of the HSSP

Ideal 2011/2016 - $m	EHP	Non-EHP	Total
Direct costs	$ 1,278	$ 392	$ 1,670
Indirect costs - HR	$ 651	$ 45	$ 697
Indirect costs - non-HR	$ 487	$ 39	$ 526
Total recurring costs	$ 2,417	$ 477	$ 2,893
Capital developments	$ 190	$ 139	$ 329
Total	$ 2,607	$ 616	$ 3,222
Cost per capita	**$ 33.4**		**$ 41.3**
% of total	**81%**	**19%**	**100%**

The full cost of the programme is $3.2 billion over the five years, which is equivalent to an average per capita expenditure of $41.3 per annum (Table 4). This is modest in comparison with most other sub-Saharan African countries, where the average government health expenditure in 2009 was $73 per capita[54]. A fifth of resources is channelled to non-EHP services and four fifths to EHP services.

9.2 The resource envelope

Funding of the HSSP is available from two sources - the government and donors.

9.2.1 Government contributions

The government is committed to increasing the health sector's share of the national budget in accordance with the Abuja target of 15% and shows this commitment by planning to increase the health budget in significant terms over the life of the programme. During the period of the previous Programme of Work this share was 8.4% of national budget. This is planned to increase to 14.6% in the next three years. The budget for 2011/2 and anticipated budgets for future years are found in Table 5.

[54] WHO - Global Health Expenditure Database. http://apps.who.int/nha/database/DataExplorerRegime.aspx

Table 5 Government health budget and estimates for the HSSP period 2011-2016

Broad Activities /actions		Ideal costs 2011-16	Estimated Budget MK (000,000) 2011-12	2012-13	2013-14	2014-15	2015-16	Total	Total US$m
Outcome 1: Increased coverage of essential EHP services									
1.1	EHP infrastructure constructed according to standards	69,301	5,351	11,978	11,689	7,474	6,654	**43,145**	261
1.2	Implement Service level agreements in underserved areas	2,814	307	329	359	376	444	**1,815**	11
1.3	Adequate transport provided	3,908	270	289	315	330	390	**1,594**	10
Subtotal Outcome 1		76,022	5,928	12,596	12,363	8,181	7,487	**46,554**	282
Outcome 2: Strengthened performance of the health system to support delivery of EHP services									
2.1 Improved availability of Human resources for health sector									
2.1.1	Pre-service training	20,455	353	354	387	405	478	**1,978**	12
2.1.2	Tutors	0	0	0	0	0	0	**0**	0
2.1.3	Post graduate training	15,641	2,293	2,453	2,680	2,809	3,313	**13,549**	82
2.1.4	Recruit and pay staff at all levels	84,450	11,719	13,125	15,009	16,465	20,328	**76,646**	451
2.1.6	Capacity Building	2,916	0	0	0	0	0	**0**	0
2.1.8	HR Planning and management	1,945	219	235	257	269	317	**1,297**	8
	Subtotal HR	125,407	14,585	16,168	18,333	19,948	24,437	**93,470**	**553**
2.2.1	New equipment and maintenance	21,594	2,436	2,607	2,848	2,985	3,520	**14,396**	87
2.2.2	IT	195	22	24	26	27	32	**130**	1
	Subtotal Equipment and IT	21,789	2,458	2,630	2,874	3,011	3,552	14,526	88
2.3 Improved availability and quality of essential medicines and supplies									
2.3.1	Procure essential drugs and supplies	332,764	6,633	10,779	11,146	11,681	13,778	**54,018**	327
2.3.2	Off budget procurement of drugs and supplies	0	0	0	0	0	0	**0**	0
	Subtotal Essential medicines and supplies	332,764	6,633	10,779	11,146	11,681	13,778	54,018	327
2.4 Appropriate standards, guidelines, and operating procedures developed									
2.4.1	EHP standard and legislation developed and disseminated	20,069	2,264	2,423	2,647	2,774	3,272	**13,380**	81
2.4.2	HRH management and planning	0	0	0	0	0	0	**0**	0
2.4.3	Procurement systems improved	1,792	202	216	236	248	292	**1,195**	7
2.4.4	Financial management and internal audit improved	761	86	92	100	105	124	**507**	3
2.4.5	Clinical practice standards and operating procedures improved	1,714	193	207	226	237	279	**1,143**	7
2.4.6	Stakeholder coordination improved	399	45	48	53	55	65	**266**	2
2.4.7	Planning and policy	3,025	341	365	399	418	493	**2,017**	12
2.4.8	Improved quality of diagnostics services	1,244	17	18	20	20	24	**99**	1

Broad Activities /actions		Ideal costs 2011-16	Estimated Budget MK (000,000) 2011-12	2012-13	2013-14	2014-15	2015-16	Total	Total US$m
2.4.9	Review functions/organisation of MoH	6	0	0	0	0	0	**0**	0
2.4.10	M&E - Development and research	782	88	94	103	108	127	**521**	3
2.4.11	M&E - Mid-year and annual reviews	0	0	0	0	0	0	**0**	0
2.4.12	M&E - Conduct district, zonal, and central monitoring/mentoring	0	0	0	0	0	0	**0**	0
2.4.13	Implement the national health research agenda	209	24	25	28	29	34	**139**	1
2.4.14	Hospital reform policy and guidelines	0	0	0	0	0	0	**0**	0
2.4.15	QA policy and guidelines and strategic plan	0	0	0	0	0	0	**0**	0
2.4.16	Review standards and guidelines for essential drugs	404	46	49	53	56	66	**270**	2
	Subtotal Standards and guidelines	30,406	3,306	3,538	3,865	4,050	4,777	19,536	118
2.5	**Health Systems Strengthening running costs**								
2.5	General administration costs	23,120	2,609	2,791	3,049	3,196	3,769	**15,414**	93
	Subtotal Running costs	23,120	2,609	2,791	3,049	3,196	3,769	15,414	93
Subtotal Outcome 2		533,485	29,591	35,906	39,267	41,886	50,314	196,964	1,180
Outcome 3 Reduced risks to personal health and reduced environmental risks									
3.1 Improved living and working environments and risky behaviours decreased									
3.1.1	Health promotion policy and advocacy	126	14	15	17	17	21	**84**	1
3.1.2	Establish healthy settings programs	1,827	206	221	241	252	298	**1,218**	7
3.1.3	Implement integrated vector control management	16,297	0	0	3,182	0	3,436	**6,618**	40
3.1.4	Establish programs to improve environmental health	1,075	121	130	142	149	175	**717**	4
3.1.5	Emergency preparedness and response	20	0	0	0	0	0	**0**	0
3.1.6	Communication for social and individual behaviour change	3,792	0	0	0	0	0	**0**	0
Subtotal Outcome 3		23,137	342	366	3,581	419	3,929	**8,636**	52
	Grand Total	632,645	35,861	48,867	55,211	50,485	61,730	**252,154**	1,515

Health Sector Strategic Plan costing rationale

Outcome 1: Increased coverage of high quality EHP services

Output 1: Health infrastructure developed and maintained

This is based on the draft capital investment plan. Priorities for the entire period of the HSSP are based on gaps in coverage of health services identified by geographical mapping of health facilities (showing the population living within 8 km of health centre services). Ideal costs are to be verified during the first year of HSSP and linked into Service Level Agreements.

Output 2: Improved availability and maintenance of emergency transport

The target is one ambulance per 50,000 population. Estimates for the first year are based on one new ambulance for each district. The MoH will make provisions to engage DHOs to re-allocate resources to the purchase of ambulances and to maintenance costs associated with an aging fleet.

Output 3: Signing of Service Level Agreements (SLAs) with private not-for-profit and private for-profit organisations

This is based on the gaps in health service coverage, the number of SLAs available, and the current expenditure trends by DHOs.

Outcome 2: Strengthened performance of the health system to support delivery of EHP services

Output 2.1: Recruit and retain human resources for health

The 2011/12 personnel emoluments are adjusted for a 5% increase in recruitment (recruitment plan to be reviewed and finalized after functional review during the first year of HSSP taking into account the absorption and recruitment of each annual output from our health training institutions).

Output 2.2: Develop human resources for health

Estimation of cost is based on:

- current intake of health training institutions and projected outputs over the next 5 years;
- inclusion of outputs from KCN, MZUNI and CoM (funded through MOEST, whose financing is not yet indicated in the costed plan).

Output 2.3: Improve availability and quality of Essential Medicines and Supplies

This is based on the 2011/12 budget plus MK1 billion in drug arrears; 2011/12 budget adjusted by 7% inflation rate, plus MK1.5 billion for 2012/13 and 2013/14; 2013/14 budget adjusted by 7% inflation rate for the subsequent years; 30% increase from other expected sources of funding. The ideal budget is based on direct costs calculated from the cost model, assuming all targets are able to be met.

Output 2.4: Purchase of adequate essential medical equipment and maintenance

This is based on current resources within the MoH ORT and Development budgets, plus MK 800,000,000 additional resources, adjusted by 7% yearly inflation rate for the subsequent years. An inventory of all existing equipment is not yet complete.

Output 2.5: Support and strengthen health systems for EHP delivery

This is based on the approved budget and adjusted by 7% inflation for the subsequent years.

Outcome 3: Reduced risk factors to health

Output 1: Improve living and working environment and decrease risky behaviours

This is based on the approved budget adjusted by 7% inflation for the subsequent years. It includes the ITN needs for every two years, based on one ITN per two people.

9.2.2 Donors

It has been a challenge to obtain details of the long-term commitments of our development partners. This may be due in part to the current global financial crisis. Planning assumptions have been made about future contributions where partners have been unable to provide their estimates of future funding. For example, an assumption has been made that the Global Fund will continue to provide funds after 2014 at a level sufficient to at least meet the costs of the antiretroviral therapy service. There is no routine method of finding out exactly where partner contributions are channelled and so how much can be considered part of the HSSP budget. In addition, there are many NGOs and faith based organisations providing some HSSP type activity funded from outside sources. A detailed resource mapping exercise is underway to identify all sources of funding which directly contribute to the HSSP. For the purposes of this strategic plan, assumptions have been made about all likely funding contributions over the planning period. These and the other assumptions used in this chapter are documented and available on request from the Department of Planning and Policy Development.

Allowing for transaction costs in donor funding

An effort has been made to provide a realistic rather than optimistic estimate of the resource envelope within which the plans are placed. One way to do this is to estimate the overheads and transaction costs of the major donor organisations which reduce the contributions that become directly available in-country to the health sector. This has been done in as objective and transparent a way as possible, using an EU study into aid effectiveness and the most recent OECD survey into progress towards the Paris Declaration (see Annex 15 for the methods used). The following table shows the proportion of donor funding which is estimated to be overheads and unavailable to the HSSP. On average 19% of pledged donor funding is estimated to be consumed by overheads and other transaction costs (see Annex 15, Table 13). Those donors who offer financial assistance through sector budget support have much lower overhead costs, thus increasing the value of their contributions.

9.3 The resource based budget

Combining the government and donor funding provides an estimate of the total budget available each year of the planning period, as shown in Table 6. The five year budget is $2.5 billion, of which 50% is from government and 50% from donor contributions. Inflation will reduce the value of the funding in real terms over the period of the programme.

Table 6 Sources combined to provide the assumed resource based budget for the 5 Year HSSP

HSSP Assumed Budget $m	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	TOTAL	% of total
Government base budget	157.34	236.16	274.61	245.97	314.12	1,228.21	0.50
Donor pooled budget	60.00	60.00	60.00	60.00	60.00	300.00	
Budget available to government	217.34	296.16	334.61	305.97	374.12	1,528.21	
Donors							
AFDB	3.22	1.23	3.22	3.22	3.22	14.09	0.01
CHAI	13.03	7.90	7.05	9.32	9.32	46.62	0.02
DFID	54.84	48.22	41.59	41.59	41.59	227.83	0.09
GF	110.61	98.17	44.32	84.37	84.37	421.83	0.17
GTZ	2.10	2.75	2.88	2.88	2.88	13.48	0.01
JICA	0.66	0.61	0.48	0.59	0.59	2.93	0.00
Norway/MFA	2.97	3.14	1.02	1.02	0.42	8.58	0.00
UNAIDS	0.35	0.35	0.35	0.35	0.35	1.76	0.00
UNFPA	2.93	3.39	2.98	3.21	4.43	16.94	0.01
UNICEF	0.80	0.56	0.28	0.28	0.28	2.19	0.00
USAID	38.86	44.99	42.14	36.16	34.60	196.75	0.08
WHO	1.76	1.93	2.12	2.34	2.57	10.72	0.00
World Bank	-	16.57	16.57	16.57	16.57	66.29	0.03
Other partners –FICA , CDC, GAVI, EU, NGOs, FBOs, Gates, MSF	42.00	42.00	42.00	42.00	42.00	208.00	0.08
Donor total	274.13	271.81	207.00	243.89	243.19	1,238.02	0.50
Total (Gov base budget + donor total)	**431.47**	**507.97**	**481.61**	**489.86**	**557.32**	**2,466.23**	

This resource based budget has a per capita cost of $31.6, which is below the minimum level believed to be necessary to provide a basic health service ($34 per capita was the minimum level calculated by WHO's Macroeconomics and Health Commission in 2004 ($47 at today's prices) before the cost of 2nd line ART drugs was known.

