2014/15 ANNUAL REVIEW REPORT FOR THE HEALTH SECTOR

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ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
AIPs	Annual Implementation Plans
ANC	Antenatal Care
ARV	Antiretrovirals
BEmOC	Basic Emergency Obstetric Care
CDC	Centers for Disease Control and Prevention
CDC	Centres for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CHAM	Christian Health Association of Malawi
CMST	Central Medical Stores Trust
DfID	Department for International Development (UK Government)
DHIS 2	District Health Information Software
EHP	Essential Health Package
EMS	Emergency Medical Services (EMS)
EW	Establishment Warrant
FICA	Flanders International Cooperation Agency
FY	Fiscal Year
GBV	Gender Based Violence
GF	Global Fund
HFS	Health Financing Strategy
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System (HMIS).
HRH	Human Resources for Health
HSAs	Health Surveillance Assistants
HSS	Health System Strengthening
HSSP	Health Sector Strategic Plan 2011-2016
HTIs	Health Sector Training Institutions
HTSS	Health Technology Support Services
IFMIS	Integrated Financial Management Information System
iHRIS	Integrated Human Resource Information System
IPTp	Intermittent Preventive Treatment of malaria for pregnant women
ITN	Insecticide Treated Net
KCH	Kamuzu Central Hospital
KCH	Kamuzu Central Hospital
MCH	Mzuzu Central Hospital
MIS	Malaria Indicator Survey
MOH	Ministry of Health
MOU	Memorandum of Understanding

NAC	National Aids Commission
NHA	National Health Accounts
OFID	Open Fund for International Development
OJT	On the Job Training
OPA	Organization Performance Agreement
OPC	Office of the President and Cabinet
OPD	Outpatient Department
ORT	Other Recurrent Transactions (ORT)
PE	Personal Emoluments (PE)
PLHIV	People living with HIV/AIDs
QECH	Queen Elizabeth Central Hospital
RTI	Road Traffic Incidents
SLAs	Service Level Agreements
SPA	Service Provision Assessment
SWAp	Health Sector Wide Approach
TB	Tuberculosis
THE	Total Health Expenditure
UNHCR	United Nations High Commission for Refugees
USAID	United States Agency for International Development
VSUs	Victim Support Units
WHO	World Health Organization
ZCH	Zomba Central Hospital
ZMH	Zomba Mental Hospital

EXECUTIVE SUMMARY

This Annual Report comes in the final year of the Millennium Development Goals (MDGs) and the Health Sector Strategic Plan (2011 – 2016). It is, therefore, a good time to start reflecting on the overall achievements made under the ending HSSP in order to inform the next Health Sector Strategic Plan for the Country. Consequently, the presentations in this report are a mixture of the 2014/2015 Fiscal Year performance and the trend in health outcomes over the last five years. The theme for this year's Review meeting is "Population Growth: Are We Doing Enough?" and it has been carefully chosen to highlight the critical challenge the country is experiencing with growing population. The meeting will specifically focus on what more can be done to sow down further population growth.

The Health Sector has made considerable progress in the last five years with significant reductions in prevalence of common causes to morbidity and mortality. Primarily, the Sector has increased access to health services with each person having more than one visit per year to a health facility, on average. Overall, performance in the health sector as measured by health outcomes has been mixed. For example, the OPD Utilization Rate was at 1,102 visits per 1,000 people in the population. In total, there were 17, 960, 640 OPD attendances, 940, 546 hospital admissions and 22, 305 in patient deaths. Maternal, neonatal and child health, which are key in managing population growth, remain a priority for the Ministry.

Improvement in MNCH services has resulted in reduction in Maternal Mortality Rate from 675 (DHS 2010) to 574 (MDGS 2014). Similarly,

Child Mortality Rate has reduced from 50 to 33, in the same period, while Under-five Mortality Rate has reduced from 112 to 85. These improvements in MNCH are attributed to the various services that the Ministry is running including Extended Programme on Immunization, Nutrition, improved obstetric services, ANC services, Family Planning services and a focused fight against major diseases affecting women and children.

In terms of communicable diseases, the Country has managed to reduce the prevalence of major causes of sickness and death. HIV, Malaria, Acute Respiratory Infections and Diarrheal Infections remain the major causes of deaths and morbidity. In particular, HIV prevalence among adults (15–49) has reduced from 16.4% in 1999 to 12.0% in 2004 to 10.6% in 2010 and 10.3% in 2013. Also, the number of HIV positive Malawians put on ART rose to half of the 1.1 million People Living With HIV (PLWH), with a sustained reduction of the newly infected every year from 120,000 in 1999 to 33,000 in 2014. Reductions in paediatric infections have also been realized through the introduction of Option B+ in 2011 with the number of children infected by their mothers (including during the breastfeeding period) declining by 66% from 30,000 in 2010 to 10,000 in 2014.

In like manner, to fight TB, the Ministry scaled up Directly Observed Therapy (DOTs) coverage to 251 TB registration sites in 2014, with 276 centers providing microscopic service and forty two health facilities providing TB diagnostic services using geneXpert machines. Although TB Case Notification Rate has reduced from 21 in 2011 to 18 in 2014, deaths attributed to TB have in the same period reduced from

10 to 8. Additionally, the TB programmes increased collaboration with HIV/AIDs Department to address challenges of TB/HIV co-infection.

Furthermore, Malawi has seen a decline in Malaria cases in the last few years with a reduction in prevalence from 484 per 1000 population in 2011 to 319 per 1000 population in 2015. This has been attributed to effective control strategies such as Intermittent Preventive Treatment of malaria for pregnant women (IPTp) which has increased from 55% in 2010 to 63% in 2014), improved use of mosquito nets resulting in a greater percentage of pregnant women (62%) and children under 5 (67%) sleeping under an Insecticide Treated Net (ITN) and a greater proportion of people with malaria having access to treatment. The sustained fight against Malaria has resulted in the reduction of deaths attributable to the disease from 46% in 2011 to 24% in 2015. Upper Respiratory Infections and Diarrheal diseases remain within the top causes of morbidity and mortality.

At approximately 3 doctors, nurses and midwives per 10,000 population, Malawi remains one of the World Health Organization's (WHO's) 'priority countries' which fails to meet the minimum threshold of 23 doctors, nurses, and midwives per 10,000 population necessary to deliver essential maternal and child health services. In terms of staffing, excluding health surveillance assistants, the current staffing levels reached between 9% (community rural hospitals) and 75% (district hospitals) of optimal staffing levels. The Ministry is currently in the process of implementation an integrated Human Resource Management Information System (iHRIS) to strengthen the management of human resources.

In terms of external referral services, in 2014/15 FY a total of 142 patients had external referral against 103 patients in 2013/14 Fiscal Year of which 127 went to India and 15 went to South Africa. To address this, the Government of Malawi has embarked to make available both basic and specialized equipment in our hospitals to enable treatment of specialized cases. For instance, preparations for construction of the Cancer Center are underway, mammography machines to enable breast cancer breast cancer screening at all Central Hospitals were delivered and awaiting installation, installation of x-rays to a number of hospitals were also completed, installation of five standby generators to deal with power supply issues in District Hospitals, installation of incinerators and oxygen concentrators at both KCH and QECH were also done. While improving equipment on one hand, on the other hand, Government has also made progress in improving general infrastructure. Among others, Government has improved the working relationship with key partners such as CHAM to increase access to health services in remote areas through the Service Level Agreement.

On medicines and medical supplies, since 2011, the availability of medicines and medical supplies has been improving significantly. For instance, stock outs rates for tracer drugs have been falling to last Fiscal Year, although they had risen again in 2014/15 Fiscal Year, largely due to the declining donor procured supplies. Despite early improvements in supplies, apparent setbacks include; inadequacy of storage facilities; drug pilferage and general financing gaps for

essential medicines and supplies. In 2015/16, for example, the overall funding gap for medicines (resources allocated minus costs) was estimated at $143,408,471 or 84.15% shortfall.

In the last five years, the Ministry of Health has continued with the construction and rehabilitation of staff houses, health centers and hospitals. Government has managed to construct Nkhatabay District Hospital where works are in final stages and has secured funding for the construction of Phalombe District Hospital. To strengthen infrastructure, the Ministry is also currently in the final stages of developing a Capital Investment Plan (CIP). Once completed, all Government and partner initiatives will be aligned to the priority list of the CIP.

In line with the current effort of reforms in Government, the Ministry of Health proposed four reform areas which include: (i) The revision of the partnership between the Ministry of Health and Christian Health Association of Malawi (CHAM) to improve access to basic health services across the country by removing financial barriers to health services access in CHAM catchment areas; (ii) Reforming Central Hospital operations and the District Health System to improve efficiency and accountability of health providers and expand access to, equity and quality of essential health services; (iii) Introduction of a Health Fund to mobilize additional revenue for the public health sector; and (iv) Exploration of a national health insurance scheme to mobilize additional resources for the health sector and improve universal access to essential health services.

In terms of finances, Health care funding in Malawi is low primarily because of low GDP. At 70% donor contribution of total health sector resources, donor financing raises the question of sustainability of health care financing in Malawi. As a result, there were huge financing gaps based on HSSP (2011-2016) financial requirements and total health sector resources for all fiscal years. Besides limited resources, inefficiencies due to poor coordination and duplication could also have contributed to diminished performance with respect to HSSP targets.

Although considerable progress has been made in the implementation of the current HSSP, moving forward, there is need to address the existing gaps. Primarily the 2011 – 2016 HSSP succeeded in its objective of improving the quality of living for Malawians. This, however, has brought with it other challenges that the Government through the Ministry needs to start addressing. Firstly, improved quality of life has brought with it longer life expectancy. However, rural communities still have the same understanding of having more children in case some die. There is need to drive a cultural shift to enable communities understand that with improved health services, any few children they might have are more likely to survive to adulthood. This means increasing focus on support services such as family planning and behavioral change interventions including education.

Improved quality of life has also given rise to non-communicable diseases (NCDs) such as diabetes, hypertension, obesity and cardiovascular diseases. In the last five years, these conditions have placed an increasing burden on the national health budget. Moving forward, there is need to allocate adequate resources and strategies to address NCDs.

In terms of Human Resources for Health, there is need to address staff retention in rural areas, provide more training to cover for gaps in specialist areas and reducing vacancy rates, and strengthening systems to ensure staff accountability to cost centers they are paid from. Additionally, in terms of essential medicines and equipment there is urgent need to address drug pilferage and general financing gaps. Strengthening links between CMST, MoH, districts and facilities could support addressing of drug pilferage and stock outs.

Although more has been done, there are still more people leaving outside the 8km radius to the nearest health facility. While strengthening partnerships with CHAM and others, there is need for a deliberate strategy to extend services in order to increase access. Partly, the ongoing health sector reform agenda could help to address access to health services.

Consistent funding gaps continue to negatively affecting the delivery of health services. In the last five years, the country has not met the recommended 15% allocation of the national budget to the Health

Sector. Addressing issues of defragmented funding through instruments such as the Capital Investment Plan could also help to consolidate progress.

Moving forward, the Ministry is in the process of developing the next Health Sector Strategic Plan. This is a consultative process which is expected to bring all the challenges under consideration.

CHAPTER 1: INTRODUCTION

1.1 Background

In 2011, the Ministry of Health and Government of Malawi adopted an ambitious Health Sector Strategic Plan (HSSP) for the period 2011 to 2016 aimed at improving the quality of life for all Malawians through: (i) Increased coverage of the Essential Health Package (EHP) interventions where particular attention was given to impact and quality; (ii) Strengthened performance of the health system to support delivery of EHP services; (iii) Reduced risk factors to health; and (iv) Improved equity and efficiency in the delivery of quality EHP services. With only a year to go to the end of the HSSP, this Review Report has been prepared to reflect on the progress made so far in reducing mortality and morbidity on the country's population and generally improving the quality of life for all Malawians in pursuit of the targets and objectives of the HSSP. The Report has also singled out 2014/15 Fiscal Year to compare plans against outcomes to ensure that the Year is also reviewed just as the other years of the HSSP plan period.

1.2 Methodology in Producing the Report

The Report has been prepared based on both secondary and primary data sources where possible and using both quantitative and qualitative data analysis techniques. Quantitative data mainly came from the District Health Information Software (DHIS 2) through aggregated monthly reports for the entire period. This data was used to calculate key indicators for monitoring performance of the Health

Sector. Additionally, the Report benefitted from a number of Survey Reports and Data sets that have been produced over the period of the HSSP such as the MDG End line Survey, the Malaria Indicator Surveys, the Service Provision Assessment Study Report; Sector Performance Review Reports, the Organization Performance Agreement (OPA) Reports, Zonal Health Sector Review Reports; Health Research Reports, IFMIS Expenditure Reports; The Health Sector Working Group Reports; and the Integrated Human Resource Information System (iHRIS).

1.3 Outline of the Report

The Report has been organized in six main chapters. Chapter one is Introduction while Chapter Two is a situation analysis of the health sector financing over the period. Chapter Three discusses the performance in key health systems strengthening areas, focusing on human resources for health, essential medicines and supplies, infrastructure and equipment. Chapter Four presents progress on health service delivery areas and; Chapter Five highlights the key developments in the Health Sector including the reform agenda the Ministry has embarked on as part of the Government Wide Public Sector Reform Programme[1]. Chapter 6 contains reports from other institutions including regulatory bodies, CHAM and MBTS.

CHAPTER 2: HEALTH SECTOR FINANCING

2.1 Background

Health care in Malawi is financed by Government, Donors and households. According to the latest National Health Accounts (NHA) report covering the fiscal years 2009/10 - 20011/12, Donors accounted for 70% of health care expenditures, Government 16% and households 14% (Ministry of Health, 2014). Average total health care expenditures (THE) were estimated at MK99 billion (USD586 million) over the NHA period, translating into US$ 37.8 per capita. This was the second lowest per capita health expenditure in the WHO Africa Region and also the lowest in the SADC region (Figure 1) (Ministry of Health, 2014). However, as Figure 1 depicts, Malawi compares favourably in terms of THE as percentage of GDP, second in SADC at 9%. As for Government expenditure on Health as a percentage of total Government expenditure, Malawi was the second lowest at 6.2% despite allocating at least 9% of its total budget to health over the HSSP (2011-2016) period (Figure 1).

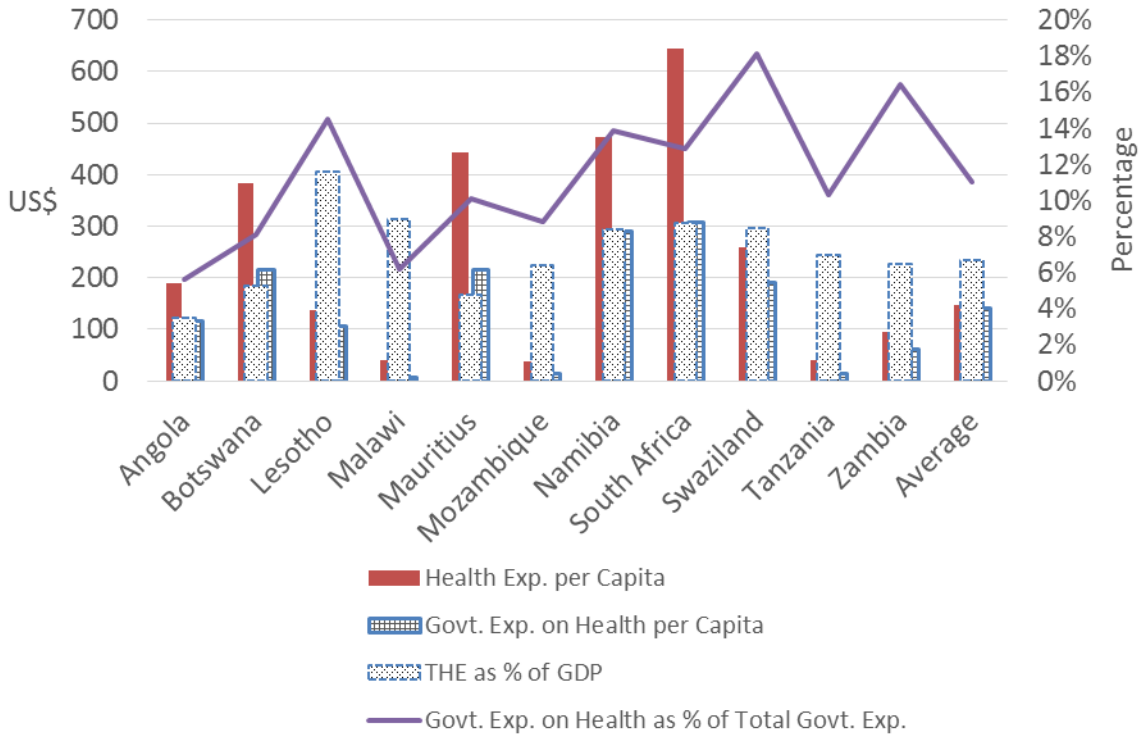


FIGURE 1:HEALTH EXPENDITURE STATISTICS FOR SADC COUNTRIES

Data Source: Ministry of Health, 2014

2.2 HSSP Financing

Table 1 relates HSSP (2011-2016) financing requirements to what was available from Government and what was available in the health sector as a whole. HSSP (2011-2016) financial requirements were at least 1.4 times higher than total available resources in the health sector and at least 3 times higher than the Government health budget for all the Fiscal Years. The government health budget increased nominally over the HSSP (2011-2016) period while the percentage of the national budget allocated to health hovered around an average of 10% as shown in Table

1. There were therefore, insufficient resources in the Malawi health sector to meet HSSP targets. Progress towards HSSP targets could also have been moderated by the high likelihood that a significant proportion of health sector resources did not implement HSSP priorities. Due to the large number of implementers of donor funds and lack of accountability for results mechanisms for the implementers, it is also likely that there was poor coordination and duplication further diminishing the effectiveness of health care resources.

TABLE 1: HSSP RESOURCE REQUIREMENTS, RESOURCE MAPPING ESTIMATES

	2011/12	2012/13	2013/14	2014/15	2015/16
HSSP Financial Projections (US$)	787,000,000	845,000,000	926,000,000	1,007,000,000	1,042,000,000
Resource Mapping Estimates (US$)	545,243,840	558,079,959	599,707,398	641,638,706	635,822,045
MoH total budget (US$)	213,467,927	185,624,824	153,391,077	192,292,270	159,960,743
Govt. Exp. On health as % of national budget	11%	12%	9%	11%	12%

HSSP Financial Projections for based on mid-term re-costing of the HSSP
Data Source: Resource mapping rounds 1 to 4, MoH Budget files, Ministry of Finance budget tatements

Figure 2 breaks down the resource mapping estimates in Table 1 by major donors lumping the rest as "Others". It is evident that in the 2013/14 Fiscal Year, there was a shock to the health care financing pattern; a declining trend set in for most. This may partly or fully have been as a result of the cashgate scandal in 2012/13 Fiscal Year. Plausibly, the Government contribution rose sharply in subsequent Fiscal Years in

a bid by Government to offset the deficit that was created by Pool Fund Donors withdrawing budgetary support.

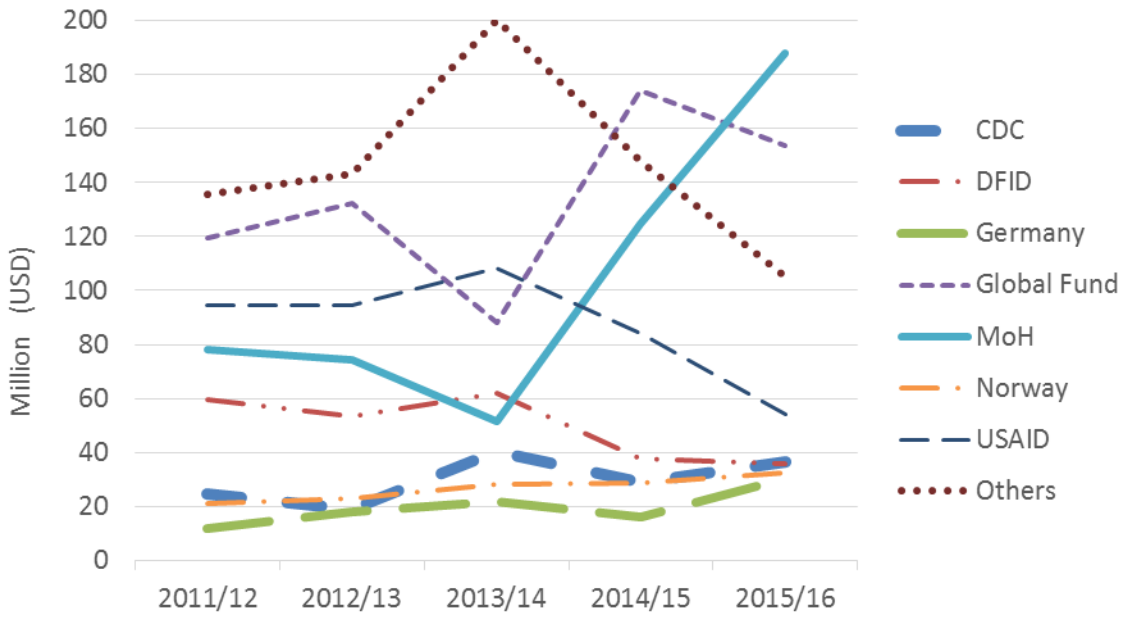


FIGURE 2: FUNDING TRENDS BY MAJOR DONORS

Data Source: Resource Mapping Rounds 1 to 4

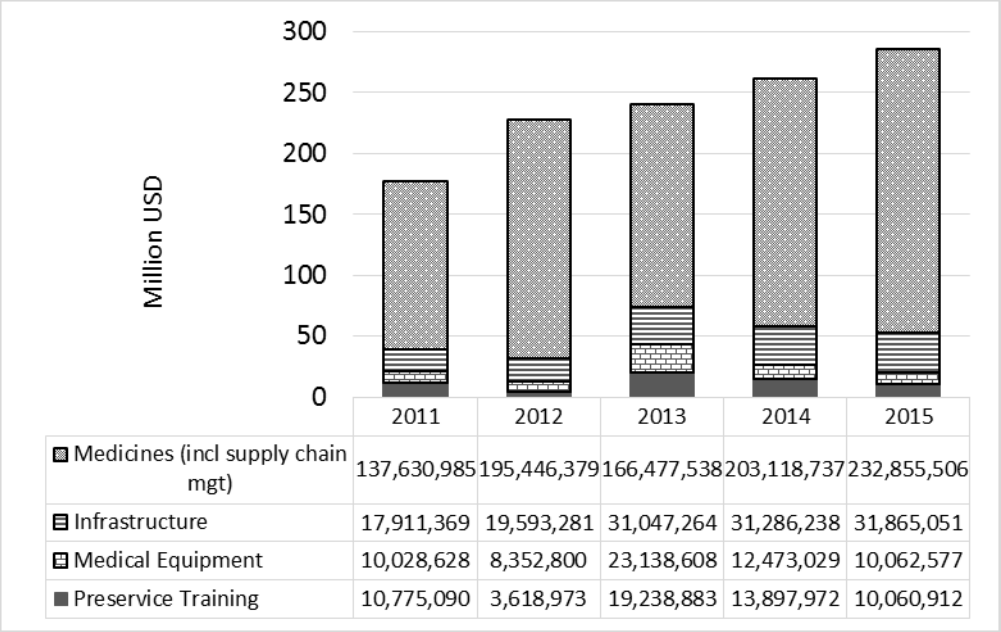
Resource mapping data show that over the whole HSSP (2011-16) period, most resources were allocated to cross cutting health systems activities i.e. medical equipment, personnel emoluments, health worker training, infrastructure, service level agreements and supply chain management (Table 2). Half of the cross cutting budget was earmarked for disease-specific systems and the complement to non-specific systems. HIV/AIDS was the second most highly financed subsector, followed by malaria and reproductive, maternal and new born health. Mental health, non-communicable diseases and eye, ear and skin conditions were the most underfunded areas.

TABLE 2: ALLOCATION OF HEALTH CARE RESOURCES, 2011/12-2015/16

	USD '000				
	2011-12	2012-13	2013-14	2014-15	2015-16
Cross-Cutting Activities	226,623	203,920	212,123	220,047	242,297
Environmental Health and Diarrheal Diseases	3,322	3,169	10,683	8,015	4,610
Eye, Ear and Skin Conditions	70	58	1,514	335	245
HIV Including STIs	179,853	211,917	195,731	214,606	222,727
Malaria	49,818	37,239	35,928	79,209	15,180
Mental Health	4	3	861	1,084	1,026
Neglected Tropical Diseases	166	168	466	473	2,605
Non-Communicable Diseases	4,285	4,262	1,587	287	457
Nutrition	14,000	17,083	45,903	35,996	35,245
Reproductive, Maternal and Newborn Health	38,947	43,149	58,898	55,914	71,462

Source: Resource Mapping Rounds 1 to 4

Figure 3 shows allocations that were made to the four key health care inputs of medicines including supply chain management, medical equipment, infrastructure and pre-service training. At least 69% of the total budget allocated to the four inputs per year was for medicines including supply chain management costs.



	2011	2012	2013	2014	2015
Medicines (incl supply chain mgt)	137,630,985	195,446,379	166,477,538	203,118,737	232,855,506
Infrastructure	17,911,369	19,593,281	31,047,264	31,286,238	31,865,051
Medical Equipment	10,028,628	8,352,800	23,138,608	12,473,029	10,062,577
Preservice Training	10,775,090	3,618,973	19,238,883	13,897,972	10,060,912

FIGURE 3: ALLOCATION TO HSS COMPONENTS, 2011-2016

Zeroing in on the 2014/15 FY, based on Figure 2, the Global Fund contributed the highest financial resources, US$174 million, followed by the Government at US$124 million. 66% of Global Fund resources went towards HIV/AIDS with the National AIDS Commission as the financing agent; 32% went to malaria and 2% to TB activities implemented by the Ministry of Health. 52% of the funding was for medicines and medical supplies, most of it towards HIV/AIDS, 28% was for malaria bed nets and the complement for other activities. Expenditures against the MoH budget are summarized in Table 3 while discrete funds that were channeled through the MoH are summarized in Table 4. Noteworthy in the two tables are the unsatisfactory disbursements rates by Government (for capital projects), Global Fund, Norway and FICA. Norway and FICA resources which were exhausted in the month of April 2015 had significant impacts on health care delivery by both District Health Offices and Central Hospitals.

TABLE 3: 2014/15 GOVERNMENT HEALTH BUDGET PERFORMANCE, 2015/16 BUDGET OVERVIEW

Budget Category	2014/15 Approved Provision (MK)	2014/15 Revised Budget (MK)	Disbursements by End of Year (MK)	% Absorption (2014/15)	2015/16 Approved Provision (MK)
PE – Vote 310	29,037,646,770	42,970,371,288	41,878,298,830	97%	45,268,660,168
ORT – Vote 310	15,146,855,505	15,771,007,911	13,527,969,859	86%	21,569,552,000
Total Vote 310	**44,184,502,275**	**58,741,379,198**	**55,406,268,689**	**94%**	**66,838,212,168**
Gov't Funded Project Resources	5,725,044,839	6,940,030,778	3,418,439,363	49%	6,500,000,000
DHO ORT	6,000,000,000	6,523,575,710	6,414,674,868	98%	5,440,000,001
DHO Drug Budget	9,500,000,000	9,500,000,000	8,025,752,974	84%	10,000,000,001
Total Transfers to DHOs	**15,500,000,000**	**16,023,575,710**	**14,440,427,841**	**90%**	**15,440,000,002**
Total Government Financing for the health sector	**65,409,547,114**	**81,704,985,687**	**73,265,135,893**	**90%**	**88,778,212,170**

PE-Personnel Emoluments, ORT-Other recurrent transactions

TABLE 4: DISCRETE PARTNER DISBURSEMENTS THROUGH THE MOH

Discrete Donor	2014/15 Expected Disbursements (MK)	Actual Disbursement for the Year (MK)	% Disbursed as at 31st June 2015 (MK)
Norway/FICA	5,202,003,261	4,577,920,711	88%
UNHCR	87,729,027	97,538,685	111%
Global Fund (GF)	17,468,327,200	12,489,553,133	71%
Centres for Disease Control and Prevention (CDC)	1,867,095,646	1,920,214,231	103%
Total	**24,625,155,134**	**19,085,226,761**	78%

For the 2015/16 Fiscal Year, it is important to note that the District Health budget has gone down sharply compared to the 2014/15 budget

as shown in Table 3, much more so when the MK3.7 billion that went to DHOs from Norway/FICA out of the MK4.6 billion in Table 4 is taken into account. It is also important to note the jump in Vote 310 ORT from 2014/15 to 2015/16 which is explained by resources worth MK5.5 billion meant for the National AIDS Commission which is now a cost centre under Vote 310 after the merger with the Department of Nutrition, HIV and AIDS. Finally, for the 2015/16 budget, Vote 310 ORT includes resources worth MK4 billion allocated to various activities in fulfilment of the Ministry of Health's willingness to pay (WTP) obligation to the Global Fund. The activities include increasing capacity for pharmacovigilance, preservice training of health workers, support to training institutions and increasing medicines and medical supplies storage capacity in districts.

2.3 Effect of health funding on health outputs and outcomes

It is important to examine what impact health care expenditures have had on health outcomes. Establishing the effects of health care funding on health outcomes is, however, complicated by the brevity of HSSP (2011-2016) period (5 data points). This means that techniques that can be used to explore the relationship between funding and health outputs or outcomes cannot be applied. This chapter, however, measures the correlation of funding with output or outcome variables. Funding instead of expenditure data are used because of lack of conformable health sector expenditure data. The correlation coefficient, ρ, shows the strength of the linear relationship between funding and the output or

outcome of interest. This approach shows that the pre-service training budget in Figure 3 was negatively and weakly correlated with vacancy rates, $\rho = -0.067$. The medicines budget was moderately and negatively correlated with medicines stock out rates as expected, $\rho = -0.530$. HIV/AIDS funding was modestly and negatively correlated with HIV/AIDS prevalence also as expected, $\rho = -0.540$. The total health sector budget in Table 1 was also strongly negatively correlated with Under 5 mortality rate, $\rho = -0.961$.

2.4 Conclusion

Health care funding in Malawi is low primarily because of low GDP. The country therefore heavily relies on Donor resources to finance health care. At 70% of total health sector resources, donor financing raises the question of sustainability of health care financing in Malawi. There were huge financing gaps based on HSSP (2011-2016) financial requirements and total health sector resources for all fiscal years. This would have hampered progress towards HSSP (2011-2016) targets. Besides limited resources, inefficiencies due to poor coordination and duplication could also have contributed to diminished performance with respect to HSSP targets.

The top health care funders from 2011/12-2015/16 have been Government, the Global Fund, CDC, USAID, DFID, Germany and Norway. Government funding has been increasing since the 2013/14 FY offsetting reduced funding from donors. The majority of resources were allocated

to HIV/AIDS, Malaria and health systems strengthening. Eye, ear and skin conditions, mental health and non-communicable diseases were the least funded. Health care funding over the 2011/12 - 2015/16 correlated with relevant outcome indicators in expected directions but to varying degrees of strength.

Inadequate disbursement of approved funds by Government (for capital projects), Global Fund, Norway and FICA was a key challenge in the 2014/15 FY. It affected health care provision at all levels.

CHAPTER 3: HEALTH SYSTEMS

3.1. Background

This Chapter discusses the key Health Systems Strengthening areas of Human Resources for Health (HRH), Medicines and Medical supplies; Medical Equipment, and Health Infrastructure. HRH section focuses on general overview and progress on iRHIS, pre-service and in-service training, recruitment and promotions in 2014/15 Fiscal Year. The Medicines and Medical Supplies section reviews the performance of the Health Sector in terms of maintaining availability of key medicines and medical supplies. The Health Infrastructure section discusses progress of major projects that the Ministry of Health undertook between July 2014 and June 2015. Finally, the Medical Equipment section reviews the state of medical equipment required for the delivery of health services.

3.2. Human Resources for Health (HRH)

3.2.1 Overview

Inadequate and unequal distribution of Health Workers is a significant barrier to the provision of Essential Health care services in Malawi. In 2004, Malawi responded to a severe Health Worker shortage by implementing a six-year Emergency Human Resource Program (EHRP), which increased the number of Healthcare Workers in 11 priority cadres by 53 percent - from 5,453 to 8,369 between 2004 and 2009 – and made significant investments in its pre-service Training Institutions to double its training capacity by building more classrooms, skills labs, office

blocks and student hostels.[2]. Although Malawi's Human Resource situation can no longer be described as 'emergency,' the 2011-2016 Health Sector Strategic Plan (HSSP) has provided evidence to the effect that both a shortage and unbalanced skill gaps of the Health Workforce continue to pose challenges for effective public health care provision. Leading factors for HR shortages include migration, resignations, deaths mainly from the HIV/AIDS epidemic, and inadequate outputs from Health Training Institutions mainly due to public financial resource constraints. As a result, at approximately 3 doctors, nurses and midwives per 10,000 population, Malawi remains one of the World Health Organization's (WHO's) 'priority countries' which fails to meet the minimum threshold of 23 doctors, nurses, and midwives per 10,000 population necessary to deliver essential maternal and child health services.[3] At the national level, the total Health Workforce remains unknown until another comprehensive human resources census is conducted. The last HRH census was conducted in 2008 with funding from the Global Fund. Table 5 below show MoH staff establishment and summary of vacancy rates for some selected health cadres as of 2012.

TABLE 5: SUMMARY OF ESTABLISHED VS. FILLED POSTS SERVICE (MINISTRY OF HEALTH, 2012)

Description	Established Posts	Filled	Vacancy Rate (%)
Planning & policy development	626	76	88
Preventive health services	7 553	5 136	32
Nursing	13 669	3 545	74
Pharmacy	545	161	70
Allied health technical services	1 143	381	67
Allied health services – clinical officers	4 491	1 643	63
Medical specialists	228	32	86
Medical officers	344	168	51
Internal audit services	16	7	56
Accounting services	421	315	25
Administration services	6 732	4 261	37
Total for all service areas	**42 309**	**20 365**	**52**

This Human Resources shortage is partly exacerbated by failure to train adequate numbers of health workers and partly because of the inability to retain those who are already in the system. Nontechnical support personnel, including Health Surveillance Assistants (HSAs), account for over 60% of the Ministry's Staff Establishment. According to the HSSP, Malawi is confronted with a heavy burden of diseases, evidenced by high levels of child and adult mortality rates and a high prevalence of tuberculosis (TB), malaria, HIV/AIDS, and other tropical diseases. The escalating double burden of disease has worsened, evidenced by reported new cases of HIV and TB and increasing rates of HIV and TB co-infection. All this is happening against a backdrop of a continued large gap of trained health workers — a worrisome development in tackling the double burden of disease in the Public Health Sector.