The HSSP under ideal and resource based budget scenarios

The cost of the HSSP can be analysed by comparing the budget of the ideal scenario with the budget of the resource based scenario (Table 7). As in the previous PoW the resource based budget is considerably less than the ideal budget, in this case meeting 75% of costs. The share between EHP and non-EHP remains at approximately 80:20.

Table 7 Direct and indirect costs of an ideal and a resource based budget for the 5 year HSSP derived from the cost model

Ideal 2011/2016 - $m	EHP	Non-EHP	Total	Resource based 2011/2016 - $m	EHP	Non-EHP	Total
Direct costs	1,277.84	392.43	1,670.27	Direct costs	917.13	285.14	1,202.27
Indirect costs - HR	651.33	45.50	696.83	Indirect costs - HR	546.26	47.79	594.04
Indirect costs - non-HR	487.43	38.59	526.02	Indirect costs - non-HR	364.24	29.34	393.58
Total recurring costs	2,416.60	476.51	2,893.11	Total recurring costs	1,827.63	362.26	2,189.89
Capital developments	190.05	139.05	329.10	Capital developments	213.59	62.75	276.34
Total	2,606.65	615.56	3,222.21	Total	2,041.22	425.01	2,466.23
Cost per capita	33.40		41.28	Cost per capita	26.15		31.60
% of total	0.81	0.19	1.00	% of total	0.83	0.17	1.00

9.3.1 Gap analysis

The difference between the ideal and resource based budgets provides a measure of the gap in funding which exists if the HSSP is to be fully implemented.

Table 8 The gap between assumed and ideal funding necessary to implement the HSSP in full

HSSP Assumed Budgets $m	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	TOTAL
Resource based budget - $m	416	492	465	473	541	2,386
Ideal Budget - $m	461	553	644	736	828	3,222
Gap - $m	45	61	179	263	288	836
% gap per year	10%	11%	28%	36%	35%	26%

The gap in the first year of the programme is 6%, rising to 33% in the later years, with an overall gap of 23% (Table 8). The reason the gap widens in the later period of the programme is that high population growth will increase demand, and access is planned to be improved from 65% in the first year to 100% in the fifth year with the building of 76 new health centres and the upgrading of 130 dispensaries to health centres – particularly with the intention of improving the coverage of basic emergency obstetric (BEMOC) services.

The identification of the funding gap provides an opportunity for potential donors to see when additional resources will be most useful. The gap analysis will also be used in a future Global Fund application. It should be noted that the resource budget assumes that Global Fund contributions will continue after 2014. If future Global Fund applications fail, the gap will rise to 32% overall, and 47% in the last two years of the programme.

9.3.2 An assessment of HSSP performance using the two budget scenarios

The under-funding of the HSSP will have a major impact on performance, as shown by taking the two budget scenarios and comparing the level of achievement of selected targets in the last year of the programme. It should be noted that many of the targets rise each year of the programme in an effort to reach Millennium Development Goals and other internationally recommended targets. The analysis uses the cost model which can be programmed to reduce two types of EHP interventions (in line with budget constraints) - those that are linked to earmarked funding such as ART and those that do not receive substantial earmarked funding, such as reproductive health. It is assumed that earmarked interventions will be given some, but not complete, protection when resources are particularly scarce. For instance, even EPI will suffer if the vaccines can be procured but yet there is no money for fuel to distribute them to health centres or for supportive supervision. An average but more severe reduction in activity is modelled for interventions relying on pooled funding.

Table 9 Activity (% of coverage attained) associated with different scenarios of the cost model for the first and last years of the HSSP

Scenario	Budget	Resource based budget			Ideal budget
		2011/12	**2015/6**	**2015/6**	**2015/6**
EHP Component	**Scenario**	Partial protection of earmarked activities - 93% earmarked, 86% pooled, 65% coverage, $32m infrastructure	Across the board reduction in activity - 76% earmarked, 38% pooled, 75% coverage, $58m infrastructure	Partial protection of earmarked activities - 90% earmarked, 50% pooled, 75% access, all capital to revenue, further 20% cut in indirect costs	Full implementation - 100% earmarked, 100% pooled, 100% access, 29% increase in staff levels, $58m infrastructure
	EHP Intervention	**coverage**	**coverage**	**coverage**	**coverage**
Vaccine-preventable	Full immunization	84%	68%	81%	90%
	HPV	1%	76%	90%	100%
ARI	ARI in under-5s	59%	38%	50%	100%[55]
Malaria	Malaria - bednets	51%	61%	72%	80%

[55] For activities under vaccine-preventable diseases and ARI, the targets found in the right-hand column can be considered the year 5 targets adopted for the HSSP. Targets in other years may be different - most increase but some reduce with time.

Scenario	Budget	Resource based budget			Ideal budget
		2011/12	2015/6	2015/6	2015/6
	IPT Pregnancy	60%	61%	72%	80%
	Malaria - under 5	131%	256%	303%	337%[56]
	Malaria - 5 and over	26%	19%	25%	50%
	Diagnosis (rapid tests /microscopy)	9%	34%	45%	90%
	IRS (households in 12 districts)	23%	76%	90%	100%
Adverse maternal / neonatal outcomes	Antenatal Care	86%	38%	50%	100%
	Normal Delivery	66%	30%	40%	80%
	Major obstetric and neonatal complications	8%	6%	8%	15%
	Treatment of Syphilis in Pregnancy	1%	15%	20%	40%
	Postpartum Care	13%	19%	25%	50%
	Operative deliveries	4%	4%	5%	10%
	Condoms	41%	34%	40%	44%
	Oral Contraceptive Pill	7%	3%	4%	9%
	Depo-provera injection	59%	30%	40%	79%
Tuberculosis	Treatment	0.13%	0.05%	0.06%	0.12%
Acute Diarrhoeal Diseases	Treatment of Acute Dehydration in U5s	12%	12%	12%	16%
STDs including HIV/AIDS	HIV Testing & Counselling (HTC)	19%	30%	36%	40%
	Management of OIs	2%	2%	2%	2%
	Prevention of MTC transmission	37%	57%	68%	75%
	Testing + treatment of other STIs	2.8%	2.8%	3%	4%
	CBHBC	1.0%	1.0%	1.0%	1.4%
	ARV (adult)	85%	80%	80%	80%[57]
	ARV (child)	40%	83%	83%	83%[58]
	ARV Supplementary Feeding (adult)	9%	8%	9%	10%
	ARV Supplementary	61%	50%	59%	66%

[56] The target is set to treat all children with fever not malaria - this target will change if rapid diagnosis is rolled out.
[57] Fully protected in all scenarios
[58] Fully protected in all scenarios

Scenario	Budget	Resource based budget			Ideal budget
		2011/12	2015/6	2015/6	2015/6
	Feeding (child)				
	Mass Treatment	93%	76%	90%	100%
	Mass Treatment STH	27%	76%	90%	100%
	Micronutrient supplementation (Vitamin A)	0.7%	0.7%	0.7%	0.9%
	Moderate Acute Malnutrition (Outpatient)	2.6%	2.3%	3%	3%
Eye, Ear and Skin Conditions	Treatment of conjunctivitis	2.1%	2.4%	2%	3%
	Acute otitis media in under 5s	2.3%	2.7%	3%	4%
	Scabies and other skin diseases	3%	3%	3%	4%
	Blindness /trachoma etc	0.1%	0.08%	0.08%	0.11%
	Treatment of Wounds	2.3%	2.3%	2.3%	3.1%
	Rehabilitation (walking aid, prosthesis, etc)	31%	36%	36%	48%
Mental health	Unipolar depression	0.03%	0.12%	0.17%	0.33%
	Bipolar Disorders	0.01%	0.03%	0.03%	0.07%
	Schizophrenia	0.01%	0.02%	0.03%	0.07%
	Substance Use Disorders	0.14%	0.5%	0.7%	1.4%
	Epilepsy	0.06%	0.2%	0.3%	0.6%
Cancer	Screening cervical cancer by Visual Inspection using acetic acid	9%	19%	25%	50%
Cardiovascular	Screening by regular blood pressure checks	3%	19%	25%	50%
	Case management of hypertension	0.2%	1%	1%	2%
Diabetes	Screening	3%	19%	25%	50%
	Case management of diabetes	0.03%	0.11%	0.15%	0.30%

A table showing activity and direct costs for drugs and supplies associated with the coverage of each intervention is found in Annex 14.

There are several findings which arise from running these scenarios (Table 9 above). Firstly, a third of the budget is tied up in fixed costs associated with staff employment and

the facility running costs of the service. These fixed costs take a more prominent place in the budget if funds are short, leaving proportionately less in the budget for costs which vary depending on numbers of patients treated, such as drugs. With limited funds numbers of patients receiving treatment or prevention suffer because drugs or vaccines and critical supplies are not available. The converse is true. Additional funds can be channelled directly to these variable, patient-related costs and numbers of patients treated can therefore increase significantly.

Secondly, as patient activity is sensitive to changes in the budget available, this will be taken into account when assessing the implementation of the HSSP. Activity targets will be adjusted annually as budgets are not predictable and may change year on year. At the end of the strategic planning period judgment about the success of the whole HSSP will be made, assessing activity and associated targets compared with the funds which were used. The cost model will be used to calculate appropriate activity targets for the funds utilised.

Thirdly, the MoH at central level and DMTs at district level will be deploying resources in different ways depending on their available budgets to maximise results. The emphasis on management, delegation and systems strengthening will facilitate this flexible approach.

9.3.3 Value for money

An analysis has been undertaken to assess the cost-effectiveness of the programme with both scenarios – the fully funded HSSP and the resource based HSSP. The method used is described in section 9.3.2 above and is available on the College of Medicine website. A DALY is a year of life saved and measures not only deaths averted but also disabilities avoided or treated. As described in Chapter 3.2.2 the appropriate benchmark is that any intervention which costs less than the GDP of the country to save one DALY is highly cost effective (WHO-CHOICE)[59]. The IMF estimates Malawi will have a GDP of $350 in 2012 rising to $430 in 2016 and so any intervention which has a cost-effectiveness ratio of $350/DALY or less is well worth considering. In terms of a whole-sector programme such as the HSSP (and not just a package of essential interventions), a programme in Malawi with a cost-effectiveness ratio of $350/DALY or less is highly cost-effective and exceptional value for money.

Table 10 Cost effectiveness of the HSSP comparing the resource based and fully funded scenarios

Scenario	Resource based	Fully funded
Actual DALYS averted by EHP interventions	9,484,057	14,686,429
Potential DALYS averted by prevention activities	4,472,562	5,557,579
% of all actual DALYs - EHP and non-EHP averted	22%	34%
% of all potential DALYs averted	28%	35%
Total DALYS averted	13,956,619	20,244,008
Deaths averted	346,628	502,782
Cost	$2,468,225,113	$3,222,210,591
Cost/DALY	$177	$159

[59] http://www.who.int/choice/costs/CER_thresholds/en/index.html

The fully funded scenario is very good value for money with a cost effectiveness ratio of $159/DALY (Table 10). The resource based scenario is less cost effective but still excellent value. A key finding of this analysis is that more funding will increase the cost-effectiveness of the programme. The MoH will seek to reduce fixed costs if no additional funds are found, thus increasing the value for money of the programme. However the government will make it a priority to seek additional sources of funding to make the HSSP more valuable than it is already.