In response, the Ministry of Health has outlined several complementary policy initiatives to strengthen and expand its Health Workforce through:

i. Health Sector Strategic Plan (HSSP) 2011 – 2016;
ii. Human Resources for Health Strategic Plan 2012 – 2016;
iii. President's Safe Motherhood Initiative;
iv. Nurse/Midwife Training Operational Plan (NTOP); and
v. National Sexual Reproductive Health Road Map.

In late 2010, the Ministry of Health (MOH) engaged the Clinton Health Access Initiative (CHAI) to conduct a Health Workforce Optimization Analysis in order to calculate the optimal number, type, and distribution of Health Workers in Malawi. This was based on the existing facility-level demands for health services informing current and future health workforce needs, and provided evidence to plan for the strategic allocation of new Health Workers to cadres, regions, and facilities with the greatest gaps. In 2014, this analysis was updated to reflect key changes to the country's burden of illness, health facility utilization patterns, and staffing strategy.

Broadly, the 2014 optimization analysis found that the number of *current*[4] Health Workers was well below the number of *funded* positions as indicated by the 2011 establishment register, and was well below the optimal staffing levels based on current demand for health services.

Excluding health surveillance assistants, the current staffing levels reached between 9% (community rural hospitals) and 75% (district hospitals) of optimal staffing levels. Similar levels of understaffing were seen at Christian Health Association of Malawi (CHAM) facilities.[5]

Overall, the two largest staffing gaps between current and optimal levels are at Nurse Midwife Technician (NMT) and Medical Assistant level (MA's) – this is true across all facility levels (Figure 4).

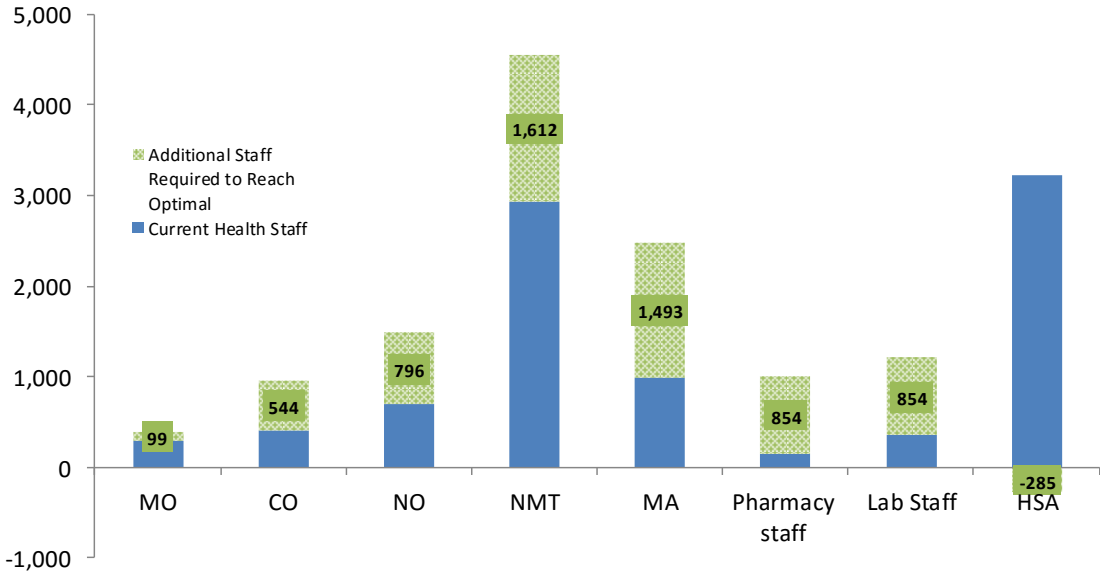


FIGURE 4: 2014 CURRENT HEALTH WORKERS AND RESULTING VACANCY GAP

The primary justification for the large NMT gaps is due to task shifting towards NMTs at all facility levels and for the Medical Assistants. All rural health centers visited (with the exception of Chisoka Health Center in Thyolo) were headed by a Medical Assistant who was in charge of all OPD visits, IPD referrals as well as all activities not pertaining to family

planning and maternal/neonatal health; thus the model signals a high demand for the services of Medical Assistants.

In support of this large gap for nurses, recent data from the Ministry of Health's Human Resources Directorate after a 2014 head count of nursing positions authorized and filled indicates approximately 8,700 vacancies nationally. This does not include CHAM facilities, which face about 6,000 vacancies.

With these continuing challenges being faced, several stakeholders in addition to the Ministry of Health are working in Malawi to ameliorate the Health Workforce gaps. These include Academic Institutions engaged in training and research (such as Kamuzu College of Nursing and Mzuzu University), regulatory bodies (such as Medical Council of Malawi and Nurses and Midwives Council of Malawi), multilateral donors (such as the UN), international NGOs (such as CHAI and MSF) and development partners (such as JICA, CDC and Norwegian Embassy). These various partners work closely with the Government of Malawi to ensure that their projects are implemented in alignment with the Health Workforce policy initiatives, as described above.

In addition to the NTOP that was previously developed in 2011, CHAI Malawi is currently assisting the Department of Policy and Planning at the Ministry of Health in compiling data and analysing a HRH Investment Plan that will help inform the funding landscape around costs needed for Human Resources scale up.

Looking ahead, it is important to note that while much has been accomplished since the state of 'emergency' experienced by Malawi prior to 2004, broad challenges in HRH planning, resource management, retention in rural areas, training and development, and stewardship at national level remain a challenge to scale up Malawi's health workforce to meet current and future needs. The Ministry of Health will continue to work closely with health workforce stakeholders to identify greatest gaps and to implement complementary programs. The guiding principles set forth in various strategies developed by the Ministry of Health are set to expire by 2016. These documents and policies are poised for revisions to reflect the anticipated needs and global targets (such as the Sustainable Development Goals) for the years ahead.

3.2.2 Specific 2014/15 HRH Activities

In 2014/15 Fiscal Year, HRH activities included; HRH Data Management; Training; and; Human Resources Management.

3.2.3 HRH Data Management

The Ministry of Health has been updating the Integrated Human Resources Information System (iHRIS) and HMIS using data collected from Human Resources Headcount. iHRIS been customized to produce reports that respond to management needs and assist managers in decision making such as retirement planning, vacancy analysis, age

distribution and current staff reports. It is also important to note that the Ministry is in the process of improving the system so that it is able to track pre-service and in-service training.

One key use of the IHRIS platform is in the analysis of vacancy rates across different cadres, Zones, Districts as well as Facility types. Based on the data from iHRIS Analysis by cadre revealed that 52% of all established post was vacant in 2014/15 Fiscal Year, this indicates that the overall data has declined from 57% between July 2014 and June 2015. The largest vacancy rates were on Medical Specialist 83%, Pharmacy 78%, Nursing 66%, Medical Doctors 25%, Allied Health Professionals 31%, and Allied Health Technical Services 53% (Figure 5).

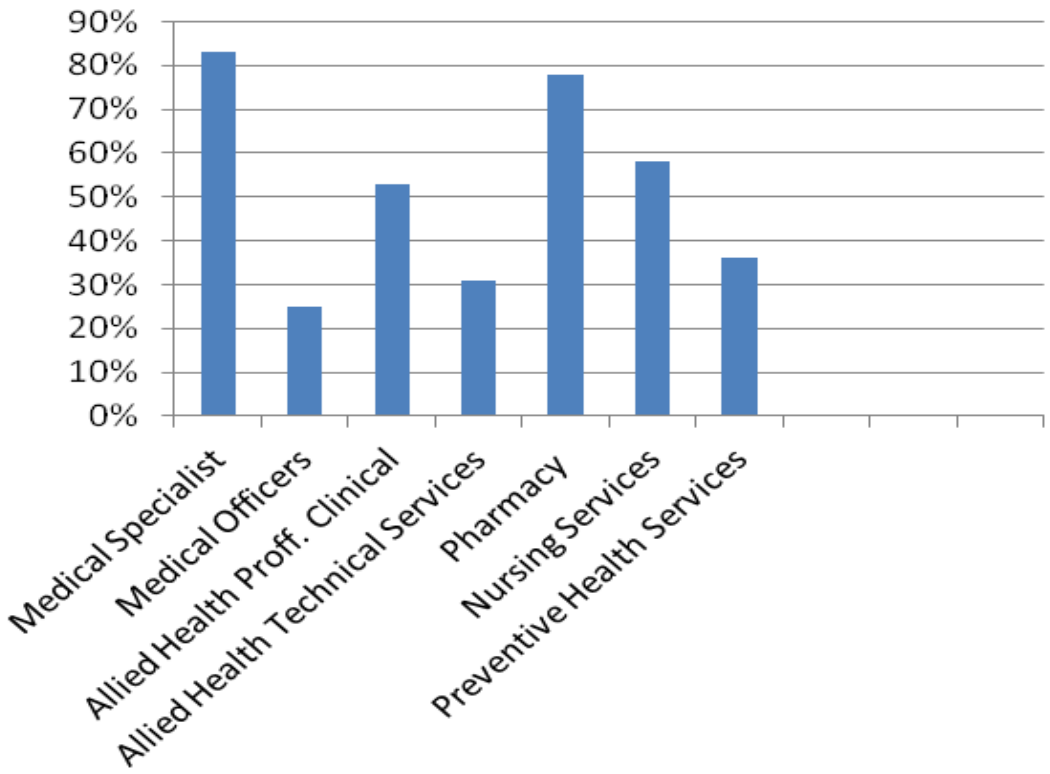


FIGURE 5: VACANCY RATE AFTER 2015 HEADCOUNT BY CADRE

It must be noted though that the efficiency of iHRIS is being compromised by a number of factors not least; Poor internet connectivity; Low Human Resources capacity; Lack of drive by the operators to operate and update data in the system effectively; Lack of managers demand to use the system for decision making; and the failure to fully customize the system.

3.2.4 Pre-Service and In-Service Training

Government continued to support students for pre-service training in various Diploma and Certificate courses in areas such as Clinical Medicine, Dental Therapy, Pharmacy, Radiography, Environmental Health, Nursing and Midwifery, Community Health Nursing, Orthopaedics, Ear, Nose and Throat and Ophthalmology etc. and a total of **MK1,389,555,000.00** was spent on **2,211** students in various programmes at Malawi College of Health Sciences and CHAM institutions such as Holy Family College of Nursing, Trinity College of Nursing , St Joseph College of Nursing, Mulanje Mission College of Nursing, Nkhoma Nursing School, Ekwendeni College of Nursing, Malamulo College of Health Sciences and St John's College of Nursing. It is worth noting that number of health workers graduating from the training institutions has increased sharply from **674** in 2010 to **1,152** in 2015 representing an increase of **70%** (Table 6).

TABLE 6: FIVE YEAR GRADUATION SCHEDULE OF HEALTH WORKERS

Cadre	2010	2011	2012	2013	2014	2015	TOTAL
Physician (Medical Doctors)	33	37	34	41	43	60	**383**
Nurse (+ Midwives)	161	285	532	603	641	449	**2674**
Clinical Officer	125	154	0	261	198	159	**897**
Registered Nurses	64	102	87	107	102	166	**628**
Medical Assistant*	182	186	214	46	174	165	**967**
Laboratory Technician	38	46	0	71	34	87	**246**
Pharmacy Technician	18	15	0	57	52	18	**160**
Radiography Technician	22	0	20	11	30	13	**96**
Dental Therapist	12	19	0	35	35	16	**117**
Environmental Health Officer	19	26	0	55	53	19	**172**
Total	**674**	**870**	**887**	**1 287**	**1 362**	**1 152**	**5 995**

The country continues to face a critical shortage of Medical Specialists across hospitals. Consequently, in addition to implementing incentives to attract available specialists, Government continues to sponsor Health Workers in various specialization programs including Medical Specialists in Pediatrics, Obstetrics and gynaecology, Surgery, Anesthesia, Radiology and Histopathology just to mention a few. The Ministry sponsored 19 officers who are pursuing their studies in South Africa, Tanzania and Cuba. In additional to this, in preparation for the Cancer Treatment Center in Malawi, a cancer capacity building program was established in which 4 oncologists, 32 nurses, 14 radiotherapists, 6 from HTSS (haemotology, toxicology and histology), 2 Doctors in nuclear medicine, 4 Medical physicists, 2 Heamatopathologists and 2 medical engineers will be trained. As of 1st June 2015, Seven Radiotherapists, two Medical Engineers and 1 oncologist have been sent to school. Preparations are

also underway to send to school by end of September, 2015, 3 officers from HTSS, 2 in Radiation Pharmacy and 2 Doctors in Nuclear Medicine.

It should be pointed out however that the Ministry is still experiencing low funding for both pre-service and in-service training and it remains difficult to support increased intakes of pre-service students as well as in-service trainings to reduce the existing vacancy rate of 52%. It is a well-known fact that the demand for further education is always high and much as training remains the Ministry's priority, there is need to ensure that training programs are consistent with the Ministry's training needs and plans to avoid creating unnecessary shortages in the facilities. In this regard, it is important that District Health Offices also adhere to the control mechanisms that are already in place so that only those who are on the Ministry's training plan and are approved by the Headquarters go for further training.

3.2.5 Recruitment

Pre-service training institutions are the primary source for recruitment for the Ministry of Health. These training institutions produce graduates every year, with 811 nursing and midwifery and 822 graduates in other cadres (Medical Assistants, Clinical officers, Laboratory Technicians, Dental Therapists, Assistant Environmental Health Officers, Radiography Technicians, and Pharmacy Technicians etc.) from Malawi College of Health Sciences and CHAM institutions between July 2014 and June 2015. Kamuzu College of Nursing produced 102 graduates whilst College of Medicine had an output of 43. Out of these, the Ministry was able to

recruit 487 Nurse Midwives, 41 Medical Doctors and 106 Medical Assistants. The rest, mainly nurses, were recruited by CHAM as per the agreement that 40% of the Nurse graduates are supposed to be recruited by CHAM. Figure 6 below shows the numbers of officers that have been deployed to work in health facilities across the country. It has however, been observed that officers are fond of moving out from healthy centers to work at District Hospitals hence creating unnecessary staff shortages at the Healthy centers. In an attempt to solve this problem, it has been recommended that the Ministry should issue postings direct to Health Centers.

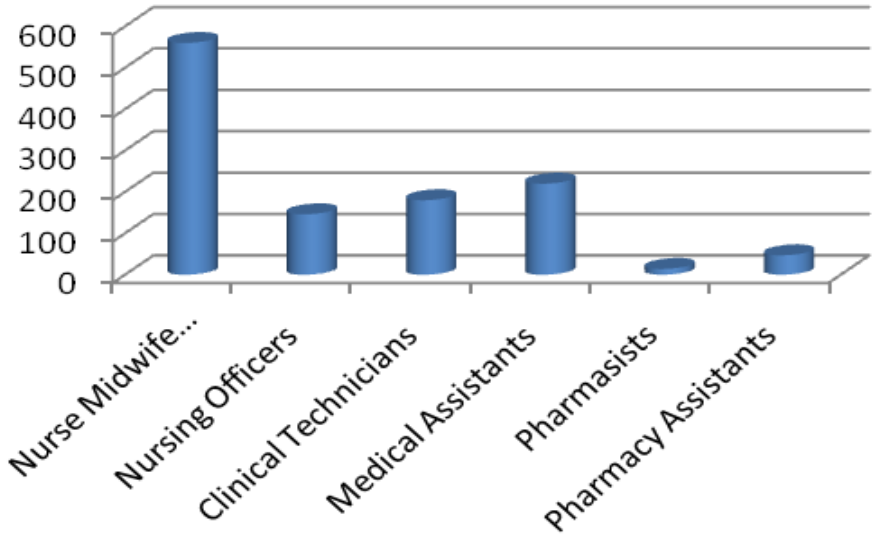


FIGURE 6: NUMBER OF HEALTH WORKERS DEPLOYED IN 2014/15

In addition to this, the Ministry has hired **18** ex-UNV doctors on a local contract of 3 years. And Government has also renewed the contract of the Chief Specialist Surgeon currently based at Mzuzu Central Hospital. However, the Ministry is yet to recruit the health workers that have

graduated in 2015 due to the financial constraints that Government is currently facing.

3.2.6 Promotions

During the reporting period under review, the Ministry of Health has promoted **2,438** staff to different positions. Notable among the promoted are the 328 officers from the Clinical Directorate, 314 from the Nursing Directorate, 44 from the HTSS , 33 from Administration and 249 Medical Assistants who have been promoted to Medical Technicians. The Ministry also conducted promotional interviews for 1,350 Health Surveillance Assistants (HSAs) to Senior Health Surveillance Assistants (Grade L). Furthermore, 2,338 HSA's who were initially on non –established posts under the Global Fund and Millennium Villages programs have also been absorbed into permanent positions by the Ministry (Table 7).