9.4 Conclusion

The HSSP plans are now in place to respond to (i) the new epidemics for Malawi, such as hypertensive heart disease and diabetes, (ii) the increasing morbidity, such as that associated with surviving AIDS patients, and (iii) the demand associated with population growth and fertility control. While the realistic level of funding is disappointing, it is not unusual, since it remains at a similar level to that experienced in later years of the PoW1. Moreover, as in the past, activities will be scaled back as necessary and the budgets will be used frugally and flexibly to maximise the most important activities. Meanwhile any new funding will be put to extremely effective use.

ANNEXES

Annex 1 Health risk analysis table

Health problem	Risk factors
Malaria *Prevalence: 43% nationally*	**Environment:** Too many mosquitoes; exposure to mosquito bites; too many breeding sites (latrines, stagnant water from washrooms, lack of drainage); lack of drainage; deforestation; poor refuse management; no cutting down of overgrown grasses; poor housing (no screens). **Biomedical**: Lack of access to treatment (economic, geographical); poor diagnosis. **Behavioural**: Not sleeping under nets (55.4% sleeping under nets)[60]; poor compliance to treatment; lack of correct information on treatment. **Economic** : IRS expensive; opposition from tobacco industry over issue of IRS
Diarrhoea *151/1000 incidence rate* *3.1% reported inpatient death rate.* *In 2009 there were about 1,495 cases, and 24 deaths with a Case Fatality Rate (CFR) of 1.6%.*	**Environment**: ***Sanitation*** - In 2010 the proportion of households with no toilet facility decreased to 11%. ***Water*** In 2010, 80% of Malawian households had access to improved sources of water, 22.5% from piped water or standpipe, and 56.7% from tube well/borehole and protected wells[61]. **Biomedical:** Poor access to health services; lack of knowledge of ORS and the danger of dehydration. **Behavioural:** No hand washing. The proportion of households with soap for use at critical times is quite low at 45%[62]. No fuel to boil water to drink; no proper food preparation/ preservation and lack of good food hygiene. **Economic:** Lack of money to buy soap, or to buy charcoal to boil water.

[60] Malawi National Malaria Indicator Survey 2010 NMCP MoH 2010
[61] DHS 2010
[62] Social cash transfer evaluation 2010

Health problem	Risk factors
TB *Case detection rate is currently at 65%*[63]	**Health Care**: Lack of access to diagnosis and treatment; poor health status (HIV, malnutrition, mental illness) **Environment**: Housing - overcrowding (prisons) **Behavioural:** Lifestyle (alcohol, drugs, hygiene) **Economic:** Insufficient food as a result of poverty
STI's /HIV *Prevalence of HIV among 15-24 year old pregnant women attending ANC 12%*	**Behavioural** : Multiple partners; unprotected sex; condom use - females 40%, males 58%; lack of access to condoms; mental illness that result in poor self esteem and impulse control; substance abuse (drugs and alcohol); lack of knowledge; embarrassment, stigma. **Biomedical :** Poor access to screening and treatment; lack of confidentiality; unaware of status; insufficient access to HTC; mother to child transmission. **Economic**: Poverty Cultural practices that enhance the transmission of HIV such as *kulowa kufa* and *fisi*.
ARIs *Incidence: 14% admissions and 20% of deaths among under fives due to asthma*	**Environment:** The majority of households use solid fuels (approximately 98%). This can put children at higher risk of respiratory infection, especially asthma and bronchitis, if the rooms are not well ventilated (especially during the cold season when children sleep near fires). **Behaviour:** Poor hygiene and hand washing practices. Only 1 in 5 caregivers know the two key symptoms of pneumonia (fast and difficult breathing); only 1 in 5 caregivers seek treatment for children from health care providers. **Biomedical**: Low levels of care for asthma, malnutrition, opportunistic infections related to HIV. Only 1 in 5 hard to staff/serve areas are equipped with antibiotics for treating pneumonia. **Economic** :Poor diet - malnutrition
Vaccine preventable diseases *Pentavalent 89% (EPI programme 2011). Measles 88% (EPI programme).In 2010, DPT-HebB-Hib 3 coverage was 93%.*	**Behaviour**: Beliefs and practices amongst some communities and individuals **Biomedical** : Lack of access to services, vaccinations, cold chain, logistics

[63] TB programme 2010 (

Health problem	Risk factors
Adverse maternal and neonatal outcomes. *Maternal mortality - 675 deaths per 100,000 live births.*	**Biomedical:** 71.4 % delivered by a skilled attendant. Poor access to health facilities; use of family or TBAs (14% TBAs and 9% relatives or friends)[64]. 8% received 2 doses of malaria prophylaxis. Quality of care: only 50% of estimated complicated cases were treated in a facility with 22% treated in an EmONC faciliaty [65]; high TFR; HIV; teenage pregnancies. Major causes of MMR = illegal or incomplete abortion, sepsis, haemorrhage. Behavioural : Decision making at household level , male relatives deciding on when and where women should deliver; teenage pregnancy; lack of knowledge of danger signs. **Economic**: Poverty, no access to transport.
Neonatal mortality *NMR estimated at 33 deaths per 1000 live births (slightly higher in rural areas with 34 deaths per 1000, against 30 in urban areas)*	**Environment** : Unclean environment **Biomedical** : Low rates of skilled attendants at delivery. 48% of mothers did not receive any postnatal care[66]; lack of emphasis on community and family care; lack of adequate treatment for neonatal infections. **Behavioural** : Lack of information on danger signs, poor hygiene
Nutrition *47% of children under 5 years stunted 1.5% severely wasted (acute malnutrition) 4% wasted* [67]	**Environment**: Prevalence of worms (hookworm, helminths); poor hygiene, resulting in diarrhoea. **Economic**: Poverty leading to food insecurity at community and household level; poor diet, with low intake of iron-rich foods. **Biomedical**: Lack of access to health care; lack of knowledge; equity and gender issues.

[64] DHS 2010
[65] EmONC Survey 2010
[66] DHS 2010
[67] DHS 2010

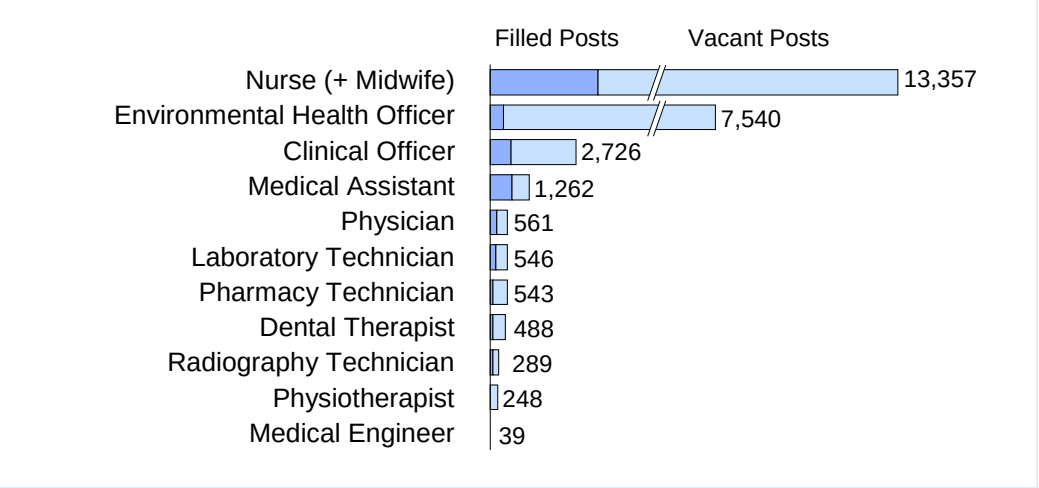
Health problem	Risk factors
Neglected tropical diseases ***Schistosomiasis*** *-0-43% with 30% average in school children* ***Blindness*** *prevalence rate is 1%* [68] ***Leprosy*** *prevalence rate is 0.5 % with fluctuations yearly from 500-700 cases*	**Environment**: Poor hygiene and sanitation; swimming in infected water; trypanosomiasis, onchocerciasis - poor vector control. **Biomedical** : Lack of access to screening and treatment **Blindness** Risk factors that contribute towards blindness include: cataracts of which the Cataract surgery rate (CSR) in Malawi is 746/1,000,000 against a target of 2000 CSR; and Glaucoma **Environment** : Trachoma (prevalence rate of active trachoma in children in 2 districts in Malawi is between 21.7 and 13.6 %) **Behavioral** (lifestyle) : Diabetes , HIV. **Biomedical** (Glaucoma): Transmitted via droplets, from the nose and mouth, during close and frequent contacts with untreated cases.
Mental health *28.8% of the patients attending primary care have common mental health problems of depression or anxiety while 19% have depression alone.* [69] *Under-reporting/diagnosis*	**Environmental** (social and physical): Unemployment; stress at work resulting from environmental factors; post traumatic stress after deaths, divorce, etc. **Biomedical:** Lack of access to treatment and recognition/diagnosis of diseases; family history of mental health problems. Chronic physical illnesses such as HIV/AIDS and/or cancer can lead to mental health problems, as can other physical illnesses such as neurosyphilis, thyroid disease and diabetes. **Behavioural:** Family violence; childhood sexual abuse; high consumption of alcohol; drug abuse; upbringing.
Trauma *Incidence of RTA 3.5% and injuries other than RTA 8.9%.*	**Environment:** Accidents in the workplace and in the community. **Behavioural**: Road accidents due to careless driving and alcohol; gender based violence. **Biomedical:** Lack of access to rapid treatment including First Aid; lack of emergency transport and referral systems.

[68] National strategic plan for eye care in Malawi 2010 MOH
[69] Draft Mental Health Strategic Plan 2011

Health problem	Risk factors
Gender based violence (linkages to Trauma, Mental health) *28.2% of women have experienced GBV since the age of 15 (with 3.7 % often and 10.5 sometimes)* [70]	**Environment /behavioural:** Psychiatric disorders; child/family abuse; trauma triggered by stress in family and poverty; alcohol, drugs. **Cultural /social norms**: Gender status; poverty; overcrowding; lack of recognition of signs on presentation to health services; barriers to communication between men and women; lack of referral system; lack of knowledge on recourse to the law.
Cardio vascular disease *32.9% hypertensive (STEPS survey 2011)* *Overall, 8.9% with high cholesterol,* *5.6% incidence of diabetes*	**Behavioural:** Diet. The overall prevalence of overweight is 21.9% (16.1% among men, 28.1% among women). Obesity: 4.6% overall (2% of men and 7.3 % of women). Lack of exercise: 9.5% (6.3 % among men and 12.6% among women). Smoking: Prevalence 14% overall (25.9% among men and 2.9 % among women). Heavy drinking: 19% among men and 2.3 % among women. **Environment:** Stress in the workplace; office based work.
Cancer	**Biomedical:** Genetic, with lack of screening and treatment. Lack of access to or availability of treatment centres. **Behavioural**: Unprotected and early sex (cervical cancer); smoking; alcohol. **Environment**: Exposure to chemicals and other hazards.
Impact of disasters /emergencies on health status	Natural hazards, e.g. earthquakes, outbreaks of communicable or infectious diseases, leading to: Increase in trauma; increase in water borne diseases due to lack of clean water and sanitation; increase in communicable and infectious diseases. Lack of preparedness of health systems for response to major events.