TABLE 7: LIST OF OFFICERS ALREADY PROMOTED IN 2014/15

CADRE PROMOTED TO	GRADE	NUMBER
Specialist Doctors	E	7
Chief Medical Officer	F	21
Chief Clinical Officer (Ophthalmology)	F	2
Chief Clinical Officer	F	8
Principal Medical Officer	G	38
Senior Medical Officer	H	22
Senior Clinical Officer	H	33
Clinical Officer	**I**	180
Nutrition Officer	**I**	19
Medical Technician	L	249
Senior Nursing Officer	H	189
Nursing Officer	I	82
Senior Nurse Midwife Technicians (Psychiatry)	J	23
Senior Assistant Health Community Nurse Technicians	J	20
Senior Health Education Officer	H	20
Health Education Officer	I	15
Senior Assistant Environmental Health Officer	J	43
Senior Disease Control Surveillance Assistant	L	1350
Chief Radiographer	F	4
Principal Pharmacist	G	3
Electro Medical Engineer	I	4
Radiographer	I	14
Senior Radiography Technician	J	33
Senior Laboratory Technician	J	26
Principal Health Service Administrator	I	14
Assistant Health Service Administrator	K	19
TOTAL	**2 438**	

In addition, the Ministry of Health is in the process of promoting the following different cadres: **47** Laboratory Technologists, **27** Senior Environmental Health Officers, **27** Principal Laboratory Officers, **29** Senior Nursing Officers (Psychiatry), **1 726** Senior Nurse Midwife Technician, 71 Chief Nurse Technician, **1** Chief Health Services

Administrator and **3** Senior Disease Control Surveillance Officer whose posts are currently vacant and advertisements have already been placed calling for applications from qualified candidates (Table 8).

TABLE 8: LIST OF PROMOTIONAL POSITIONS SUBMITTED TO HSC

Post	Grade	Number	Status
Laboratory Technologist	I	47	Advertised
Senior Environmental Health Officers	H	27	Advertised
Principal Laboratory Officers	G	27	Advertised
Principal Radiography Officer	G	4	Advertised
Senior Nursing Officers (Psychiatry)	H	29	Advertised
Chief Health Services Administrator	F	1	Advertised
Senior Disease Control and Surveillance Officer	H	3	Advertised
Chief Nurse Technician	I	71	Advertised
Senior Nurse Midwife Technician	J	1726	Advertised

3.2.7 Performance management system

Following Government's introduction of Performance Management System (PMS) in 2007 in the Public Service, the Ministry of Health, with support from USAID-funded SSDI-Systems project has re-oriented the DHMTs in all 15 SSDI supported districts and the Ministry is yet to roll out the PMS to all Cost Centres. And with the introduction of the Public Sector Reforms, the Ministry of Health has emphasized to the District Health Offices the need to conduct performance appraisals so that the set objectives are achieved.

3.2.8 Management and leadership

Strengthening management and leadership of the Ministry is key to ensuring effective and efficient delivery of health services in the Country. Between July 2014 and June 2015, 93 District Health Management Team

members from the Central region have been trained in Management Development programme with support from Johnson and Johnson through the University of Cape Town. Whilst 194 officers including Directors, Deputy Directors, Program Managers and Coordinators from the Headquarters and also officers from the District Health Offices have been trained in leadership and management, as well as mentorship programmes aimed at improving the delivery of the health systems. These trainings were supported by Donors and Implementing Partners in the Health Sector such as SSDI.

3.3 Medicines and Medical Supplies

Since 2011, the availability of medicines and medical supplies has been improving significantly. For instance, based on the Logistics Management Information system (LMIS), stock outs rates for tracer drugs have been falling to last Fiscal Year (Figure 7) a bait a further upward trajectory in 2014/15 Fiscal Year largely due to the declining donor procured supplies.

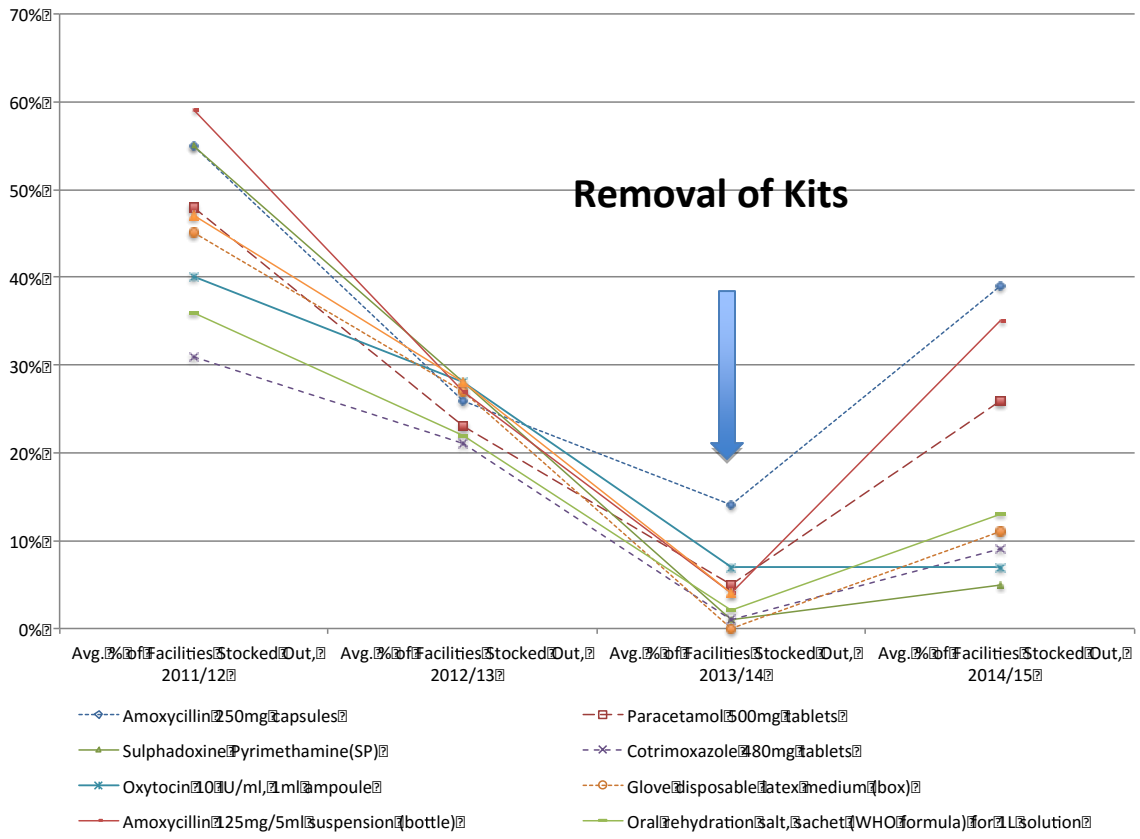


FIGURE 7: % STOCK OUTS IN SELECT TRACER COMMODITIES BETWEEN 2011/12 AND 2014/15

Despite early improvements in supplies, apparent setbacks include; inadequacy of storage facilities; drug pilferage and general financing gaps for essential medicines and supplies. In 2015/16, for example, the overall funding gap for medicines (resources allocated minus costs) was estimated at $143,408,471 or 84.15% shortfall (Figure 8). This is an underestimation of the true resource gap due to difficulties in quantifying actual clinical need as opposed to what services were accessed. The existing barriers to service use, especially limitations in human resources, and inadequate infrastructure imply that what is observed as utilization is an underestimate of the true need if the supply side constrains were minimized. Furthermore, resources required

especially in service streams like mental health and family planning are not adequately captured in the HSSP. Similarly, the resources database was not finalized and it is suspected that resources available were underestimated and costs were overestimated.

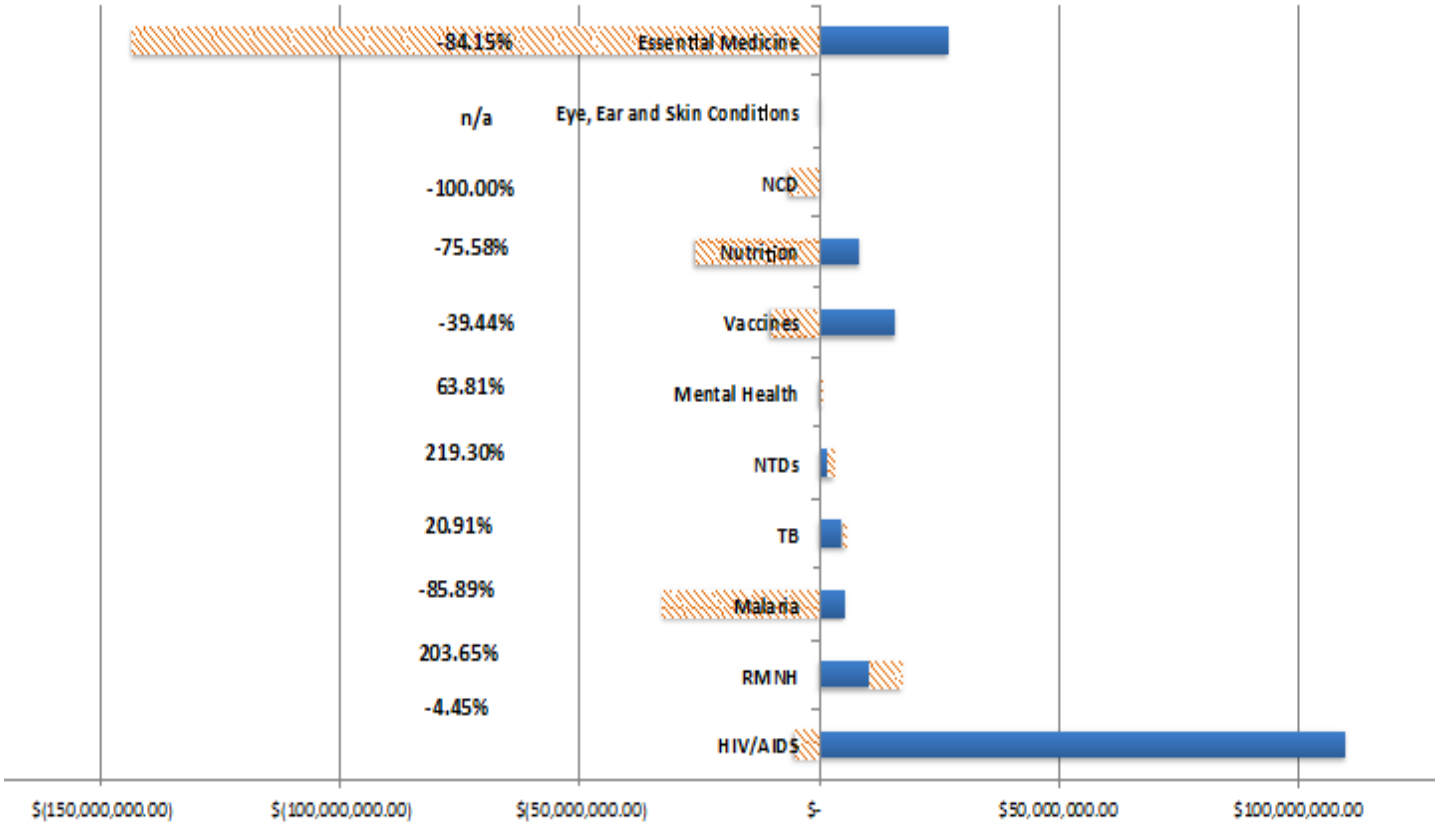


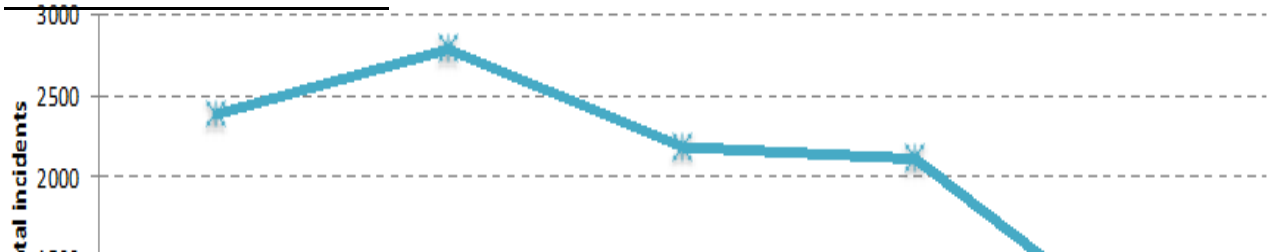
FIGURE 8:ESTIMATED RESOURCE GAP

(DATA SOURCE: RESOURCE MAPPING ROUND 4).

Furthermore, it is unclear if a predicted gap in funding for medicines results in a justified increase in the drug budget as the Government of Malawi budget is small and there are other aspects to health service that influence service use and subsequent health outcome. More importantly,

investment in drugs and medical supplies should be considered in the broader system context. Recent zonal reviews suggest that a reallocation of funding from ORT[6] to the drug budget in 2015/16 has resulted in severe compromises in basic service delivery. It is unclear if the perceived drug shortage problem is as severe as it is portrayed in the media and if increased funding for drugs should come at the expense of ORT.

For instance in Figure 9 below, ORS stock outs of greater than one week do not appear to be associated with relatively stable figures on inpatient deaths due to non-bloody diarrhea for those under 5 years. This could suggest that human resources (funded by ORT) or access to health services early, for instance, may be a stronger predictor to reducing death due to non-bloody diarrhea than access to ORS. Alternatively, it could indicate that resources do not reach the patients that need them. There is currently no system that tracks if medicines reach the patient.



Since 2010, Central Medical Stores has been operating as a Trust (CMST) but it has been heavily criticized as not being able to deliver on the supposed efficiencies a Trust was thought to offer. Significant measures have been implemented in the health system since 2011 to improve the availability of medicines. In particular, the Logistics Management Information System (LMIS) remains a reliable source for drug and medical supply data since 2013. A revised Medicines Policy was approved in June 2015 and sets out a roadmap to reform for key stakeholders in the medicines sector.

Despite promised reforms and, according to LMIS data, improvements in drug availability, it is clear that the public and partners remain dissatisfied. Poor medicines availability undermines the effectiveness of primary health care and ultimately undermines universal access to health

care to those who are most vulnerable. Critically, considering the Ministry of Health mandate to improve health care for all Malawians, it is part of the MOH mandate to lead the reform in medicine availability. In response to multiple reports including a World Bank Aide Memoir (2015), Drug Leakage Study (2013) and a Health Efficiencies Study (2015), a draft action plan has been developed for both Malaria commodities and the Ministry of Health. These reports all make mention of similar weaknesses in the supply chain depicted in the Figure 10 .

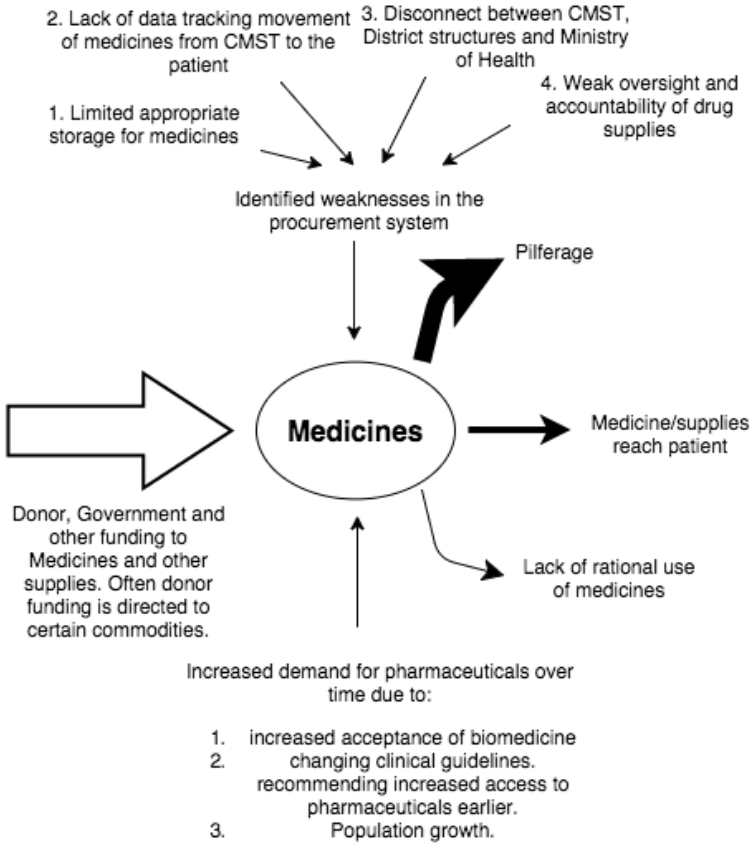


FIGURE 10: FLOWCHART OF DRUG AND MEDICAL SUPPLIES PROCUREMENT CHAIN. ISSUES

The gap between resources allocated and required exacerbates shortages in the system

Annual quantification and resource mapping exercises help estimate the resource gap between what funds are available (resource mapping) and what is the estimated demand for medicine and medical supplies in the system (quantification). The reliability of data used for quantification exercises is improving over time. Prior to 2013/14 Fiscal Year, it is unclear if the quantification data is comparable to present exercises.

Referring to Figure 11, the quantification exercises shows dramatic increases in predicted requirement in 2015/16. Quantification estimates for the year stands at **$362,532,839.46** (including malaria, family planning and HIV commodities) falling short of estimated resources to be invested in medical supplies and drugs from resource mapping for 2015/16 Fiscal Year ($201,314,615). It is inferred that this is due to the following: a change in methodology to capture laboratory commodities for the first time and the implementation of universal test and treat guidelines for ARVs. In Figure 12, resource mapping shows a general trend of increasing resource allocation over the past five years to medicines and other medical supplies. Notably, the contribution by the Government of Malawi is improving over time and hopefully will lead to improved reliability of funding flows and subsequent supply but is likely coming at the expense of other funding for services as well.

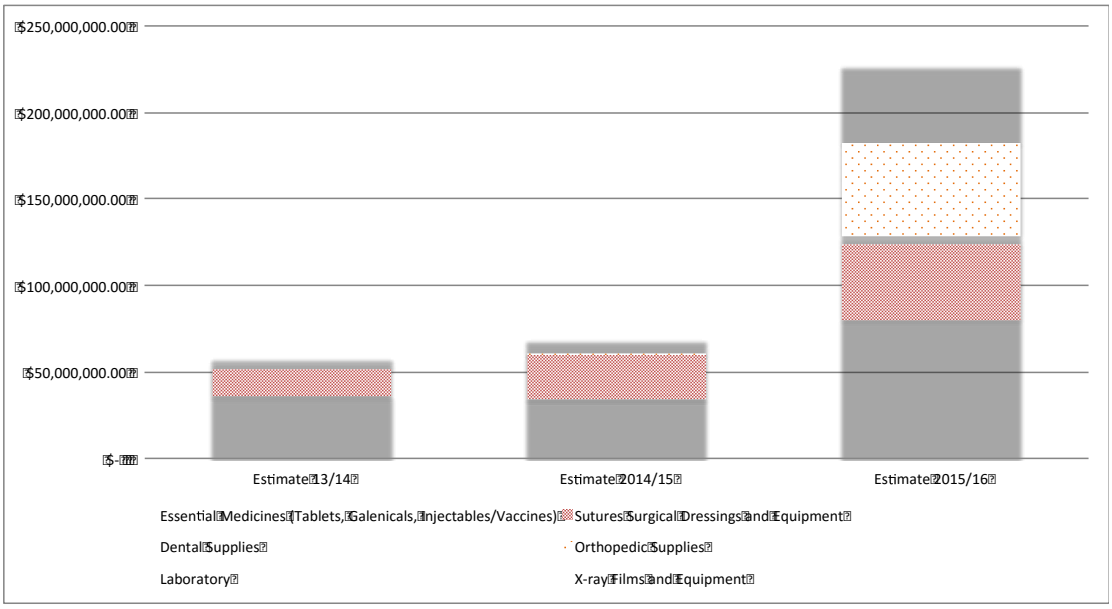


FIGURE 11: ANNUAL QUANTIFICATION 2013-14 TO 2015-16 EXCLUDING HIV, MALARIA AND FP

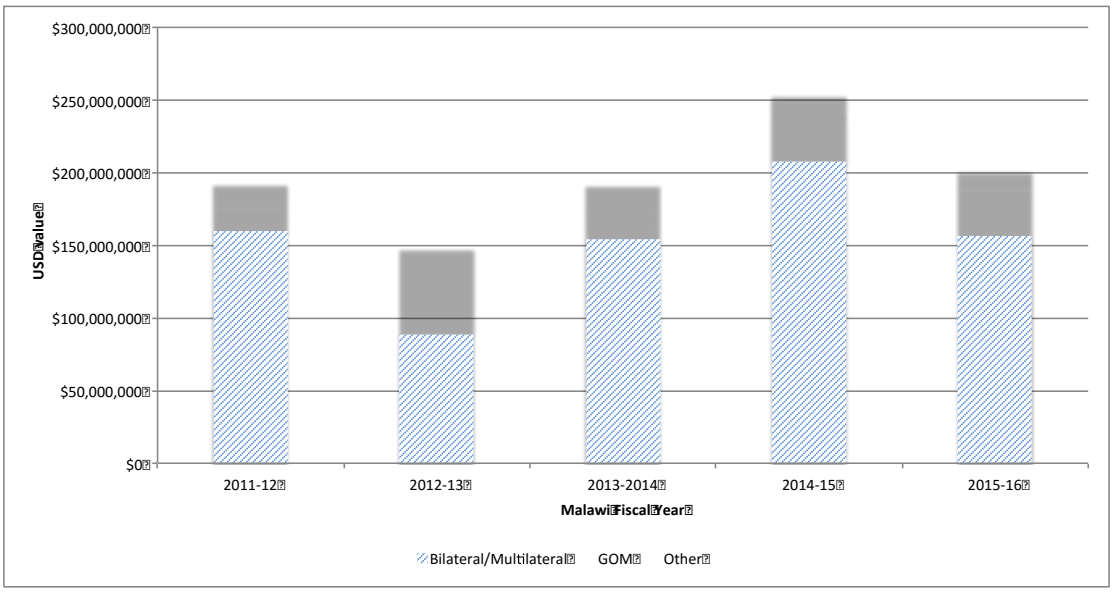


FIGURE 12: PREDICTED FUNDING ALLOCATION BASED ON RESOURCE MAPPING OVER THE PAST FOUR YEARS

Due to the resource gap and other pressures (see Figure 10) on the medicine supply chain, stock outs are resulting in a barrier to accessing health care and consequently poorer health outcomes. Figure 7

illustrates the percentage stock outs for select tracer drugs and when the system converted from a “push” to a “pull” procurement system.

In 2014/15, the availability of medicines and medical supplies fluctuated considerably. In the first half of the year, a good number of products from the tracer list presented single digit stock outs on average. Towards the middle of the year, there was a reduction in availability for most of the tracer commodities as stock out rates rose into double digits. The drop in availability was largely due to the transition from the drug kit being distributed on a monthly basis to health facilities, to the ordering system, through CMST and supported by DFID. HTSS department was able to work with stakeholders in medicines and medical supplies to aid the transition and assist districts to quickly switch back to the system of ordering for their supplies. Stock out rates began to drop again as we approached the end of the period under review and about half of the products being tracked are presenting stock out rates that are better than the mid-year average, however still higher than what they were during the kit program. Stock outs figures are the key indicator for performance of a supply chain system. Possible causes of system failures are described below:

3.3.1 Weaknesses in the procurement system

Multiple studies have suggested four key issues that have led to medicine supply chain issues: Limited appropriate storage for medicines; Lack of data tracking movement of medicines from CMST to the patient; Disconnect between CMST, Districts and Ministry of Health; and Weak

oversight and accountability of drug supplies. Furthermore, increased demand for pharmaceuticals due to increased acceptance of biomedicine, the changing clinical guidelines to increase demand for pharmaceutical agents and population growth have all compounded the medicines demand and supply challenge. Drug leakage and pilferage and lack of rational use of some medication, all contribute to reduced medicines reaching their goal of appropriate use.

3.3.1.1 Limited appropriate storage for medicines

The Pharmaceutical Department of the Ministry of Health has had major challenges in the areas of information management and facility level storage availability for medicines and medical supplies. In the Country's concept note submission to the Global Fund, these issues were highlighted as priority areas of intervention under the Health Systems Strengthening (HSS) component of the concept note. Similar request for support was sent to other donors and partners targeting these areas. These advocacy efforts have been able to secure support from the Global Fund, USAID and DFID towards improving storage infrastructure at facility levels. A total of 115 prefabricated storage units, from PEPFAR and DFID are to be ordered for deployment at health facilities of all levels during the 2015/16 Fiscal Year.

3.3.1.2 Inability to track medicines from CMST to the patient

The Drug Leakage Report (2013), World Bank Aide Memoir (2015) and the Health Efficiency Study (2015) have suggested that there is drug leakage at different stages of the supply chain and increasing drug

budgets have not necessarily led to increased availability of pharmaceuticals at the patient level. Consequently, a system to track drug procurement from CMST to the patient level is required to ensure that medicines are available at point of use.

3.3.1.3 Disconnect between CMST, Districts and Ministry of Health

The transition between "push" procurement systems for drugs to a "pull" system has been prolonged and more difficult than expected. This adjustment period has resulted in unexpected stock outs in some districts. The broader decentralization agenda for health services has also led to changing roles resulting in transfers of responsibilities. This transfer will require a period of adjustment. At recent zonal review meetings, some districts have suggested that the drug budget should not have been increased at the expense of the ORT Budget. It was argued that basic health service delivery was compromised due to the reallocation of funds.

3.3.1.4 Weak oversight and accountability of drug supplies.

Multiple reports suggest that the resulting drug leakage is largely due to ineffective accountability and oversight mechanisms. It has been suggested that the longstanding issues with medicine supply are symptomatic of entrenched systemic issues. Clearly, accountability especially at facility level needs to be improved. Despite improvements in drug supply according to LMIS, there is still significant discontent expressed with drug availability at District level. The draft action plan to

improve medicine availability for malaria and the Ministry of Health will explicitly address the issues over oversight and accountability.

3.3.2 Drug leakage

Drug pilferage still remains a significant concern. The Drug Leakage Study (2013) found that $11,572,886 USD worth of commodities assessed in the study were found to be unaccounted for. Leakage was mostly in HIV and Malaria commodities. Despite countless reports on pilferage and issues associated with it, the system still remains weak and unable to support drug accountability at the District level and the recent draft Action Plans works to address this directly.

3.3.3 Lack of rational consumption

Rational consumption is when "patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community." (WHO 2015) Promotion of rational consumption of medicines and other commodities are important to reduce waste within the system and improve efficiency, and, to reduce the risk of drug resistance strains in, for instance, malaria, in the future. Recently, concerns were raised over the rational use of ACTs in the treatment of malaria as consumption of ACT were much higher than RDT use in 2013 (4.5 million RDTs vs 9.2 million ACTs). It was suggested in focal group discussions that part of this over subscription of ACTs is partly due to prescribed treatment for malaria despite a negative RDT. However, this does not fully account for the disparity between tests

(RDTs) and treatment (ACTs) but unavailability of records compromises any conclusion drawn from the data as seen in the Figure 14 below.

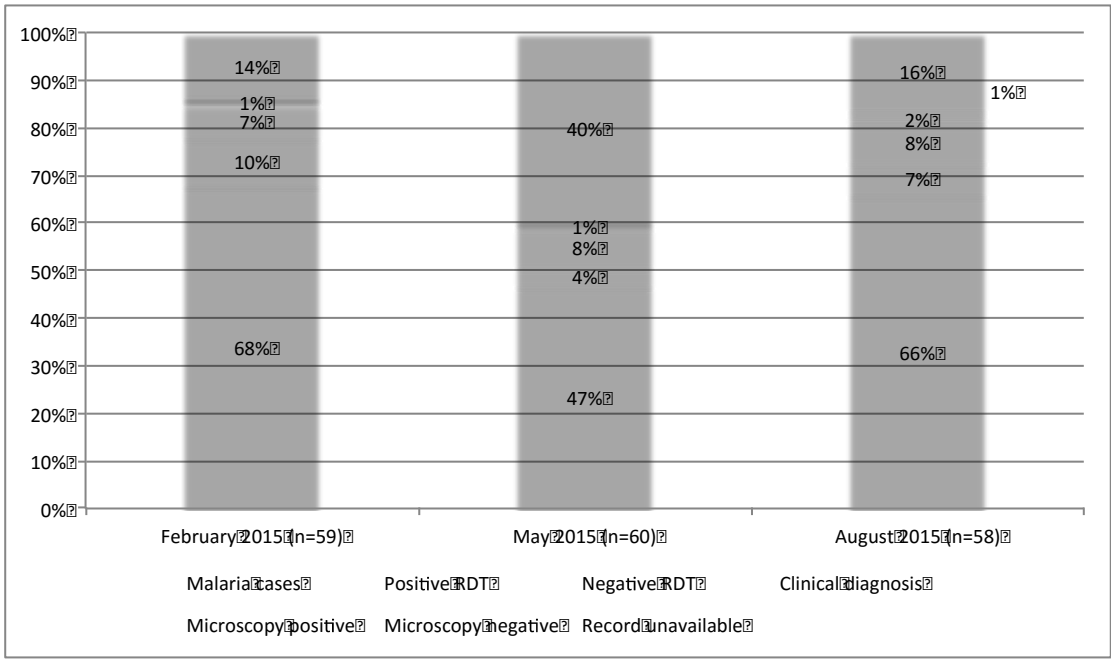


FIGURE 13: PERCENTAGE OF TREATED MALARIA CASES FEB, MAY, AUG, 2015.

However, it has also been suggested (Drug Leakage Report, 2013) that malaria commodities are particularly vulnerable to drug leakage further exacerbating the perceived lack of rational consumption of ACTs.

3.3.4 Increased demand for biomedicine

The increased demand for pharmaceuticals by the consumer could be driven by three factors: the increasing acceptance of biomedicine, population growth and the changing international clinical guidelines to increase access to biomedicine. The increased acceptance of biomedicine is also a reflection of the increased demand for clinical services. The underinvestment in preventive activities in the health sector has

resulted in an increasing burden of disease for largely preventable diseases e.g. diarrheal diseases and especially non-communicable diseases that are largely treated with medicine e.g. cardiovascular disease.

This increased demand due to the changing nature of disease in Malawi is also coupled with changing international standard treatment guidelines. From January 2016, all those living with HIV or who test positive will have access to ART as it is one of the most effective ways to prevent the spread of HIV. This step towards achieving universal ART is also a step towards Universal Health Coverage and ensures that those who are most at-risk of poor health can access the lifesaving treatment they need. Scaling up of ART distribution does have implications for its supply chain that is a parallel system as currently all ART are funded by the Global Fund. The growth in population and improvements in life expectancy are also increasing the absolute demand for biomedicine. Increasing demand for biomedicine serves to further pressure the existing supply chain.

3.3.5 Conclusion

The improvements we see in the availability of medicines needs to be sustained and the performance of the logistics system needs continuous improvement. Decisions need to be made about how medicines should be distributed going forward. The data above allows us to compare availability in the time of the Kit – push system and the requisition pull system and we see that availability was better guaranteed with medicine

kits than the requisition system. The task of determining resupply quantities every month further strains the already tight health workforce. In addition, a monthly review period leaves little time to collect data, analyze the data to inform requisitions, raise requisitions and carryout distribution. Most of these processes are predetermined in the kit system and saves time. The LMIS will still be operational and can provide data to adjust the kit overtime. The kit system is in use in countries like Zambia and has yielded good results.

To enforce accountability of medicines and medical supplies, an action plan supported by the Malaria Program has been drafted but needs the cooperation of other arms of government to be effectively implemented. This plan has been presented to the management of the Ministry of Health but needs the involvement of other Ministries like Justice, the police, customs and other agencies to put together a multi-sectoral taskforce to detect and prevent drug pilferage when it occurs.

The availability of data for decision making is essential to the health system and the electronic LMIS (eLMIS) project aims to support this agenda. The project will be receiving funding from USAID and the Global. When implemented the e-LMIS will be the data bridge between the MoH, CMST, Health facilities and other stakeholders. As a web based platform, the e-LMIS will allow users the ability to access data anywhere and at any time through the internet.

The department of HTSS-Pharmaceuticals requests the support of the management of the MoH to be able to implement and push through some of these interventions, especially when it comes to dealing with other Ministries. We believe with this support we can continue support the progress seen in the availability of medicines and medical supplies thereby supporting the EHP and improving the health outcomes of Malawians.

3.4 Essential Equipment

The Ministry of Health released the Service Provision Assessment (SPA) Report in 2014/15 fiscal Year. The SPA provides a comprehensive overview of the country's health care services and its capacity to provide quality care. The study used the definition of 'basic pieces of equipment' that should be available to guarantee its readiness for basic services as followed by the World Health Organization (WHO) and the United States Agency for International Development (USAID). Figure 15 reflects results from this survey.

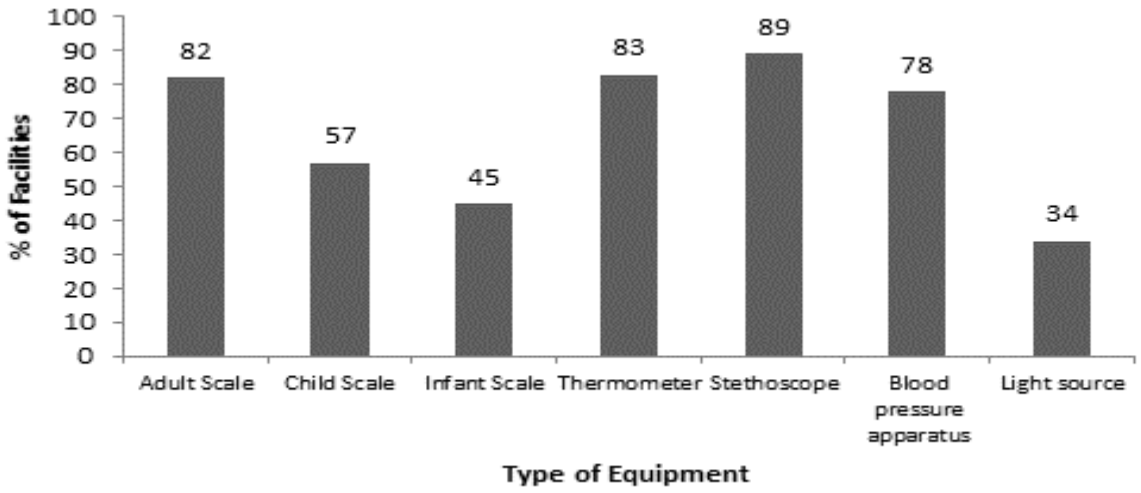


FIGURE 14: AVAILABILITY OF BASIC EQUIPMENT (N=997)

Procurement of various specialised equipment is in progress. For instance, there are four mammography machines already delivered to sites and are awaiting installation in the central hospitals and are now ready for commissioning. These will make screening for breast cancer available at the central hospitals. Procurement of three digital radiography machines have passed all approvals processes required and now awaiting funding. These will be allocated to Kamuzu Central Hospital (KCH), Mzuzu Central Hospital (MCH) and Queen Elizabeth Central Hospital (QECH) and will address the problems that the central hospitals face in meeting the demand for x-rays. Additionally, procurement of a ceiling-mounted X-Ray machine for Salima district hospital and an X-Ray tube for Karonga district hospital is underway. A thermos-luminescent dosimeter reader to aide in monitoring occupational radiation exposure (of workers) was also donated by the International Atomic Energy Agency and is awaiting installation and commissioning at Kamuzu Central Hospital.