[70] DHS 2010

Annex 2 Workforce size by health cadre



Annex 3 Proportion of the population living within an 8 km radius of a health facility

District	Year 2011		Year 1999	
	% Serviced	% Not Serviced	% Serviced	% Not Serviced
Balaka	68%	32%		
Blantyre	97%	3%	98%	2%
Chikhwawa	73%	27%	78%	22%
Chiradzulu	98%	2%	99%	1%
Chitipa	49%	51%	52%	48%
Dedza	92%	8%	92%	8%
Dowa	85%	15%	89%	11%
Karonga	92%	8%	83%	17%
Kasungu	62%	38%	51%	49%
Likoma	0%	100%		
Lilongwe	88%	12%	86%	14%
Machinga	78%	22%	67%	33%
Mangochi	73%	27%	76%	24%
Mchinji	77%	23%	75%	25%
Mulanje	96%	4%	92%	8%
Mwanza	94%	6%	82%	18%
Mzimba	76%	24%	71%	29%
Ncheu	92%	8%	92%	8%
Neno	77%	23%		
Nkhata Bay	85%	15%	84%	17%
Nkhotakota	79%	21%	75%	25%
Nsanje	95%	5%	93%	7%
Ntchisi	91%	9%	86%	14%
Phalombe	89%	11%		
Rumphi	80%	20%	78%	22%
Salima	87%	13%	80%	20%
Thyolo	95%	5%	96%	4%
Zomba	96%	4%	97%	3%
Average	**81%**	**19%**	**82%**	**18%**

Annex 4 The number of health facilities in Malawi 2003 – 2010/2011

Ownership	Number of facilities in 2003[71]									Number of facilities in 2010[72]									
	Central Hospital	District Hospital	Mental Hospital	Community / Rural Hospital	Health Centre	Dispensary	Maternity	Rehabilitation Centre	TOTAL	Central Hospital	District Hospital	Mental hospital	Community / Rural Hospital	Hospital (other)	Health Centre	Dispensary	Maternity	Rehabilitation Unit	TOTAL
CHAM	0	0	1	4	113	18	2	1	160	0	0	1	18	20	109	12	4	1	**162**
Local Government	0	0	0	0	13	7	13	0	33	0	0	0	0	0	10	7	13	1	**31**
MoH	4	21	1	15	219	54	2	0	319	4	23	1	18	1	258	54	2	0	**361**
MoH/ CHAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
MoH/Local	0	0	0	0	39	2	0	0	42	0	0	0	1	0	45	4	0	0	**51**
Total	**4**	**21**	**2**	**20***	**393****	**93****	**17**	**1**	**575**	**4**	**23**	**2**	**37**	**21**	**423**	**77**	**17**	**2**	**606**

Note:

* 1 is other and the ownership is not indicated.

** Includes 8 other health facilities whose ownership is not indicated.

*** Includes 12 other facilities whose ownership is not indicated.

[71]MoH.(2010) *Final evaluation of the Health Sector Programme of Work (2004-2010)* Lilongwe: MoH
[72]MoH. (2010) *Annual report on the work of the health sector* Lilongwe: MoH

Annex 5 Health services SWOT analysis

STRENGTHS	WEAKNESSES
• The development of the EHP in the context of limited resources. • The development of draft Health Bill. • The availability of the National Health Policy, other health policies, and standards and guidelines for delivery of the EHP. • Existence of mechanisms for conducting formal health sector reviews and monitoring the performance of the health sector. • Increasing alignment of partners within the sector. • Functioning governance structures within the health sector. • Strong partnerships with HDPs and other stakeholders including the community. • Alignment of HSSP targets with the MGDS and MDGs. • Decentralization of the health system to District Assemblies (partially). • Establishment of CMS Trust. • Availability of standards for the different levels of health facilities. • Commitment to increasing human resources. • Strong commitment to mobilization of financial resources.	• Limited implementation and enforcement of policies, guidelines, standards and protocols; delay in revision of PIM. • Shortage of human resources and inequitable distribution. • Increasing number of donor funded projects. • Non-alignment with some donors which results into inequitable distribution of resources and inappropriate management and utilization of resources (human, financial and logistics). • Procurement systems require further strengthening. • Inadequate health service coverage and utilization. • Financial management and accountability system requires continual strengthening. • Weak referral system and over-reliance on central hospitals for EHP delivery. • Poor coordination of public-private activities in the health sector. • Non-adherence to capital investment plan at district level. • Poor performance of contractors in infrastructure. • Lack of utilities in some facilities. • Poor transport management system. • Lack of adequate attention to social determinants of health. • Weak monitoring and evaluation system and lack of utilization of data for decision making. • Slow implementation of decentralization.

OPPORTUNITIES	THREATS
• Government's commitment to improve the health service delivery and quality of care through priority and cost effective interventions. • Government commitment to public-private partnerships in health service delivery. • Decentralization of services for effective community participation in health services delivery. • Commitment by donors to support the health sector.	• Compromised national ownership through parallel processes and uncoordinated oversight. • Shortage of human resources. • Lack of control over determinants of health. • Climate change. • Illiteracy, poverty and high levels of population growth. • Lack of capacity to implement the decentralized health system. • Rising cost of medical equipment, drugs, supplies and construction materials. • Irrational drug use. • Donor dependency. • Lack of capacity of training institutions to fulfil human resource needs of MoH. • Costs of Service Level Agreement to ensure universal coverage, and difficulties in implementation of SLAs. • Migration of experienced professionals from the public sector. • Limited capacity of the existing means of communication to reach all segments of the population, impacting on IEC/BCC activities. • Resistance from some HDPs to adhere to the agreed requirements and harmonization of budget cycle, funds disbursement and reporting. • Approval of the draft Health Bill may take time. • Inadequate resource mobilization to meet financial resource needs of the HSSP.

Annex 6 HSSP risk analysis

RISK RATING	RISK DESCRIPTION	PROPOSED MITIGATION MEASURES
Low	Political stability	• The MoH will work with other Government Ministries and Departments, Civil Society Organisations, the private sector and the HDPs to ensure continued provision of health services to the people of Malawi.
High	Inadequate funding for the health sector	• The MoH and other stakeholders in the health sector including the Parliamentary Committee on Health shall advocate for the increased allocation of resources to the health sector by GoM in order to achieve the Abuja Target of 15%. • The MoH is strengthening its financial management systems to ensure efficient utilisation of financial and other resources while at the same time promoting transparency and accountability in the way resources are used. • The MoH with support from HDP will develop a comprehensive health financing strategy which will be used for mobilisation of resources for the health sector. • Some wards at District and Central Hospitals shall continue charging user fees in order to generate additional revenue.
High	Shortage of Essential Medicines and Supplies	• The HSSP contains strategies that will address shortage of Essential Medicines and Supplies in health facilities.
High	Improvements in financial management systems may not be sufficient or timely	• The HSSP has recognised this risk and measures have been proposed in this document to address the issue
Medium	Improvements in procurement systems may not be sufficient or timely	• The HSSP has recognised this risk and measures have been proposed in this document to address the issue.
Low	Outdated legal environment	• A Health Bill has been drafted and will be passed by parliament during the period of implementing the HSSP.
High	Critical shortage of human resources	• The EHRP made great progress in addressing the shortage of human resources in Malawi. Further massive investment in human resources is a major priority in the HSSP.

RISK RATING	RISK DESCRIPTION	PROPOSED MITIGATION MEASURES
Medium	Slow implementation of decentralisation	• The MoH will work closely with the MoLGRD in order to ensure effective decentralisation of health services.
Low	Non-alignment with some donors	• The MoH will encourage donors to work within the SWAp environment.
Medium	Lack of adequate attention to social determinants of health	• Addressing social determinants of health is a major priority in the HSSP and the MoH will work with other stakeholders in order to address this.
Medium	Weak monitoring and evaluation system and lack of utilisation of data for decision making	• A comprehensive HIS strategic plan has been developed to address this. • A TA will be hired to help improve the HMIS.
Medium	Weak referral system and over-reliance on central hospitals for delivery of EHP services	• The MoH will strengthen urban facilities in order to decongest central hospitals. • The MoH in conjunction with other stakeholders will strengthen its referral system
Medium	Poor coordination between the public and private sectors	• A TWG has since been created and there is a desk officer within the Department of Planning responsible for Public Private Partnership. Plans are underway to develop a Public Private Partnership policy.

Annex 7: Roadmap for developing the HSSP and stakeholders involved

EVENT	STAKE-HOLDERS	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL - DEC	OUTPUTS
		2011										2012							
Meetings with partners /stakeholders and MoH on design of HSSP	All stakeholders																		Agreeing on the process of developing the HSSP
End of term review	Consultations with all stakeholders																		Briefing on finding of end of term review by consultants
Update meeting on design of PoW II (9th July)	MoH, Civil society , DPs																		Core team chosen. Reports from TWG's BoD presentation. District expenditure survey showed high costs of Non EHP conditions. Agreement to review EHP. EHP TWG tasked to come up with key interventions.
Consultative meeting on PoW II at Capital Hotel, 200 participants (all stakeholders)	MoH, DPs , UN, civil society, training institutions, CHAM, Local government (DCs), districts, local chiefs , regulatory bodies																		Presentations on: End of term review findings, District Expenditure Survey, Malaria Indicator Survey. Analysis of BoD studies. Discussion and agreement on recommendations from the evaluation and surveys/studies. Consensus developed on proposed framework, building blocks, strategic interventions and targets to be achieved in the next PoW. Identified gaps in information required and agreement reached on methodology for collecting such information.
Core group meetings	MoH, DPs , UN, civil society , training institutions, CHAM																		Development of ToRs and choice of consultants, agreement of and comments on HSSP drafts, monitoring progress

EVENT	STAKE-HOLDERS	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL - DEC	OUTPUTS
		2011										2012							
Extended TWGs – HR, QA, M&E, Finance and procurement, EHP, (+ specific EHP areas), PPP, Essential Medicines & Supplies, hospital reform , nutrition, HIV	Various stakeholdersPrivatisation Commission, Ministries of Education, Finance and Local Government																		Development of strategies for each area
Lead consultant engaged																			
Other consultants engaged																			QA, HR
Costing consultant engaged																			
Annual review meeting	All stakeholders																		Agreement on framework and some key interventions and endorsement of EHP interventions
Community /public discussions in all three regions carried out by civil society																			
Stakeholder/ consensus meeting																			Review again of EHP and agreement on strategies in other areas. Agreed that individual conditions and interventions should be shown in table format by service delivery level.
First internal review	Core team																		First comments incorporated in document

EVENT	STAKE-HOLDERS	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL - DEC	OUTPUTS
		2011										2012							
Second internal review meeting	All stakeholders																		Second comments incorporated in document
External review meeting	Stakeholders, including MEPD presentation on MGDS																		Discussions and presentations on 5 key areas
Mid-year review																			Presentation and discussions on some key areas that needed to be changed
Draft of HSSP circulated, comments received and adjusted (zero-4)																			
Formal launch by Hon Minister of Health during Annual review (Sept 2011)																			
Final editing , requests to partners for projections /adjustments of resource envelope and scenario calculations (July 2011 - Mar 2012)																			Projections, resource envelope and scenario calculations adjusted. Plan finalised and edited.

Annex 8 The leading 10 risk factors and the leading 10 diseases or injuries in Malawi

Top 10 risk factors			Top 10 diseases/injuries		
Rank	***Risk factor***	***% of total***	***Rank***	***Disease***	***% of deaths***
1	Unsafe sex	34.1	1	HIV/AIDS	33.6
2	Childhood and maternal underweight	16.5	2	Lower Respiratory Infections	11.3
3	Unsafe water, sanitation and hygiene	6.7	3	Malaria	7.8
4	Zinc deficiency	4.9	4	Diarrhoeal diseases	7.6
5	Vitamin A deficiency	4.8	5	Conditions arising from perinatal conditions	3.2
6	Indoor smoke from solid fuels	4.8	6	Cerebrovascular disease	2.8
7	High blood pressure	3.5	7	Ischaemic heart disease	2.6
8	Alcohol	2.0	8	Tuberculosis	2.4
9	Tobacco	1.5	9	RTA	1.3
10	Iron deficiency	1.3	10	Protein energy malnutrition	1.0

Risk factors for NCDs in Malawi (Source: STEPS Survey 2009)

Results for adults aged 25-64	Males	Females	Total
Percentage who currently use tobacco products	25.9%	2.9%	14.1%
Percentage who have consumed alcohol in their life time	52.6%	12.2%	31%
Percentage who are current drinkers	30.1%	4.2%	16.9%
Percentage who engage in heavy episodic drinking	19%	2.3%	-
Percentage with low levels of physical activity	6.3%	12.6%	9.5%
Percentage of adults who are overweight	16.1%	28.1%	21.9%
Percentage who are obese	2.0%	7.3%	4.6%

The Table above shows that 14.1% of the respondents are smoking, 16.9% consume alcohol, 9.5% have low levels of physical activity, 21.9% are overweight and 4.5% are obese. In all these, except obesity and low levels of physical activity, there were more men who experienced risk factors than women.

Table 2 (Chapter 3.2.2) shows the prevalence of NCDs in Malawi: 32.4% of the persons aged 25-64 are hypertensive while 8.9% suffer from cardiovascular diseases. Over 75% of those with hypertension are unaware that they are hypertensive. The prevalence of diabetes is estimated at 5.6% while injuries (other than RTA) are at 8.9% and asthma at 5.1%. The prevalence of RTAs is estimated at 3.5%. These statistics demonstrate that NCDs are a major public health problem in Malawi. However, there is limited high level commitment for NCDs at national level and NCD prevention and control programs continue to be underfunded.