Furthermore, procurement of five (5) standby generators to deal with power supply issues in District Hospitals is in process and one has already been delivered to Mchinji District Hospital. Procurement of two (2) oxygen plants for KCH and QECH is underway. Procurement of two (2) incinerators for KCH and QECH has been initiated. Basic equipment for 60 BEmOC sites has been procured and some have already been delivered and commissioned. Procurement of mortuary units for five district hospitals is completed, and one mortuary unit has already been delivered to Mchinji District Hospital. The Ministry has also procured Tecare autoclave parts for 21 machines.

The Procurement process for specialist medical equipment has been initiated and is expected to be completed before the end of FY 2015-16. Orthopaedic; neurosurgical; ENT; psychiatric equipment is expected to improve patient outcomes and reduce some referrals.

Quality laboratory services are essential to the provision of quality care and treatment. During the period under review, no new diagnostic equipment was procured and installed in the laboratories. However, in order to establish the types of equipment and their operational status, the Ministry of Health, with support from Clinton Health Access Initiative (CHAI), is mapping national laboratory equipment and soon the Ministry will undertake a national laboratory quantification exercise based on the mapping results. The figures below reflect results from the initial situational analysis in November 2014. Initial results indicate that a lack

of reagents is an important deterrent to provision of diagnostic services (Figure 16).

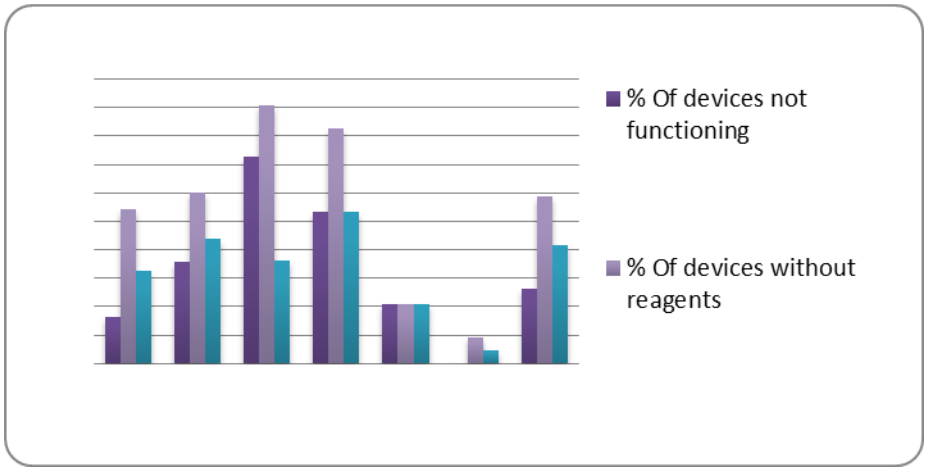


FIGURE 15: FUNCTIONAL STATUS OF DEVICES BY TEST TYPE

This reflects the difficulty faced when procuring reagents as there are large variations in the brand of diagnostic machine used and each brand will require different reagents for the same diagnostic test (see Figure 17).

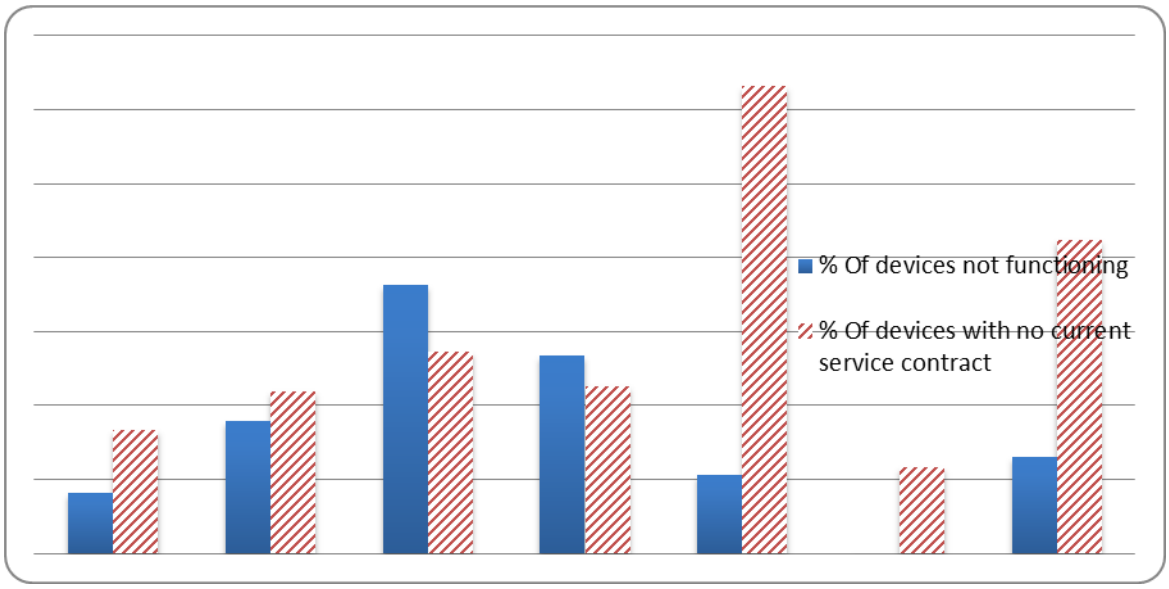


FIGURE 16: SERVICE CONTRACT AND FUNCTIONAL STATUS OF DEVICES BY TEST TYPE

Similarly, a large number of diagnostic machines do not remain on service contracts but those that do are more likely to be functional.

3.4.1 Donations

The Ministry received medical equipment donations from various development partners as listed below:

- UNDP donated several basic equipment (oxygen concentrators, blood pressure machines) and distributed these to several selected facilities.
- Options donated Reproductive Health Department equipment (delivery instrument sets, delivery beds, sterilisers) to Balaka, Ntcheu, Dedza and Mchinji district hospitals and selected health centres within the district.

- Norwegian Church Aid is renovating the main operating theatre at KCH and building an ICU at KCH and will supply the equipment in both departments. The ICU and Theatre equipment will be put under a service contract.
- Russian Government donated ICU (ventilators) to ZCH following identified need at ZCH for ICU equipment.
- Egyptian Government supplied the ICU equipment (ventilators and patient monitors) to ZCH and ophthalmology equipment to MCH.
- Project Cure donated assorted medical equipment to KCH.

3.5 Health Infrastructure

Critical services such as maternal, neonatal and child health should lie within reasonable reach for all Malawians. The policy of Government is that public health facilities should be located within an 8 km radius to ensure that every household has access to a health facility within reasonable walking distance. In 2014, the Services Provision Assessment (SPA) report revealed that over two million people do not live within 8 km of public health facility.

Three main players; Ministry of Health, CHAM and other for profit or not-for-profit health providers provide health services in Malawi. Based on the SPA report, Government facilities account for 76% of health services provision, followed by CHAM (22%), whilst other service providers provide the remaining 2% of health services. A key strategy to achieving universal health access in Malawi, is maintaining a very

good working relationship between Government of Malawi and the partner service providers like CHAM, particularly through strengthening the scope and coverage of Service Level Agreements (SLAs) to facilitate access to essential health services in catchment areas served by CHAM. Presently, there are serious gaps in access to free health services, particularly in remote areas where they are serviced by CHAM. If these gaps are not addressed, the attainment of universal health coverage may not be feasible.

Table 9 shows that there are 76 CHAM Facilities with SLAs in place, of which 45 are with facilities which are far from Government Facilities and 31 are near Government Facilities. As espoused in the HSSP, a proxy measure for universal geographical access to health services is the number of people living within 8km of a health facility. This contrasts to the Government's long-term objective of achieving universal access to the EHP for all Malawians regardless of their geographical location.

TABLE 9: STATUS OF FACILITIES WITH SLAS AS AT 31ST DECEMBER 2014

	Distance From Nearest Government Facility		
	8km or more	Less than 8km	Total
Total CHAM Facilities	115	60	175
With SLA	45	31	76
Without SLA	70	29	99

Furthermore, a series of studies have shown that despite the subsidised charges, utilisation rates are significantly lower in CHAM facilities than in

Government Facilities. Moreover, when user fees are removed, utilisation rates in CHAM facilities have exponentially and instantly increased and that the utilisation rates become comparable to those in Government facilities. User fees in CHAM facilities, therefore, greatly limit the ability of majority of Malawians in remote rural areas to access health services in those communities.

Health Infrastructure Development was envisaged to improve access to and coverage of EHP services through the following strategies and key interventions among other things: Installation and maintenance of utility systems in existing facilities; Rehabilitation of existing buildings; Upgrading of existing health facilities; Construction of new health facilities; and Construction of staff houses. Despite clear policy propositions on the matter, very little has been done to invest in Health infrastructure development. As per the HSSP costing and targets, total amount of resources for infrastructure development was estimated at MK36.49 billion from 2011-2015 but only MK10.9 billion was provided over the period of the HSSP.

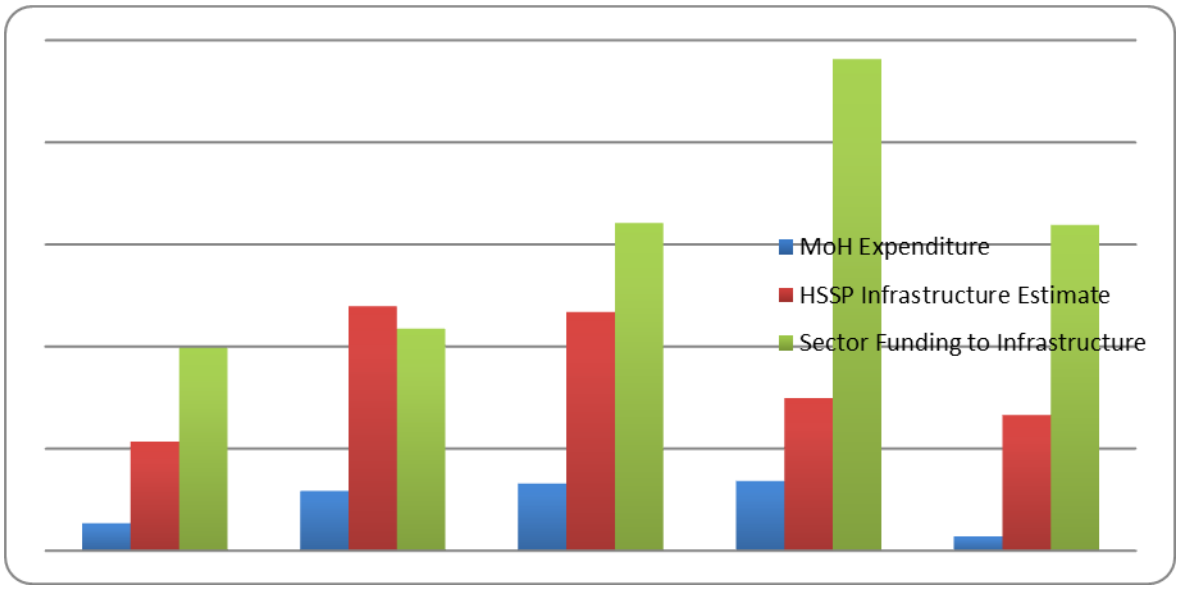


FIGURE 17:APPROVED BUDGET, DISBURSED FUNDS AND HSSP BUDGET ESTIMATE

Figure 18 above show a comparison of Annual Health Sector funding, HSSP Health Sector Infrastructure Estimates and Actual Health Infrastructure Appropriations and as can be depicted, year on year, resources available for Health sector Infrastructure have been much lower than requirements, hence the apparent slow progress in this area over the years. Government also disbursed much less than the provisions and this compounded further the problem.

On the other hand, figures captured by the Resource Mapping, further depict similar trends of low funding towards infrastructure development by cooperating partners in the health sector. As depicted in the figure below, a lot of funds are trickling down to the Health Sector but only very little goes towards infrastructure development. The resource mapping data has revealed that during the period 2011-2016, the health sector had a total funding of MK1.64 trillion ($2.95 billion) out of which MK76.89 billion (US$138.54 million) was allocated to health

infrastructure development representing a 4.69% of the total resources to the health sector. As regards, percentage of total funding that went to the health sector, the resource mapping data has also shown that infrastructure allocation is very low as compared to other areas. The trend for infrastructure development is even going down as it fell from 7% in the 2014-15 financial year to around 4% in 2015-16 financial year.

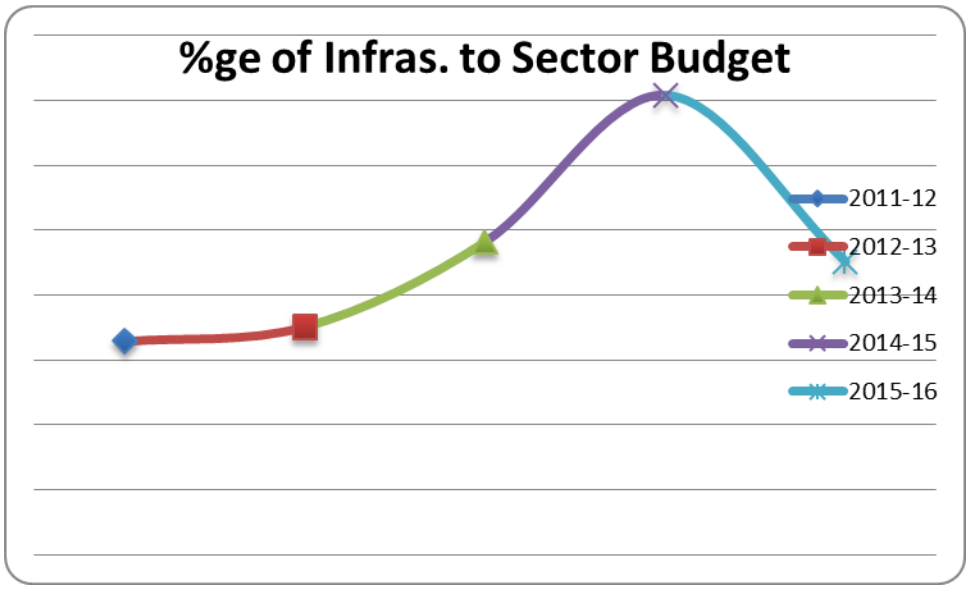


FIGURE 18: : INFRASTRUCTURE VS SECTOR FUNDING

Due to the constrained budgetary resources, the Ministry of Health took a decision to only focus on rehabilitation and maintenance of existing infrastructure as well as completion of Projects which are already underway. The Ministry only considers new Projects which have full funding. In this regard, Projects underway include rehabilitations of existing health facilities; construction of fully funded new health facilities; expansion and upgrading of health facilities among other things and progress on these is as follows:

3.5.1 Construction of Staff Houses

The Ministry of Health in its efforts to improve working conditions for Health personnel especially those in remote areas, set out to construct 140 houses across the country under the Umoyo Housing Project. The project also involved construction of doctor's flats in all the central hospitals. The project was planned to be completed in 2013 but has not been completed to date due to inadequate funding.

3.5.2 Construction of Health Centres

The Ministry of Health planned to implement a phased approach to construction of 33 new Health Centres across the country to improve access to Health Services in the country especially in rural and hard to reach areas. The first phase of the project included construction of 15 Health Centres which were planned to be completed in 2013. Nevertheless, phase one is not yet completed due to funding problems.

3.5.3 Rehabilitation of Health Facilities

This Project included rehabilitations of District Hospitals and Central Hospitals, namely: Queen Elizabeth Central Hospital (QECH), Kamuzu Central Hospital, Mzuzu Central Hospital, Zomba Central Hospital and Zomba Mental Hospital. The Project was to be implemented in a phased approach that started with KCH and QECH but due to funding problems, rehabilitations for Zomba and Mzuzu Central Hospital never got started. However, in the current funding, Government has allocated some funds for rehabilitations of Zomba Central Hospital, Zomba Mental Hospital

and Mzuzu Central Hospitals but the funds are very limited for meaningful rehabilitations. The Project has also been greatly affected by funding problems.

3.5.4 Construction of New District Hospitals

The Ministry planned to construct a number of District Hospitals during the period under review in the following Districts: Blantyre, Dowa, Balaka, Likoma, Chitipa, Kasungu, Chitipa, Phalombe and Lilongwe. Nevertheless, due to funding problems, Government only managed to secure financial resources for the construction of the New Phalombe District Hospital. The Ministry is also currently about to finalise construction of the New Nkhatabay District Hospital whose construction has also delayed.

3.5.5 General Challenges of Health Infrastructure

Though there have been some investments on physical infrastructure for health care service delivery in Malawi, distribution and coverage remains uneven especially in rural areas. Pregnant women in the rural areas hence travel long distances in order to get health services, a thing that is pausing a big risk to maternal health in the country. In addition, maintenance of the existing public sector health facilities has been a big problem and a major burden for the Ministry of Health. Although there have been a number of initiatives to improve health infrastructure, increasing population and demand for healthcare has surpassed the ability of the Government to provide effective health services.