Annex 9 An EHP for Malawi defined by level of health care delivery

	Primary health care		Secondary health care		Tertiary care		National
Strategy	Community	Health centre	Community hospitals	District hospitals	Zomba mental hospital, Rehabilitation clinics	Referral hospitals (KCH, QECH, Zomba, Mzuzu)	MoH HQ
Public health interventions: Disease prevention and health promotion (individuals / communities / settings)							
Implement Integrated vector control measures in all settings: community, schools, orphanages, workplaces, health facilities	Provision of IRS services in high risk areas	Provision of IRS in all health facilities and all levels					Advocate for healthy environmental policies Conduct Environmental impact assessment Develop policies , guidelines and standards Advocate for companies to fulfill their corporate responsibilities towards health (environmental control , larviciding, etc)
	Promote and carry out drainage and larviciding of vector (mosquito) breeding sites in all settings	Drainage and larviciding surrounding areas at all health facilities					
	Provision of LLITNs (HH level)	Provision of LLITNs in all health facility wards					
Promote healthy lifestyle /behaviour change through community mobilization, IEC /advocacy and healthy settings programmes. Promote early recognition of danger signs, mental health.	Community/social mobilisation. IEC / advocacy on Early recognition of danger signs of EHP conditions, mental health promotion, lifestyle, nutrition, disability.	Community/social mobilisation, IEC / advocacy on Early recognition of danger signs of EHP conditions, mental health promotion, lifestyle, nutrition, disability.	IEC / advocacy on Early recognition of danger signs of EHP conditions, mental health promotion, lifestyle, nutrition, patient support groups				Develop communication strategies, and support districts to develop communication strategies based on priority areas/EHP conditions

	Primary health care		Secondary health care		Tertiary care		National
Strategy	**Community**	**Health centre**	**Community hospitals**	**District hospitals**	**Zomba mental hospital, Rehab clinics**	**Referral hospitals**	**MoH HQ**
Promote safe water, sanitation and hygiene	Address priority issues based on disease burden: Environmental and personal hygiene, safe water and sanitation, nutrition, food service outlets inspections, border-post checks.	Subsidized water purification tablets, hygiene promotion (PHAST) through IEC	Subsidized water purification tablets, hygiene promotion (PHAST) through IEC				Develop guidelines for healthy settings (communities, workplaces, etc), environmental health (waste management, etc)
Promote healthy settings programmes (workplace, village, urban/ healthy cities, etc)	**Implementation of healthy settings** Model programmes for villages, cities, workplaces, learning institutions.	Outreach and supervision of HP officers, environmental health officers, HSAs			Healthy workplaces (health facilities)		**Advocate** for healthy public policies for food & nutrition advertising, tobacco and alcohol use/sales, road safety, workplace safety. Develop guidelines for Healthy Settings.
Promote family planning	**Community based family planning** Provision of contraceptives through social market-ing, village clinics, outreach and in hot spots, youth friendly outreach services, linkages with door to door HTC, safer sex negotiation targeting high risk behaviours, normative change.	Integrated family planning through different entry points (FP, MCH, ART, HTC), promotion of safer sex (dual protection), benefits of spacing for health of mother and child.	Integrated family planning : vasectomy, other surgery through different entry points (FP, MCH, ART, HTC), related health promotion	Integrated family planning through different entry points (FP, MCH, ART, HTC), related health promotion			Development of guidelines, policies, standards, etc. M&E, research, advocacy. Revitalize communications strategy to promote uptake of family planning

	Primary health care		Secondary health care		Tertiary care		National
Strategy	**Community**	**Health centre**	**Community hospitals**	**District hospitals**	**Zomba mental hospital, Rehab clinics**	**Referral hospitals**	**MoH HQ**
Promote safer childbirth through referral, community based transport, danger signs, hygiene kits for mothers	**SBCC :** Promote safer childbirth, referral , community based transport, danger signs, hygiene kits for mothers	IEC. Distribute hygiene kits for pregnant mothers					Develop policies and guidelines to promote safer childbirth
Promote safer sex among different segmented populations (MARPS, youth, men and women, vulnerable groups and settings, PLWH)	Provision of condoms (through social marketing, village and outreach clinics)	Provision of condoms (through social marketing, village and outreach clinics)	Provision of condoms (through social marketing in clinics)				Development of guidelines, policies, standards. M&E, research, advocacy
Promote treatment for STIs , contact tracing + safe sex	IEC on signs, symptoms of STIs and contact tracing						Development of guidelines, policies, standards. M&E, research, advocacy
IPT to pregnant women	Promote IEC re IPT for pregnant women	Provide CPT, PEP, IPT					Development of guidelines, policies, standards. M&E, research, advocacy
Immunize under five children and pregnant women (vaccine prevent-able diseases)	Vaccination services through outreach, village clinics, mass catch-up campaigns	Routine and targeted vaccination services, TT	Routine and targeted vaccination services				Development of guidelines, policies, standards. M&E, research, advocacy

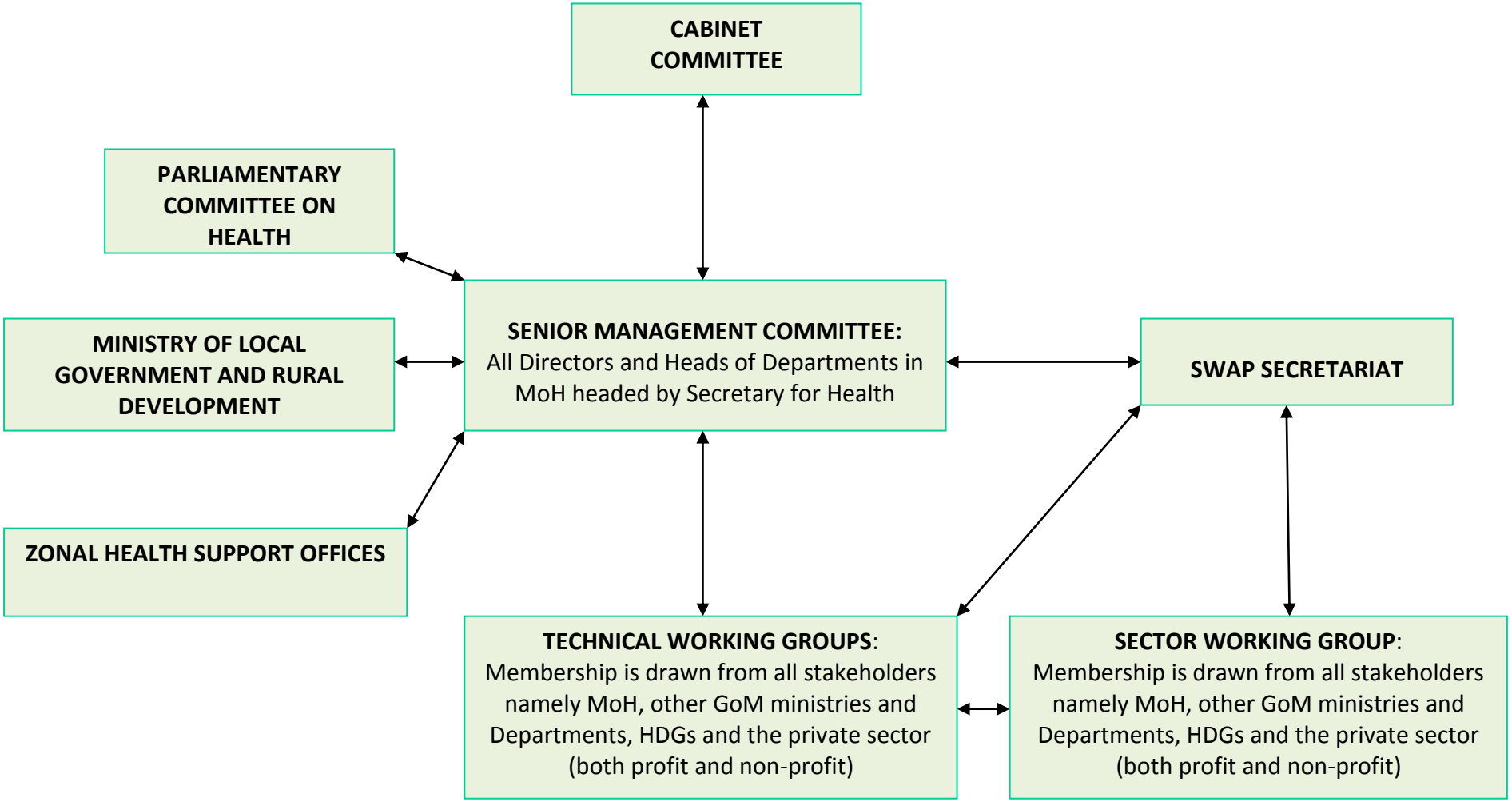
	Primary health care		Secondary health care		Tertiary care		National
Strategy	**Community**	**Health centre**	**Community hospitals**	**District hospitals**	**Zomba mental hospital, Rehab clinics**	**Referral hospitals**	**MoH HQ**
Diagnosis / screening							
Improved diagnostic services	Passive and active detection of disease conditions Investigation of outbreaks, etc	Basic Diagnostic services including Blood screening for malaria, TB, HB, etc	Basic Diagnostic services - plus Radiology, CD4, ultrasonography		Basic Diagnostic services – plus Radiology, CD4, ultrasonography.	Basic Advanced diagnostics services plus - Radiology, CT and CD4 monitoring drug levels (addictive drugs), ultrasonography	Development of guidelines, policies, standards, etc. M&E, research, advocacy [73]
Promote screening for early detection of disease to prevent premature death and to promote healthy lifestyles	Conduct screening /health assessment at (health promoting) schools, workplaces, communities, etc. Outreach clinics for hypertension, nutrition for under fives and BMI.	Conduct targeted and routine screening /health assessment for hypertension, mental health (including addictions), nutrition, diabetes, gender based violence and child abuse, hearing and other disabilities, TB and HIV, cervical and breast cancer.					Development of guidelines, policies and standards on screening, and referral systems for GBV/sexual abuse.
Case management and referral							
Provide General and Child health care (newborn care, nutrition) through IMCI and other approaches (ACSD)	CTC, vitamin supplementation	Treatment of moderate and severe malnutrition					Development of guidelines, policies, standards for EHP conditions and associated approaches, etc. M&E, research, advocacy.

[73] Ref Standard Laboratory Guidelines MoH

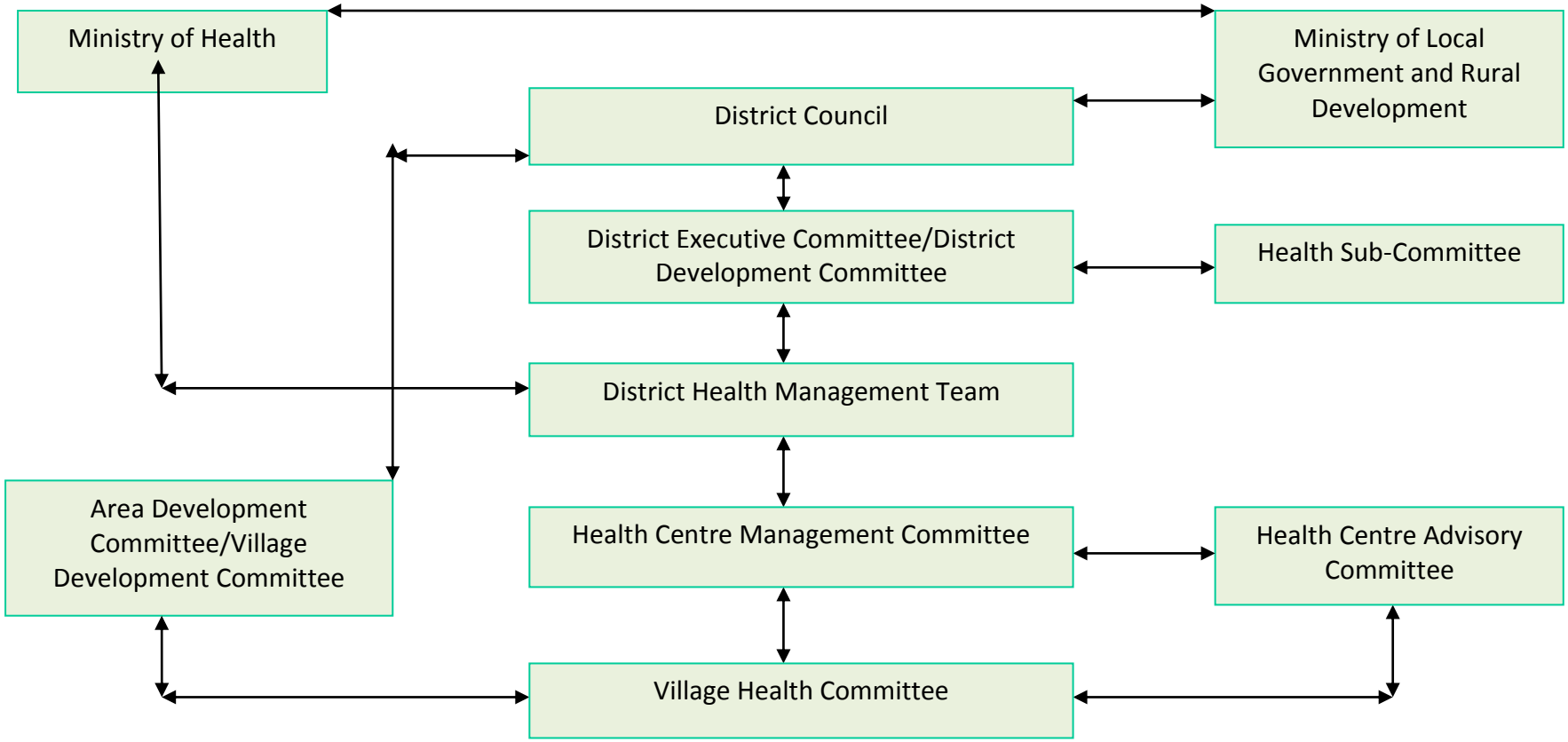
	Primary health care		Secondary health care		Tertiary care		National
Strategy	**Community**	**Health centre**	**Community hospitals**	**District hospitals**	**Zomba mental hospital, Rehab clinics**	**Referral hospitals**	**MoH HQ**
	Home based care , early referral for childhood illness	Case management of uncomplicated illnesses conditions and referral for complicated cases including Mental health, GBV and child sexual abuse, trauma (minor surgery)	Case management of uncomplicated illnesses and conditions. Referral for complicated cases, including Mental health, GBV and child sexual abuse, trauma.	Treatment of other illnesses and conditions. Treatment and referral for all cases including Mental health, GBV, child sexual abuse. A&E, trauma, critical care, HDU	Treatment of other illnesses and conditions. Treatment and referral for all cases including Mental health, GBV, child sexual abuse.	Treatment including major complicated surgery. Specialist OPD and Inpatient care of other illnesses and conditions. Treatment and referral for all cases including Mental health GBV, child sexual abuse. A&E, trauma, critical care, HDU, treatment of severe injuries.	Referral systems set up for trauma
	Provide mass treatment at community and schools for NTDs, schistosomiasis, soil helminths (deworming)						
Reproductive health	Outreach, village clinics, basic package of ANC, PNC, PMTCT. Follow up, case management and referral	Uncomplicated delivery (BEmONC) MVA, PAC, VIA, FANC, implant insertion and removal. Referral of complicated cases.	Uncomplicated delivery and complications of delivery (BEMoNC) MVA, PAC, male circumcision, VIA, FANC, implant insertion and removal. Referral of complicated cases.	Uncomplicated delivery and complications of delivery (CEmONC) MVA, PAC, male circumcision, VIA, cryotherapy, comprehensive FANC, implant insertion and removal.		Uncomplicated delivery and surgery Complicated delivery and complications of delivery	Development of guidelines, policies, standards, etc. M&E, research, advocacy

	Primary health care		Secondary health care		Tertiary care		National
Strategy	**Community**	**Health centre**	**Community hospitals**	**District hospitals**	**Zomba mental hospital, Rehab clinics**	**Referral hospitals**	**MoH HQ**
Rehabilitation and palliative care							
Palliative care	Home based care, follow up for chronic conditions and palliative care.	Referral for HBC		Referral for HBC			Development of guidelines, policies, standards, etc. M&E, research, advocacy.
Rehabilitation	Community based rehabilitation	Rehabilitation of clients with trauma, mental health conditions, referral			Rehabilitation of clients with trauma, mental health conditions, referral (both up and down)	Treatment of cases of acute trauma and mental health and initial rehabilitation. Making disability aids.	

Annex 10 Governance structure for the Health Sector: National level



Annex 11 Governance structure of the health sector: District level



Annex 12: HSSP core health performance indicators

No.	Indicator	Purpose	Data source	Monitoring Frequency	Aggregation	Baseline (2010-11)	Target (2011-12)	Target (2012-13)	Target (2013-14)	Target (2014-15)	Target (2015-16)	Comm-ent
	Health impact											
1	Maternal Mortality Ratio (MMR)	Impact	DHS (NS0)	Quiennially	National/ District	675/ 100000					155/ 100000	
2	Neonatal Mortality Rate (NMR)	Impact	DHS (NS0)	Quiennially	National/ District	31/1000					12/1000	
3	Infant Mortality Rate (IMR)	Impact	DHS (NS0)	Quiennially	National/ District	66/1000					45/1000	
4	Under five Mortality Rate (U5MR)	Impact	DHS (NS0)	Quiennially	National/ District	112/1000					78/1000	
	Coverage of health services											
5	EHP coverage (% Facilities able to deliver EHP services)	Outcome	HMIS	Annually	National	74%	77%	80%	83%	86%	90%	
6	% of pregnant women starting antenatal care during the first trimester	Outcome	HMIS	Annually	National	9%	11%	13%	15%	17%	20%	
7	% of pregnant women completing 4 ANC visits	Outcome	DHS (NSO)	Annually	National	46%					65%	
8	% of eligible pregnant women receiving at least two doses of IPT	Outcome	DHS (NS0)	Quiennially	National	60%			80%		90%	
9	Proportion of births attended by skilled health personnel	Outcome	HMIS WMS	Annually	National	58% 75%	60% 76%	65% 77%	70% 78%	75% 79%	80% 80%	
10	Penta III coverage	Outcome	EPI	Annually	National/ District	89%	90%	91%	92%	93%	94%	
11	Proportion of 1 year-old children immunized against measles	Outcome	EPI	Annually	National/ District	88%	89%	89%	89%	90%	90%	
12	Proportion of 1 year-old children fully immunized	Outcome	DHS (NSO)	Quiennially	National/ District	80.9%			84%		86%	

No.	Indicator	Purpose	Data source	Monitoring Frequency	Aggregation	Baseline (2010-11)	Target (2011-12)	Target (2012-13)	Target (2013-14)	Target (2014-15)	Target (2015-16)	Comm-ent
13	% of pregnant women who slept under an ITN the previous night	Outcome	DHS (NS0)	Quiennially	National/ District	49.4%			75%		80%	
14	% of under 5 children who slept under an insecticide treated net (ITN) the previous night	Outcome	DHS (NSO)	Quiennially	National/ District	55.4%			75%		80%	
15	Neonatal postnatal care (PNC) within 48 hours for deliveries outside the health facility	Output	DHS (NS0)	Quiennially	National	Baseline to be established from DHS 2010						
16	% of women who received postpartum care after delivery by skilled health worker within seven days	Output	DHS (NS0)	Quiennially	National/ District	10%	15%	20%	25%	25%	30%	
17	Prevalence of HIV among 15-24 year old pregnant women attending ANC	Outcome	DHS (NS0)	Quiennially	National	12%			9%		6%	
18	% of HIV+ pregnant women who were on ART at the end of their pregnancy (to reduce mother to child transmission and for their own health)	Outcome	HIV /AIDS Programme	Annually	National	35%	68%	75%	78%	80%	82%	
19	% of health facilities satisfying health centre waste management standards	Output	Environmental Health	Annually	National/ District	35%					55%	
20	% surveyed population satisfied with health	Outcome	SDSS (MHE	Annually	National	83.6% (urban)			85% (urban) 85% (rural)		90% (urban) 90% (rural)	

No.	Indicator	Purpose	Data source	Monitoring Frequency	Aggregation	Baseline (2010-11)	Target (2011-12)	Target (2012-13)	Target (2013-14)	Target (2014-15)	Target (2015-16)	Comm-ent
	services (by gender and rural/urban)		N)			76.4% (rural)						
	Coverage of Health Determinants											
21	% of households with an improved toilet	Output	DHS (NS0)	Quiennially	National/ District	46%					60%	
22	% of households with access to safe water supply	Output	DHS/MICS (NS0)	Quiennially	National/ District	79.7% (DHS 2010)					TBA	
23	% of children that are stunted	Outcome	DHS (NS0)	Quiennially	National/ District	47.1% (DHS 2010)					TBA	
24	% of children that are wasted	Outcome	DHS (NS0)	Quiennially	National/ District	4.0% (DHS 2010)					TBA[74]	
	Coverage of Risk factors											
25	Contraceptive Prevalence Rate (modern methods)	Outcome	DHS (NSO)	Quiennially	National	42% (DHS 2010)			50%		60%	
	Health systems Outputs (availability, access, quality, safety)											
26	OPD service utilization (OPD visits per 1000 population)	Output	HMIS	Annually	National/ District	1316/ 1000 pop	>1000/ 1000 pop	>1000/ 1000 pop	>1000/ 1000 pop	>1000/ 1000 pop	>1000/ 1000 pop	
27	% of fully functional health centres offering basic EmOC services	Output	HMIS	Annually	National	98 90%	119 92%	122 94%	126 96%	130 98%	134 100%	
28	% of non public providers in hard to staff/serve areas signed SLAs with DHOs	Output	HMIS	Annually	National/ District	76						
29	% of monthly drug deliveries monitored by	Output	HMIS	Annually	National/ District	85%	87%	89%	92%	95%	95%	

[74] Others sectors have influence over food security and water and sanitation, notably Agriculture, Irrigation and Water Development

No.	Indicator	Purpose	Data source	Monitoring Frequency	Aggregation	Baseline (2010-11)	Target (2011-12)	Target (2012-13)	Target (2013-14)	Target (2014-15)	Target (2015-16)	Comm-ent
	health facility committees											
30	% of health facilities with stock outs of tracer medicines in last 7 days (TT vaccine, LA, Oxytocin, ORS, Cotrim-oxazole, Diazepam Inj., All Rapid HIV Test kits, TB Essential Medicines, Magnesium Sulphate, Gentamicin, Metronidazole, Ampicillin, Benzyl penicillin, Safe Blood, RDTs)	Input	LMIS	Annually	National/ District	TT vaccine= 98% LA=98% Oxytocin= 95% ORS= 97% Cotrim-oxazole= 99% Diazepam Inj.= 94% All Rapid HIV Test kits=89% TB drugs= 99% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	TT vaccine= 100% LA=100% Oxytocin= 100% ORS= 100% Cotrim-oxazole= 100% Diazepam Inj.=100% All Rapid HIV Test kits=100% TB drugs= 100% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	TT vaccine= 100% LA=100% Oxytocin= 100% ORS= 100% Cotrim-oxazole= 100% Diazepam Inj.=100% All Rapid HIV Test kits=100% TB drugs= 100% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	TT vaccine= 100% LA=100% Oxytocin= 100% ORS= 100% Cotrim-oxazole= 100% Diazepam Inj.=100% All Rapid HIV Test kits=100% TB drugs= 100% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	TT vaccine= 100% LA=100% Oxytocin= 100% ORS= 100% Cotrim-oxazole= 100% Diazepam Inj.=100% All Rapid HIV Test kits=100% TB drugs= 100% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	TT vaccine= 100% LA=100% Oxytocin= 100% ORS= 100% Cotrim-oxazole= 100% Diazepam Inj.=100% All Rapid HIV Test kits=100% TB drugs= 100% Magnesium Sulphate= Gentamicin= Metronidazole= Ampicillin= Benzyl penicillin= Safe Blood= RDTs=	Baselines for 6 tracer medicines to be established
31	% health facilities supervised and written	Output	HMIS	Annually	National/ District	63%	70%	75%	80%	85%	90%	

No.	Indicator	Purpose	Data source	Monitoring Frequency	Aggregation	Baseline (2010-11)	Target (2011-12)	Target (2012-13)	Target (2013-14)	Target (2014-15)	Target (2015-16)	Comm-ent
	feedback provided											
32	% facilities reporting data (according to national guidelines)	Output	HMIS	Annually	National/ District	96%	96%	96%	98%	98%	100%	
33	% districts reporting timely data	Output	HMIS	Annually	National	52%	60%	65%	70%	80%	90%	
34	Bed occupancy rate	Outcome	Survey	Annually	National	50%	55%	60%	65%	70%	80%	
	Health Investment											
35	% health facilities with functioning equipment in line with standard equipment list at time of visit	Input	PAMIS	Annually	National/ District	Baseline to be established						
36	% health facilities with functioning water, electricity & communication at time of visit	Input	HMIS	Annually	National/ District	79% w 81% e 90% c					100% w 100% e 100% c	
37	% health centres with minimum staff norms to offer EHP services	Input	HMIS	Annually	National/ District	Clinician= 30% Nurses/Mws=50% EHO/HA= 48% Compo-site=19%	Clinician= 40% Nurses/Mws =55% EHO/HA= 50% Compo-site=25%	Clinician= 50% Nurses/Mws =60% EHO/HA= 55% Compo-site=30%	Clinician= 60% Nurses/Mws =65% EHO/HA= 60% Compo-site=35%	Clinician= 70% Nurses/Mws =70% EHO/HA= 65% Compo-site=40%	Clinician= 80% Nurses/Mws =75% EHO/HA= 70% Compo-site=45%	
38	% GoM budget allocated to health sector	Input	MOF	Annually	National	12.4%			13%		15%	

Annex 13 Costing the plan

The original costing model was developed in 2002 in conjunction with the Department of Planning and Policy Development and an EHP technical working team with support from UNICEF. The initial costs were revised downwards from $22 per capita to $17.5 per capita to take into account the resource envelope and absorption capacity. This did not, however, include tertiary facilities and support to other conditions including ARVs. The implications of this reduction were not properly correlated with the targeted outcomes.