Furthermore, although the physical infrastructure for Health in Malawi has registered some expansion, maintenance and upkeep of public sector health facilities has become an inseparable burden for the Ministry of Health development budget. The Ministry of Health apart from failing to bring in new infrastructure in the sector, it is also failing to service its existing infrastructure. Most of the infrastructure for health in the country is run down and is in dire need for heavy maintenance.

Moreover, the HSSP had set out to reduce the number of people living outside the 8KM radius of a health facility in a bid to attain universal coverage of health services. Nevertheless, current statistics has shown that the situation has worsened to 23.06% from 19% in 2011. This perhaps has been the case due to inadequate investments towards construction of new facilities amidst rising population.

As regards the facility type that registered a substantial growth, was health centres which rose from **422 in 2011 to 468 in 2015**. This was due to new construction and upgrading of a number of dispensaries into full health centres by mainly cooperating partners as per the table below. This has been the case since most donors that are investing in the sector are placing emphasis on primary health care. This although is a welcome development, there's equally a great need to allocate substantial amount of resources towards tertially health care infrastructure as most of these are in great need of rehabilitations and expansion due to increasing need of specialized health care services even amongst the rural populations. A quick look at the country's Tertially facilities, shows that most of them

are in a very bad shape and require major rehabilitations and expansions as most of the patients admitted in these facilities end up sleeping on the floor. For instance, the Queen Elizabeth Central Hospital currently house over 1000 patients when the hospital was meant to cater for less than 500 patients a thing that is also greatly affecting the quality of health care service delivery.

Government also attaches importance to basic amenities in improving quality health service delivery such as regular electricity, and improved water source, client latrines and communication equipment among other things. At the moment, statistics from the Service provision Assessment (SPA) has shown that regular electricity is at 59% whilst facilities with improved water sources are at 94% and facilities with client latrine are at 37%. There's need for more to be done in this area especially on the patient latrines as this can greatly impact on further spread of infection in the facilities.

3.5.6 Way Forward on Health Infrastructure

Moving forward, the Ministry of Health is currently in the final stages of developing a Capital Investment Plan (CIP) which will be key to guiding financing for infrastructure Projects in the Health Sector for both Government and Development Partner funded projects. The Ministry also plans to make sure that all investments in the sector should follow the priority list of the CIP. There is also need to ensure that all investments in infrastructure should correlate to HRH plans to avoid structure lying idle when completed due to lack of HRH.

There's need to increase funding in general for infrastructure for health through the Ministry of Health. All financing for health infrastructure should be pooled together from all interested parties in order to have well-coordinated investments.

3.6 Referral System

Emergency medical transport is a critical component of pre-hospital care especially in trauma cases. Further, emergency transport services also ensure access to maternal health services at critical times in remote rural areas and in many cases, poor urban areas. The general understanding is that patients have better outcomes if provided with definitive care within 60 minutes of the occurrence of injuries. Hence, pre-hospital care is mostly beneficial during the second phase of the conditions such as trauma. This timely provision of care can limit or halt the cascade of events that otherwise rapidly lead to death or lifelong disability. Without standard pre-hospital care, people with good survival possibilities also die at the scene or en route to the hospital. Literature shows that although Emergency Medical Services (EMS) constitute both pre-hospital and hospital services, they have been neglected for many years especially in low-income countries. For Malawi, almost all District Health Offices and Central Hospitals face critical shortages of ambulances for emergency referral. Based on a Draft BeMoc Survey Report (March 2015):

"Most complications of pregnancy are unpredictable but can be safely and successfully managed if there is prompt access to emergency obstetric care. This sort of care is typically not available in health centre; women have to be referred to higher levels of care."

The Draft BeMOC survey report shows that overall, only 33% of facilities have a functioning ambulance. Based on a ratio of 1 ambulance to 50,000 population, the national need for ambulances is approximately 300 and as of September 2015, Malawi has 173 including Mzuzu central hospital .

TABLE 10: AMBULANCE STATUS BY DISTRICT AND POPULATION

District	Total Population	target	available	functional
Balaka	396,411	8	14	11
Blantyre	1,283,332	26	15	15
Chikwawa	533,714	11	7	6
Chiradzulu	318,323	6	2	2
Chitipa	216,912	4	6	2
Dedza	735,411	4	9	7
Dowa	764,414	15	5	4
Karonga	337,448	7	6	1
Kasungu	826,285	17	6	6
Likoma	10,451	1	1	0
Lilongwe	2,492,795	50	8	8
Machinga	608,182	12	12	10
Mangochi	1,017,070	20	20	16
Mchinji	589,572	12	8	5
Mulanje	572,305	11	14	9
Mwanza	104,153	2	3	3
Mzimba north	1,119,290	9	6	6
Mzimba south		12	8	4
Neno	150,841	12	4	4
Nkhata-Bay	269,069	5	6	2
Nkhotakota	379,474	8	3	2
Nsanje	281,552	6	6	4
Ntcheu	572,568	11	7	5
Ntchisi	285,892	6	5	2
Phalombe	373,587	7	14	12
Rumphi	208,616	4	6	1
Salima	419,448	8	4	3
Thyolo	643,836	13	13	9
Zomba	799,479	16	20	12
Mzuzu CH			3	2
Malawi	16,310,431			173

A Study of Pre-Hospital Emergency Medical Care In Malawi 2015 (draft report by Prof Hugh Grantham Professor of Paramedics, Flinders University, Australia) showed an extremely serious lack of capacity to deal with any pre hospital care in terms of paramedics , ambulances and even first Aid training .There is no single emergency response phone number and no coordinated call centre to respond to those calls. No

trained paramedics exist and the only trained personnel active in a pre-hospital service are the nurses employed by the private Insurance company MASM, to support their six vehicles. These nurses have undergone a short (about 2 weeks) paramedic training by a team from Zimbabwe.

Ambulance vehicles consist of a wide range of vehicles from land cruiser based vehicles to mini bus and ex-urban ambulances. In terms of fit for purpose as a transport vehicle to serve the wider community only those based on a land cruiser four-wheel drive could be expected to function anywhere including unsealed roads.

The study further identified many reports of patients with medical conditions (asthma and sepsis for example) deteriorating to the point of death on the way to hospital. An effective pre-hospital care system would save life and reduce the burden of care on the hospital system by preventing deterioration and thus presenting the patients to hospital in a better state requiring less intensive care. A third challenge in the area of pre-hospital care is represented by a succession of interventions, which have not been sustainable and have not created long-term benefits for the system and Malawi. These failed interventions, often involving donations of equipment that was not fit for purpose and was not supported with personnel, training and consumables, have created an impression of a functional ambulance service that is not accurate.'

Radio communication is also not consistently present and communication relies upon mobile phones in most instances. Blantyre Fire Brigade appears to have a Radio communication system and using repeaters is capable of serving an area within 100 Km radius from the city.

The vehicles used to transport patients from health centres do not provide an ambulance service. The vehicles are crowded with many patients who could be transported by other means making it difficult to accommodate those patients who do require an ambulance. Transport is also coordinated in runs with no available vehicles to attend to an emergency until the run is completed. On the ambulances, there is no clinical care available and no equipment with which to deliver it and the driver has no first aid or paramedic training.

Only 2 of these patients had conditions warranting an emergency ambulance (child with cerebral malaria and a pregnant woman with premature ruptured membranes).

A number of patients have to be moved to higher levels of care and moved between public and private sectors to access investigations such as CT scans and ICU beds. A vehicle with a stretcher is used however it has no paramedics and no functioning equipment; any equipment and personnel necessary to sustain the patient has to be brought from the hospital, thus depriving these resources from the hospital.



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CHAPTER 4: PERFORMANCE OF DISEASE AREAS

4.1 Background

This chapter discusses in detail the performance of disease areas (communicable and non-communicable) focusing on diseases with the biggest burden in Malawi. The Chapter has highlighted the progress in each of the disease area, the programs underway, successes achieved, challenges encountered and prospects going forward. Disease areas that have been discussed include; HIV/AIDS, Malaria and TB. As a preamble, the Chapter has also discussed services access and utilization in public hospitals.

4.2 Service Access and Utilization in Public Facilities

In the context of our country, where there are significant socioeconomic, geographical, cultural, and other barriers to health services access, strengthening Outpatient service delivery and increasing utilization are fundamental to the achievement of the health-related Millennium Development Goals (MDGs), namely: MDG 4 of reducing child mortality; MDG 5 of improving maternal health; and MDG 6 of combating HIV/AIDS, tuberculosis and malaria.

Health service utilization rates reflect availability and quality of services. Low rates can be indicative of poor availability and quality of services. Evidence from local and international studies suggest that outpatient utilization rates go up when barriers to using health services are

removed, for instance, by bringing the services closer to the people or reducing user fees. World Health Organization (WHO) International Standards suggest that each individual visit a health facility, at least once in a year (one OPD visit per year).

4.3 Hospital Attendance, Admissions and Deaths

In 2014/15 Fiscal Year, there were a total of 17.96 million out-patient attendances with 940, 546 admissions and a total of 22, 305 reported inpatient deaths, as shown in table 11.

TABLE 11: HOSPITAL ATTENDANCE, ADMISSIONS AND DEATHS

	Districts	Central Hospitals	Total
OPD attendances	17, 223, 288	737,412	17,960, 640
Admissions	807, 838	132,708	940, 546
Inpatient deaths	15, 545	6,760	22, 305

Preventable and communicable diseases still bear the majority of out-patient attendances and admissions and responsible for the majority of deaths. In patient deaths were reported through Health Management Information System (HMIS). Among the four leading causes of death to children under five, the majority (58%) are due to malaria, followed by 19.4% due to acute respiratory infections, 11.9% due to malnutrition, and 10.8% due to diarrhea. Figure 20 summarizes the causes of death in under-five children.

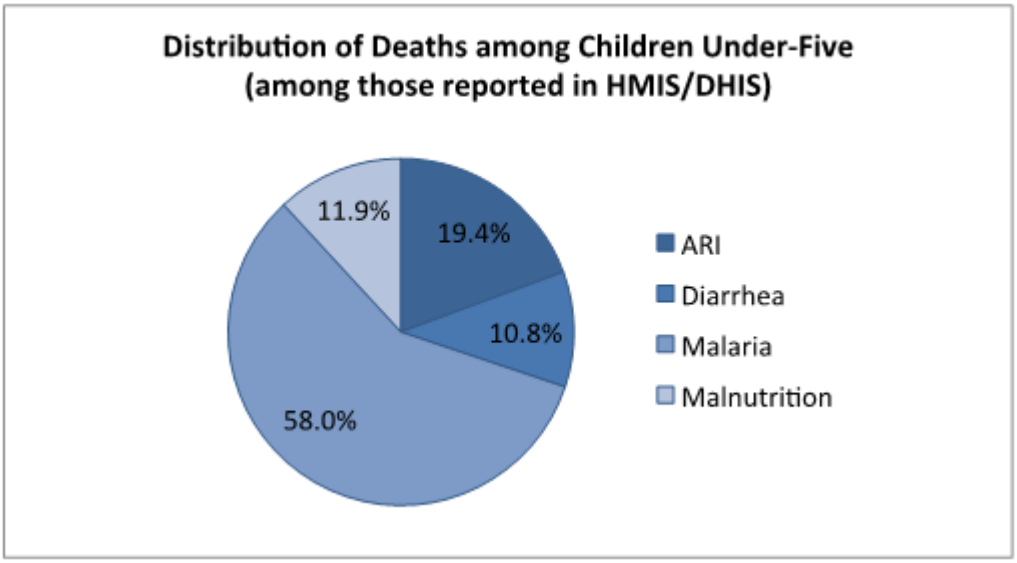


FIGURE 19:DISTRIBUTION OF DEATH BY CAUSE AMONG CHILDREN UNDER-FIVE

In terms of services in Central Hospitals, ideally, they are supposed to provide tertiary level care, focusing on conditions that cannot be managed by District Hospitals and lower level providers of health care. However, presently, these Central Hospitals currently operate like large primary and secondary level facilities based on the bulk of services they provide. This role is further exacerbated by the lack of ability to provide highly specialised services due to the acute shortage of specialist doctors in Malawi. Further, the unsatisfactory performance of Central Hospitals in the country is heavily influenced by a lack of sufficient and quality urban health facilities combined with few inputs to address the key risk factors that impact on health status on both the poor and non-poor urban communities. Currently, an expert group has been assigned to further develop proposals to speed up the reforms to enable central

hospitals to be fit for purposes of treating specialist cases referred from secondary facilities.

In terms of average length of stay (ALS) in Central Hospitals, it was 7.1 days for Kamuzu Central Hospital, 5.2 for Zomba Central Hospital, 4.6 for Queen Elizabeth Central Hospital and 4.3 for Mzuzu Central Hospital, signifying a well-functioning system across the board. As for Bed Occupancy Rates which measures on average the proportion of usable beds in hospitals utilized (or occupied) per month/quarter/year, two central hospitals, namely, Queen Elizabeth Central Hospital and Mzuzu Central Hospital reported bed occupancy rates of 66.6% and 69% respectively.

TABLE 12: PERFORMANCE OF THE FOUR CENTRAL HOSPITALS IN THE COUNTRY

Central Hospital	OPD Attendance	Inpatient Days	Admissions	Inpatient Deaths	Total Discharges	ALOS	Inpatient Mortality Rate	Bed Occupancy Rate
Mzuzu	98, 041	85, 380	22, 447	915	19, 592	5.3		
Zomba	112, 288	157, 965	28, 824	1, 912	28, 639	5.2	7%	-
QECH	379, 809	318, 277	79, 186	3, 761	78, 136	4.1		66.6%
KCH	147, 274	225, 590	2, 251	172	35, 288			

4.4 Sexual Reproductive Health and Rights (Maternal and Newborn Health)

Malawi's population has grown from 9.9 million in 1998 to 16.8 million in 2015 at the annual growth rate of 2.8%. Based on the current population growth rates; it is projected to reach 45 million by 2050. This is unsustainable considering that the economy has not grown at a sufficient pace to keep with the high population growth rate. While Gross National Product has grown from US$1.7 billion in 2000 to US$5.6billion in 2011 and is estimated at US$5 billion in 2015. Per capita GDP on the other hand remains low, growing from US$209 in 2004 to US$364 in 2011 and backsliding to US$237 in 2013 before picking up again to US$253 in 2014 (World Bank, 2014). Life expectancy at birth increased from 47 years in 2000 to 54 years in 2014, but remains one of the lowest in the World. The population is youthful with 54 percent of the population aged 18 years and below (figure 21).

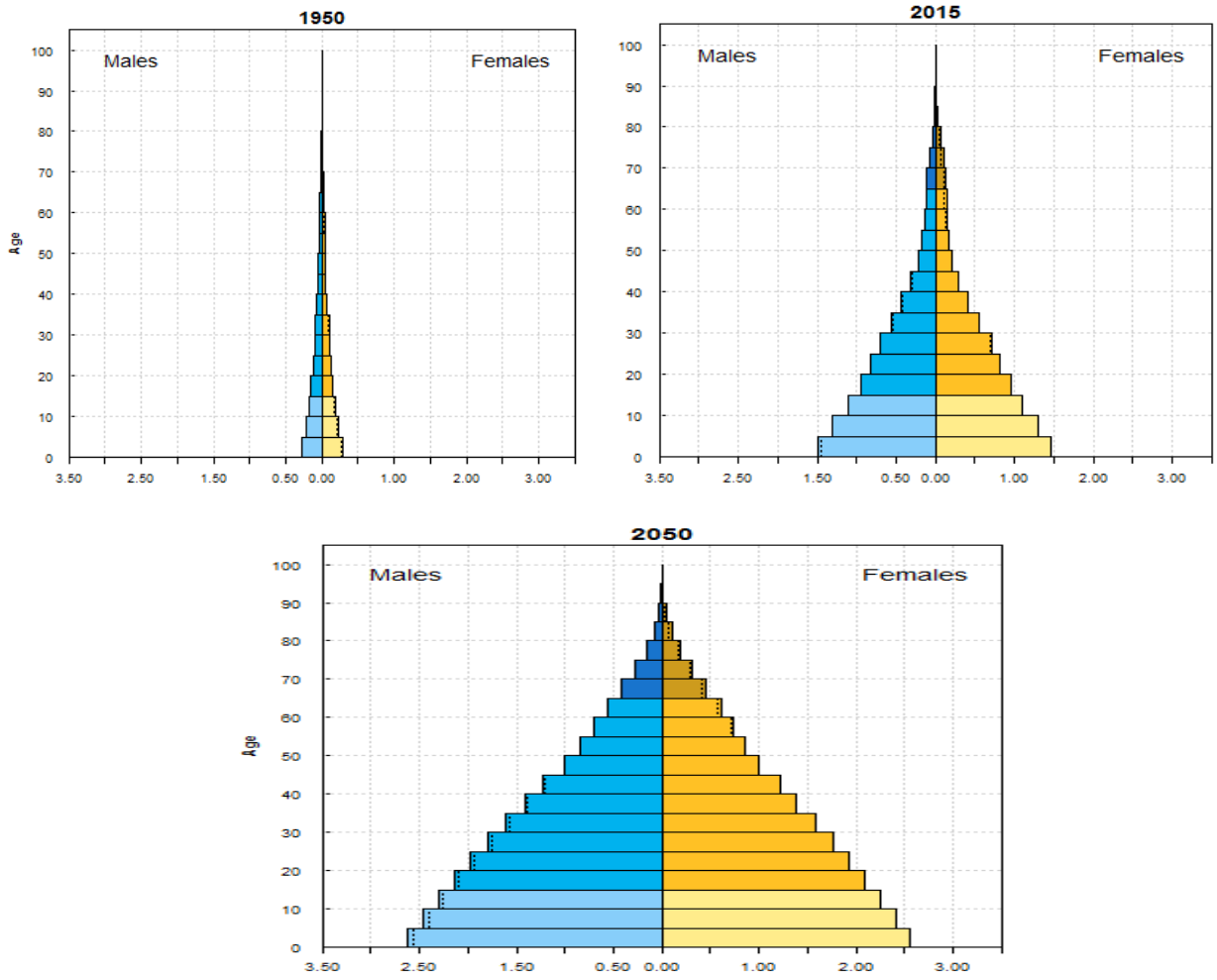


FIGURE 20: MALAWI'S POPULATION PYRAMID

[Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision]

High fertility rates have been the most significant driver of population age structures. Table 13 shows Malawi's fertility rates over time and compares them with global and regional trends. The table shows that in many low income countries, infant mortality rates have decreased by more than 50% since 1960. Another striking revelation from Table 13 is the declining fertility rates associated with declining infant mortality

rates globally and in developed countries. The table further shows that there is high fertility rates in developing countries compared with the developed countries, suggesting that reducing fertility requires also sustained economic development and transformation.