The EHP was revised in 2007 and included those elements that were excluded from the 2002 costing such as HIV program costs, increased costs associated with the Road Map to Reduction of Maternal and Neonatal Mortality, the strategic plan for accelerated child survival, costs at the MoH Headquarters (HQ), Zonal Health Support Office (ZHSO) and District Health Office (DHO) levels. This did not include salaries or any activities for central hospitals and the mental hospital. The total cost was estimated in 2007 at almost $396 million dollars per year ($27 per capita). The costing model for the PoW (2002) was based on direct costs which included drugs and supplies including laboratory supplies, bed and board, emergency transport and indirect costs comprising human resources, infrastructure, maintenance, equipment, consumables, IEC, social marketing and supervision.

The HSSP costing model now incorporates environmental health, health promotion, training based on outputs of training institutions, estimates for the implementation of the new latest ART regime, transport based on actual gaps and needs for ambulances, IEC materials, operational costs for tertiary hospitals including the mental hospital, cost of IRS and mosquito nets, an expanded service for NTDs, NCDs and mental illness, and scaling up of screening for and early treatment of cervical cancer. The new HSSP also has estimates of personnel emoluments.

The costing model will be revised during the implementation period of the HSSP to accommodate developments in all EHP direct costs especially areas such as mental health and NCD's and areas addressing risk factors such as health promotion and environmental health

Annex 14 EHP direct cost (drugs and supplies only) and coverage scenarios

Scenario	Budget	Resource based budget			Resource based budget			Resource based budget			Ideal budget		
Year	Year	2011/12			2015/6			2015/6			2015/6		
EHP Component	Scenario	Partial protection of earmarked activities - 93% earmarked, 86% pooled, 65% coverage, $32m infrastructure			Across the board reduction in activity - 76% earmarked, 38% pooled, 75% coverage, $58m infrastructure			Partial protection of earmarked activities - 90% earmarked, 50% pooled, 75% access, all capital to revenue, further 20% cut in indirect costs			Full implementation - 100% earmarked, 100% pooled, 100% access, 29% increase in staff levels, $58m infrastructure		
	EHP Intervention	activity	cost	coverage	activity	cost	coverage	activity	cost	coverage	activity	cost	coverage
Vaccine-preventable	Full immunization	503,426	$ 5,686,376	84%	459,456	$ 5,189,723	68%	544,093	$ 6,145,724	81%	604,548	$ 6,828,583	90%
	Measles	3,723	$ 2,075	0.1 %	584	$ 325	0%	779	$ 434	0%	2,065	$ 1,151	0%
	HPV	1,733	$ -	0.9 %	164,978	$ -	76%	195,369	$ -	90%	217,077	$ -	100 %
ARI	ARI in under-5s	1,072,602	$ 786,854	59%	681,447	$ 499,906	38%	909,199	$ 666,983	50%	1,807,553	$ 1,326,010	100 %
	ARI (- 5 and over)	589,180	$ 439,670	17%	795,312	$ 593,495	38%	795,312	$ 593,495	50%	1,060,416	$ 791,327	100 %[75]
Malaria	Malaria - bednets	3,059,899	$ 8,921,290	51%	10,234,409	$ 29,838,932	61%	12,119,695	$ 35,335,577	72%	13,466,328	$ 39,261,753	80%
	IPT Pregnancy	477,872	$ 7,509	60%	541,940	$ 8,516	61%	641,771	$ 10,084	72%	713,079	$ 11,205	80%
	Malaria - under 5	3,458,030	$ 742,889	131 %	6,782,200	$ 1,457,020	256 %	8,031,553	$ 1,725,419	303 %	8,923,948	$ 1,917,132	337 %[76]
	Malaria - 5 and over	3,026,508	$ 10,236,457	26%	2,589,654	$ 8,758,899	19%	3,455,162	$ 11,686,277	25%	6,869,109	$ 23,233,155	50%
	Diagnosis (rapid tests /microscopy)	583,389	$ 4,071,659	9%	678,359	$ 4,734,486	34%	678,359	$ 4,734,486	45%	678,359	$ 4,734,486	90%

[75] For activities under vaccine-preventable diseases and ARI, the targets found in the right-hand column can be considered the year 5 targets adopted for the HSSP. Targets in other years may be different - most increase but some reduce with time.

[76] The target is set to treat all children with fever not malaria - this target will change if rapid diagnosis is rolled out.

	IRS (households in 12 districts)	558,000	$ 3,995,836	23%	600,000	$ 4,296,600	76%	600,000	$ 4,296,600	90%	600,000	$ 4,296,600	100 %
Adverse Maternal/ Neonatal Outcomes	Antenatal Care	690,474	$ 1,334,127	86%	336,039	$ 649,291	38%	448,349	$ 866,295	50%	891,349	$ 1,722,257	100 %
	Normal Delivery	425,332	$ 1,846,432	66%	215,065	$ 933,629	30%	286,943	$ 1,245,665	40%	570,463	$ 2,476,471	80%
	Major obstetric and neonatal complications	51,109	$ 1,195,770	8%	40,325	$ 943,458	6%	53,802	$ 1,258,778	8%	106,962	$ 2,502,541	15%
	Treatment of Syphilis in Pregnancy	6,898	$ 4,424	1%	107,532	$ 68,958	15%	143,472	$ 92,005	20%	285,232	$ 182,913	40%
	Postpartum Care	81,752	$ 158,179	13%	134,415	$ 260,075	19%	179,339	$ 346,996	25%	356,540	$ 689,853	50%
	Operative deliveries	28,035	$ 54,792	4%	26,883	$ 52,540	4%	35,868	$ 70,100	5%	71,308	$ 139,364	10%
	Fistula repair	258	$ 504	0.01 %	151	$ 295	0.00 %	201	$ 393	0.00 %	400	$ 782	0.01 %
	Condoms	465,000	$ 3,823,504	41%	448,667	$ 3,689,207	34%	531,317	$ 4,368,798	40%	590,352	$ 4,854,220	44%
	Oral Contraceptive Pill	74,488	$ 1,173,888	7%	44,450	$ 700,502	3%	59,306	$ 934,622	4%	117,905	$ 1,858,095	9%
	Depo-provera injection	662,328	$ 3,252,296	59%	395,236	$ 1,940,765	30%	527,330	$ 2,589,403	40%	1,048,370	$ 5,147,918	79%
	Norplant	16,685	$ 85,486	1%	9,957	$ 51,013	1%	13,284	$ 68,062	1%	26,410	$ 135,312	2%
	IUCD	2,930	$ 621	0.3 %	1,749	$ 370	0.1 %	2,333	$ 494	0.2 %	4,638	$ 982	0.3 %
	Bilateral Tubular Ligation	22,083	$ 58,856	1%	11,170	$ 29,770	1%	14,903	$ 39,720	1%	39,505	$ 105,288	1%
	Vasectomy	2,859	$ 7,620	0.10 %	1,707	$ 4,549	0.12 %	2,277	$ 6,069	0.12 %	6,037	$ 16,089	0.15 %
Tuberculosis	Passive Case Detection	18,993	$ 18,402	0.13 %	7,646	$ 7,409	0.05 %	10,202	$ 9,885	0.06 %	20,282	$ 19,651	0.12 %
	Treatment -smear negative and extra-pulmonary TB	11,042	$ 46,677	0.08 %	4,446	$ 18,792	0.03 %	5,931	$ 25,072	0.04 %	11,792	$ 49,845	0.07 %
	Treatment -smear positive TB	6,102	$ 57,975	0.04 %	2,457	$ 23,340	0.01 %	3,278	$ 31,140	0.02 %	6,516	$ 61,909	0.04 %

	Treatment - relapsed cases	632	$ 8,901	0.00 %	254	$ 3,583	0.00 %	340	$ 4,781	0.00 %	675	$ 9,505	0.00 %
Acute Diarrhoeal Diseases	Treatment of Acute Dehydration in U5s	278,657	$ 258,925	12%	140,949	$ 130,968	12%	188,056	$ 174,740	12%	498,492	$ 463,194	16%
	Case management in Cholera	768	$ 2,942	1%	388	$ 1,488	1%	518	$ 1,985	1%	1,374	$ 5,263	1%
	Case management of Dysentery	98,070	$ 43,240	1%	49,605	$ 21,872	1%	66,184	$ 29,181	1%	175,438	$ 77,353	1%
STDs including HIV/AIDS	HIV Testing & Counselling (HTC)	1,201,701	$ 469,665	19%	2,318,342	$ 906,086	30%	2,745,405	$ 1,072,997	36%	3,050,450	$ 1,192,219	40%
	Management of OIs	114,247	$ 541,829	2%	107,726	$ 510,906	2%	127,571	$ 605,020	2%	188,994	$ 896,327	2%
	Screening/treatment of syphilis	5,576	$ 4,931	0.1 %	5,258	$ 4,650	0.1 %	6,227	$ 5,506	0.1 %	9,225	$ 8,158	0.1 %
	Prevention of MTC transmission	27,483	$ 650,595	37%	41,458	$ 981,418	57%	49,095	$ 1,162,205	68%	54,551	$ 1,291,339	75%
	Testing and Treatment of Other Sexually Transmitted Infections (STIs)	170,229	$ 281,074	3%	160,514	$ 265,033	3%	190,082	$ 313,854	3%	281,603	$ 464,969	4%
	CBHBC	147,195	$ 236,571	1%	133,627	$ 214,766	1%	158,243	$ 254,328	1%	234,434	$ 376,782	1%
	ARV (adult)	274,311	$ 24,845,721	85%	416,000	$ 74,546,106	80%	416,000	$ 74,546,106	80%	416,000	$ 74,546,106	80% [77]
	ARV (child)	31,149	$ 166,950	40%	103,750	$ 18,591,727	83%	103,750	$ 18,591,727	83%	103,750	$ 18,591,727	83% [78]
	ARV Supplementary Feeding (adult)	5,926	$ 146,400	9%	4,842	$ 119,639	8%	5,734	$ 141,678	9%	6,372	$ 157,420	10%
	ARV Supplementary Feeding (child)	23,343	$ 854,730	61%	19,076	$ 698,489	50%	22,590	$ 827,158	59%	25,100	$ 919,064	66%
NTD's	Diagnosis and Case Management lymphodema	71,958	$ 12,985	2%	36,397	$ 6,568	1%	48,562	$ 8,763	1%	128,726	$ 23,230	1%

[77] Fully protected in all scenarios
[78] Fully protected in all scenarios

	Mass Treatment lymphodema	13,214,971	$ 1,940,001	93%	10,799,331	$ 1,585,378	76%	12,788,681	$ 1,877,421	90%	14,209,646	$ 2,086,023	100 %
	Diagnosis and Case Management of Trypanosomiasis	11	$ 0	100 %	6	$ 0	0%	8	$ 0	0%	20	$ 1	0%
	Diagnosis and Case Management onchocerciasis	1,656	$ 299	12%	980	$ 177	6%	1,308	$ 236	8%	3,466	$ 625	21%
	Mass Treatment onchocerciasis	1,395,000	$ 26,611	93%	1,140,000	$ 21,747	76%	1,350,000	$ 25,753	90%	1,500,000	$ 28,614	100 %
	Diagnosis and Case Management schistosomiasis	71,958	$ 11,539	1%	36,397	$ 5,837	1%	48,562	$ 7,787	1%	128,726	$ 20,642	1%
	Mass Treatment schistosomiasis	6,690,676	$ 953,119	47%	12,793,012	$ 1,822,427	76%	15,149,619	$ 2,158,137	90%	16,832,910	$ 2,397,930	100 %
	Diagnosis and Case Management STH	485,812	$ 11,294	337 6%	287,476	$ 6,683	170 8%	383,555	$ 8,917		1,016,714	$ 23,636	
	Mass Treatment STH	3,823,052	$ 36,348	27%	12,793,012	$ 121,630	76%	15,149,619	$ 144,035	90%	16,832,910	$ 160,039	100 %
Nutritional Deficiencies	Growth Monitoring of U5 Children	6,857,377	$ -	258 %	8,859,484	$ -	300. 0%	9,107,164	$ -	300 %	9,284,079	$ -	300 %
	Micronutrient supplementation (Vit. A)	15,910	$ 876	1%	8,048	$ 443	1%	10,737	$ 591	1%	28,462	$ 1,567	1%
	Severe Acute Malnutrition (Inpatient)	11,429	$ 274,337	0%	11,760	$ 282,279	0.4 %	13,926	$ 334,278	0.5 %	15,473	$ 371,420	1%
	Moderate Acute Malnutrition (Outpatient)	68,574	$ 1,670,545	2.6 %	70,559	$ 1,718,908	2%	83,557	$ 2,035,549	3%	92,841	$ 2,261,721	3%
	Supplementary Feeding	86,808	$ 1,070,645	4%	43,908	$ 541,547	4%	58,583	$ 722,541	4%	155,291	$ 1,915,285	5%
	Mass treatment (deworming)	1,452,143	$ -	100 92%	859,295	$ -	510 4.9 %	1,146,487	$ -		3,039,064	$ -	
Eye, Ear and Skin Conditions	Treatment of conjunctivitis	254,986	$ -	2%	128,975	$ -	2.4 %	172,081	$ -	2%	456,146	$ -	3%
	Acute otitis media in under 5s	52,512	$ 16,797	2%	26,562	$ 8,496	2.7 %	35,439	$ 11,336	3%	93,940	$ 30,048	4%
	Scabies and other skin diseases	423,306	$ 461	3.40 %	214,114	$ 233	3.4 %	285,675	$ 311	3%	757,255	$ 825	4%

	Blindness /trachoma etc	10,518	$ 6,564	0.09 %	5,320	$ 3,320	0.1 %	7,098	$ 4,430	0.1 %	18,816	$ 11,742	0.1 %
	Screening eyes	8,043,199	$ -	559 00%	4,759,505	$ -	282 75%	6,350,215	$ -		16,832,910	$ -	
Common Injuries and Poisoning (trauma)	Surgery for fractures and dislocations and other	39,225	$ 123,564	0.32 %	19,841	$ 62,500	0%	26,472	$ 83,389	0.3 %	70,170	$ 221,044	0.4 %
	Treatment of Wounds	287,650	$ 1,141,951	2.32 %	145,497	$ 577,615	2%	194,125	$ 770,664	2%	514,579	$ 2,042,847	3%
	Rehabilitation (walking aid, prosthesis, etc)	29,118	$ 132,705	31.1 0%	14,728	$ 67,124	36%	19,651	$ 89,558	36%	52,090	$ 237,398	48%
Mental health	Unipolar depression	4,790	$ 32,820	0%	21,000	$ 143,874	0%	28,018	$ 191,959	0.2 %	55,702	$ 381,629	0.3 %
	Bipolar Disorders	982	$ 16,313	0%	4,304	$ 71,512	0%	5,743	$ 95,413	0.0 %	11,417	$ 189,687	0.1 %
	Schizophrenia	949	$ 19,267	0.0 %	4,160	$ 84,461	0.02 %	5,550	$ 112,689	0.0 %	11,034	$ 224,034	0.1 %
	Substance Use Disorders	19,760	$ 31,703	0.14 %	86,622	$ 138,979	0.51 %	115,572	$ 185,428	0.7 %	229,766	$ 368,644	1.4 %
	Anxiety Disorders	5,400	$ 7,903	0.04 %	23,674	$ 34,643	0.14 %	31,586	$ 46,222	0.2 %	62,796	$ 91,892	0.4 %
	Epilepsy	8,501	$ 49,562	0.06 %	37,267	$ 217,265	0.22 %	49,722	$ 289,878	0.3 %	98,851	$ 576,299	0.6 %
Cancer	Screening cervical cancer by Visual Inspection using acetic acid	221,301	$ 7,572,779	8.60 %	566,428	$ 19,382,785	18.8 5%	755,738	$ 25,860,851	25%	1,502,461	$ 51,413,222	50%
Cardiovascu lar	Screening by Regular Blood Pressure Checks	316,738	$ -	3.07 %	1,943,889	$ -	18.8 5%	2,593,571	$ -	25%	5,156,205	$ -	50%
	Case management of hypertension	17,778	$ 4,218,979	0.23 %	60,783	$ 14,424,512	0.67 %	81,098	$ 19,245,436	1%	161,228	$ 38,261,305	2%
	Case Management of Rheumatic heart disease	196	$ 4,895	1.36 %	116	$ 2,896	0.69 %	155	$ 3,864	1%	411	$ 10,244	2%
Diabetes	Screening	58,954	$ 398	3.07 %	4,232,787	$ 28,579	18.8 5%	5,647,458	$ 38,131	25%	11,227,551	$ 75,806	50%
	Case management of diabetes	5,133	$ 4,701,083	0.03 %	21,059	$ 19,287,369	0.11 %	28,098	$ 25,733,545	0.15 %	55,860	$ 51,160,129	0.3 %
	All interventions	**62,328,351**	**$ 100,608,986**		**88,874,321**	**$ 222,398,381**		**106,142,656**	**$ 254,966,957**		**144,780,514**	**$ 355,951,844**	

Annex 15 Method used to assess transaction and overhead costs of HSSP pledged aid

Introduction

It is important to accurately assess the anticipated contributions of donors to the HSSP. Each donor has different methods of giving aid to the Malawi health sector and hence the overhead costs will be different. Sector budget support using pooled funding will offer the lowest level of these transaction costs, and discrete project funding will have the highest transaction costs. This paper explains the approach used to identify likely transaction costs and hence the funding from donors that will actually contribute in-country to delivery of the HSSP.

Methods

The EU commissioned and published a report looking at overhead and transaction costs of the different ways of providing aid (1). Such costs derived from duplicate financial arrangements, tied aid, unpredictability and unreliability, and parallel implementation and lack of ownership. The ranges of costs were used to assess donor transaction costs for Malawi.

OECD conduct biannual surveys of donor and recipient countries to assess the progress made in implementing the Paris Declaration (2). Indicators of donor aid performance are available for Malawi in 2010 for all sectors combined and these have been used in this analysis (3). Averages are used for donors for which OECD indicators are unavailable. Average donor transaction costs have been estimated using the OECD indicators for type of aid offered by each donor and the EU estimated transaction costs of the different types of aid.

Results

The types of aid given to Malawi as found in the 2010 OECD indicators are varied, ranging from untied sector budget support to tied discrete project funding (Table 11).

Table 11 Types of aid offered to Malawi in 2010 – all sectors (Source: OECD DAC 2011)

Measure	Use of government financial systems	Parallel implementation units (prop out of max 8)	Predictability performance of donor worldwide	Tied aid
Indicator	**5a**	**6**	**7**	**8**
Donor				
Germany	73%	0%	50%	100%
Ireland	79%	0%	69%	100%
Japan	67%	0%	44%	100%
Norway	79%	0%	58%	100%
United Kingdom	80%	0%	59%	100%
United States	0%	63%	30%	76%
African Dev. Bank	43%	38%	59%	96%
EU Institutions	76%	13%	60%	96%
GAVI Alliance	0%	0%	10%	96%
Global Fund	100%	0%	33%	96%
IFAD	100%	38%	34%	96%
United Nations	16%	100%	25%	96%
World Bank	68%	75%	61%	96%
All donors	66%	10%	52%	96%

The transaction costs for the different donors range from 32% for USAID to 8% for DFID (Table 12). The overall estimate of overhead and transaction costs is 19% and this effectively reduces the aid from $285m to $230m (Table 13).

Table 12 Donor overheads using OECD Indicators and EU estimates of aid efficiency

Donor overheads and estimate of the proportion of aid delivering HSSP using OECD Indicators and total planned funding

	Use of government financial arrangements - Indicator 5a	Cost of duplication of financial arrangments - Range 6-12%	Tied Aid - Indicator 8	Cost of tied aid - 15-30%	Volatility and predicatability of Aid - Indicator 7	Cost of unpredictability - range 10-20%	Ownership and parallel implementation units - Indicator 6	Cost of parallel implementation - range 5-8% donors + 5% recipient	Total transaction and overhead cost factor
		b		c		d		e	f
	Ind5a	9%*(1-Ind5a)	Ind8	(1-Ind8)*22.5%	Ind7	(1-Ind7)*15%	Ind6	Ind6*10%	b+c+d+e
AFDB	43%	0.052	96%	0.009	59%	0.062	38%	0.038	0.160
CHAI		0.050	96%	0.009	59%	0.062	38%	0.038	0.158
DFID	80%	0.018	100%	0.000	59%	0.062	0%	0.000	0.079
EU	76%	0.022	96%	0.009	60%	0.060	13%	0.013	0.104
GAVI	0%	0.090	96%	0.009	10%	0.135	0%	0.000	0.234
GTZ	73%	0.024	100%	0.000	50%	0.075	0%	0.000	0.100
JICA	67%	0.029	100%	0.000	44%	0.084	0%	0.000	0.113
UNAIDS	16%	0.076	96%	0.009	25%	0.113	100%	0.100	0.298
UNFPA	16%	0.076	96%	0.009	25%	0.113	100%	0.100	0.298
UNICEF	16%	0.076	96%	0.009	25%	0.113	100%	0.100	0.298
USAID	0%	0.090	76%	0.055	30%	0.105	63%	0.063	0.312
WHO	16%	0.076	96%	0.009	25%	0.113	100%	0.100	0.298
Norway/MFA	79%	0.019	100%	0.000	58%	0.063	0%	0.000	0.082
GF	100%	0.000	96%	0.009	33%	0.101	0%	0.000	0.110
TOTAL	45%	0.050	96%	0.010	40%	0.090	39%	0.039	0.189

Table 13 Estimated overheads and proportion of grants directly contributing to HSSP

Donor	Total transaction and overhead cost factor	Proportion of grant directly contributing to HSSP	Total health sector pledges $m	Aid going to HSSP directly $m
AFDB	0.160	84%	5.290	4.445
CHAI	0.157	84%	31.780	26.794
DFID	0.079	92%	157.869	145.322
EU	0.104			
GAVI	0.234			
GF	0.110	89%	384.277	342.130
GTZ	0.100	90%	14.974	13.482
JICA	0.113	89%	1.980	1.755
Norway/MFA	0.082	92%	5.735	5.266
UNAIDS	0.298	70%	2.500	1.756
UNFPA	0.298	70%	23.944	16.818
UNICEF	0.298	70%	3.125	2.195
USAID	0.312	69%	281.946	193.864
WHO	0.298	70%	15.263	10.720
World Bank	0.171	83%	80.000	66.288
TOTAL	**0.188**	**81%**	**1008.682**	**819.537**

Discussion and conclusion

There are a number of reservations and limitations about this approach. The indicators are for 2010 and relate to all sector aid not just health. The range of EU cost estimates are broad reflecting the dearth of evidence available.

However the overall results seem reasonable and substantiate the reason the government has been endorsing the sector wide approach to reduce these transaction costs and hence improve aid efficiency in Malawi. The proportion of transaction costs is found to be 19%. This can be compared to the proportion of 35% of donor aid used by the planning department in Uganda.

The results will be used solely for planning purposes, for which the validity of the results are sufficient. The results including worksheets could be made available to development partners to offer comments and suggested improvements.

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