TABLE 13: TOTAL FERTILITY RATE, INFANT MORTALITY AND LIFE EXPECTANCY: MALAWI VS WORLD

	Year						
	1960	**1970**	**1980**	**1990**	**2000**	**2010**	**2015**
1. Total fertility							
World	4.90	4.92	3.87	3.45	2.74	2.56	2.51
Low-income countries	6.52	6.56	6.47	6.44	6.00	5.31	4.89
Sub-Saharan Africa	6.58	6.66	6.77	6.51	5.91	5.40	5.10
Africa	6.64	6.67	6.62	6.20	5.35	4.89	4.71
Malawi	*6.90*	*7.20*	*7.60*	*7.30*	*6.40*	*5.80*	*5.25*
2. Infant mortality rate							
World	130	105	85	67	57	42	36
High-income countries	48	32	21	15	10	7	6
Low-income countries	177	151	138	116	99	70	60
Sub-Saharan Africa	169	144	123	112	101	75	64
Africa	171	144	121	104	93	69	59
Malawi	*193*	*180*	*159*	*151*	*121*	*80*	*60*
3. Life expectancy							
World	49.21	55.38	60.21	63.61	65.58	68.85	70.47
High-income countries	66.70	69.31	71.51	73.84	75.22	77.53	78.81
Low-income countries	37.60	41.82	43.90	48.90	50.66	56.93	60.27
Sub-Saharan Africa	38.38	42.56	46.67	49.17	49.29	53.84	57.17
Africa	39.85	44.31	48.60	51.77	52.25	56.49	59.55
Malawi	*37.21*	*39.50*	*43.79*	*44.45*	*44.00*	*52.49*	*60.97*

With these high and sustained fertility rates for Malawi, population will continue to grow with a more youthful structure. For Malawi, the demographic transitioning from these under-five and infant mortality declines are yet to be realized. If the country is to cultivate from the "demographic dividend" entailed by this high population, it is critical that policies should focus on how rapid decline in fertility can be

achieved, which may in turn lead to a budge in working population and smaller populations of older adults and children. To yield economic benefits, such rapid fertility declines will have to be accompanied by deliberate investments in human capital, especially schooling, job growth and good governance, and encouraging financial investment and savings (figure 22).

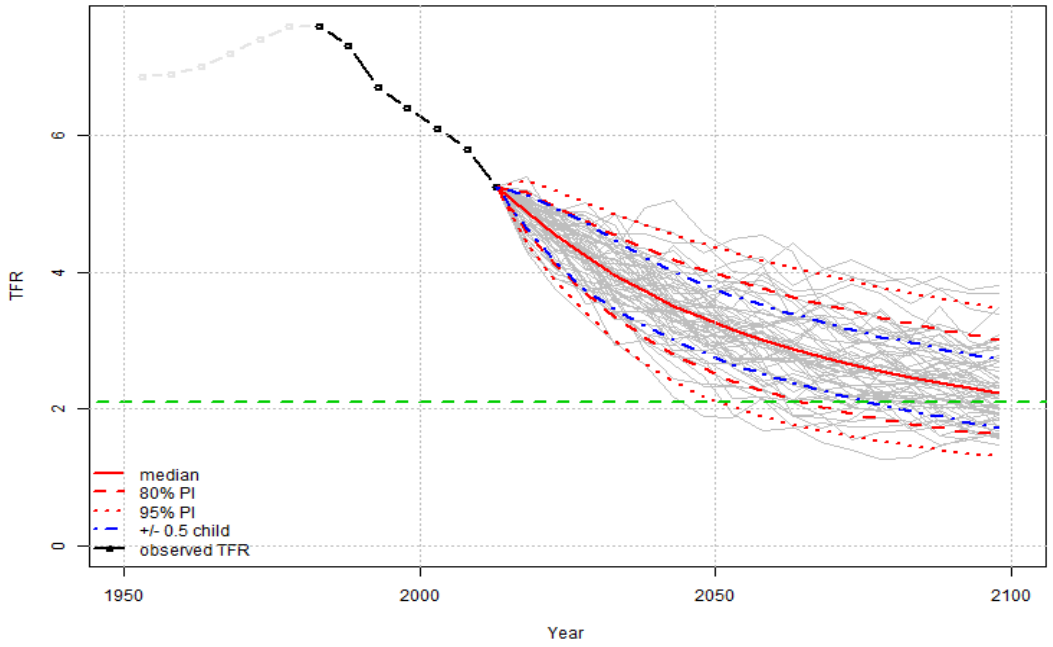


FIGURE 21: MALAWI'S TOTAL FERTILITY RATE; PROBABILISTIC PROJECTION OF FUTURE SCENARIOS

It is also recognized that one key driver of high fertility rates particularly in Sub-Saharan African region is the high infant and under-five mortality rates. This is not a new phenomenon; with high infant mortality, parents produce more children so that they end up with their ideal number of children. The substantial declines in infant mortality rates from 134 to 66 deaths per 1000 live births between 1992 and 2014; and the Under-Five Mortality Rate declined from 243 to 112 deaths per 1000 live births

over the same period should, therefore, be expected to result in notable reductions in fertility (Figure 23). It is important, however, that these child mortality declines need to be matched with strong population policy that emphasizes substantial declines in fertility if the country is to reap the benefits of accelerated child survival programmes in the country.

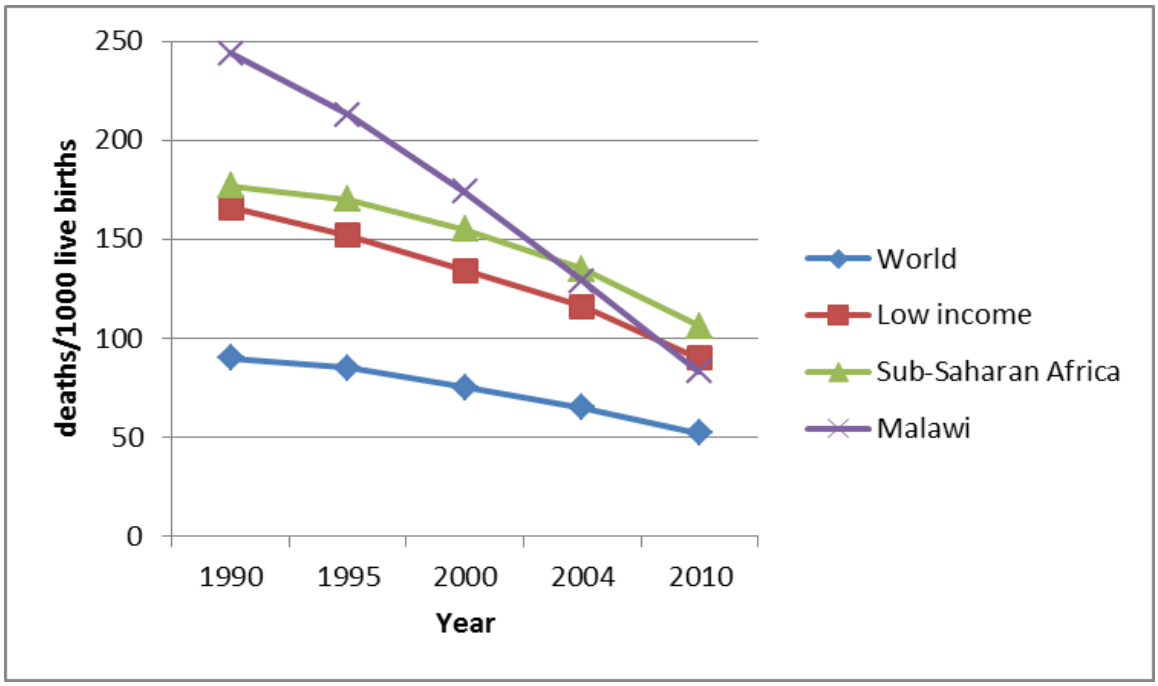


FIGURE 22: TRENDS IN INFANT MORTALITY: MALAWI AND THE REGIONS OF THE WORLD

With this high fertility, population will continue to grow for another five to eight decades after attaining replacement level fertility of 2.1 children per woman due to the effect of Population Momentum. This results from the high concentration of young people who are yet to go through their reproduction. The challenge of Government is to design and implement effective policies that fast-track the attainment of the replacement rates. These outcomes point towards the need for a well-coordinated and

financed multi-sectoral approach to dealing with population growth challenges in the country.

4.4.1 Implications of high fertility and high population growth

Malawi's rapid population growth makes provision of public services such as health services and schooling more challenging as these have to keep pace with the growing population. In countries where rapid fertility declines have been recorded, children have higher education levels; there is greater asset accumulation, and greater use of preventive health services. In Bangladesh, for examples, in areas with lower fertility rates, children completed more schooling years (UNDP 2013). The negative relationship between fertility rates and child schooling has further implications on enhancing inequalities since fertility usually decreases first among more educated mothers. The 2010 DHS for Malawi shows that fertility rates are higher for women with no education than for educated women, at 6.9 and 3.8, respectively.

Reductions in high fertility are necessary for sustained or fast-tracked reductions in maternal mortality. This is so because fertility reductions imply fewer risky pregnancies such as those of young or very old mothers, those at high parity and of women with closely-spaced pregnancies. Sound planning and implementation of sexual and reproductive health services including family planning is, therefore, key to achieving fertility declines and reductions in maternal mortality. It also has the additional benefit of reducing the number of unintended

pregnancies and, therefore, maternal mortality and morbidity due to unsafe abortion.

Fertility declines also have positive implications on child health outcomes. Within the Sub-Saharan region, decreasing fertility has been associated with increasing birth intervals (UNDP 2013). For Malawi, results show that the shorter the birth interval, the greater the risk of mortality (Nkhoma 2014). While the mechanisms are not well established, they are thought to include competition for resources and cross-infection from older siblings. For Malawi, preferred birth intervals exceed three years (DHS 2010). This means that meeting the relatively high proportion of unmet need for family planning for spacing is likely to improve child survival even with the currently larger desired family size of 2-4 children (Yeatman, 2014).

The National Population Policy also emphasizes the need for fast-tracked urbanization of the country. In 2010, DHS data show that the fertility rate for women in the poorest 40 percent of households is 6.8 children, while the rate for the richest quintile is 3.7.

Economic empowerment, especially for women, has the additional benefit of reducing fertility and mothers make trade-offs between household labour and market labour. Similarly, with over 85% of the population in rural areas, there is an urgent need to fast-track urbanization programmes. For instance, fertility rates are higher for rural than for urban residents, at 6.1 and 4.0, respectively. In countries

that have achieved significant fertility declines, these have been associated with a high urbanization rate of 60% and over.

High fertility and the associated high population growth also has a negative impact on the environment and natural resources, with population change thought to be largely responsible for deforestation, and desertification, outcomes that are of great importance to Malawi which is largely an agrarian country. Currently, the country is yet to find a sustainable solution to food insecurity at the household level, and malnutrition (stunting) remains stubbornly high. If proper population control policies are not put in place, the expected impacts of high population on climate change and environmental degradation are likely to lead to greater risk of (chronic) humanitarian crises in the coming decades.

4.4.2. Progress on selected sexual and reproductive health

To tackle the high population growth and its challenges, Malawi is implementing a revised National Population Policy (2012) whose goal is "to contribute to the improvement of the living standard and quality of life of the people of Malawi". The policy provides a framework to "enhance prioritization, coordination, and implementation of programmes for addressing population and development challenges, with particular focus on rapid population growth, at national and sub-national levels". The main outcomes of the policy include: (i) Increased awareness and prioritization of population dynamics at all levels of development planning and programming; (ii) Reduced fertility and

mortality levels; (iii) Slowed population growth and reduced child dependency burden; (iv) Enhanced urban planning and role of urbanization in the development process; (v) Enhanced empowerment of women and gender equity; and (vi) Enhanced capacity to meet the needs of the population while preserving natural resources.

The Ministry of Health contributes to the implementation of the national population policy through implementation of sexual and reproductive health programmes aimed at reducing total fertility rate, and mortality and morbidity associated with the sexual and reproductive system. Key among the interventions is the provision of family planning services, which has seen increased contraceptive prevalence rate for modern methods of contraception among married women from 7.4 percent in 1992 to 42.2 percent in 2010 and 48.6% in 2014.

Based on DHS surveys, families now want fewer children than previous generations. The desired family size in 1992 was 5.0 for women and 5.2 for men but this has gone down to 3.9 for women and 4.0 for men in 2010. However, this ideal demand for fewer children is yet to be translated into lower fertility rates. Family planning services are obviously a key intervention in ensuring families have their ideal family sizes. There has been marked progress in making sexual and reproductive health services available in the country. However, bout 26 percent of married women have an unmet need for family planning; unmet need is highest amongst poor households, at 30% in the poorest 20% compared to 22% amongst the richest 20% households. These

figures show that there is potential to increase contraceptive use and reduce fertility levels if barriers of access to and use of family planning methodologies can be addressed. However, with the desired number of children still higher than the replacement fertility rates of 2.1, it is important for Government to design effective policies that tamper with the demand for children.

The country has also seen substantial declines in infant and under-five mortality rates. Prior to the advent of ARVs, HIV/AIDS increased mortality rates including for children, slowing down the prospects for fertility gains due to reductions in childhood deaths that Malawi and other developing countries experienced post-World War II. According to DHS data, the HIV prevalence rate among adults aged 15-49 has declined from 11.8 percent in 2004 to 10.6 percent in 2010 percent. However, marked gender differentials in HIV prevalence persist, especially among the young people aged 15-24. In 2010, the HIV prevalence for young females was 5.2 percent while for males was 1.9 percent. The Maternal Mortality Ratio (MMR) remains worryingly high, although it has declined from 984 maternal deaths per 100,000 live births in 2004 to 675 in 2010. The country has registered marked improvement in the proportion of women who deliver babies with assistance of skilled health attendants from 57.1 percent in 2004 to 89 percent in 2014. The high number of maternal deaths is bound to decline considerably if this progress is enhanced and quality of maternity care improves, especially following prioritization of safe motherhood through the 2012 Presidential Initiative on Safe Motherhood.

The population of Malawi is predominantly rural. According to the 2008 PHC, 14 percent of the total population lives in urban areas. However, the country is urbanizing at a fast rate, and the United Nations Population Division data project that only 32 percent of Malawians will be living in urban areas by 2050. In order to optimize the role that urbanization can play in promoting socioeconomic development in the country, there is need to improve urban planning, delivery of social services, infrastructural development, and the capacity of the private sector to generate adequate quality jobs. These efforts should also be accompanied by enhancement of livelihood opportunities in rural areas, including development of rural growth centers to prevent excessive migration to the country's major cities.

Since 2004, the country has made good progress in growing its economy, achieving average annual economic growth rates of about 7 percent. The percentage of households with access to safe potable water increased from 73 to 80 percent between 2005 and 2010, while those with basic sanitation increased from 84 to 93 percent over the same period. However, the percentage of households living below the poverty line marginally declined from 52.4 percent in 2004 to 50.7 percent in 2010 (IHS, 2011), indicating that more efforts are needed to reduce poverty levels.

The Government recognizes that human capital development is key to sustaining social and economic development. According to the 2008 PHC,

59 percent of adult women and 64 percent of men are literate. There has been a marked increase in school enrolment since the government launched the Free Primary Education (FPE) programme in 2004. The Primary School Net Enrolment Ratio increased from 82 percent in 2004 to 91 percent in 2010. However, dropout rates remain high and progression to secondary school low. This problem is particularly acute among girls due to early pregnancies, and marriages, family and cultural responsibilities, among other factors.

In general, the quality of primary education in Malawi had declined due to increased student/teacher ratios. The increase in the number of students has resulted from the reduction of schooling costs due to the FPE programme and the sharp increase in the number of school-going age children because of high fertility. Urban areas have a higher net primary school enrolment ratio than rural areas even though the gap is narrowing since 2007. The differences in net enrolment ratios between rural and urban areas is due to easy access to education facilities in urban areas compared to rural areas, influence of cultural factors, and the higher utilization of child labour in the agricultural sector in rural areas.

Reduction in fertility and mortality will help reduce the high child dependency burden and create a population structure dominated by people in the working age range. If appropriate investments are made and economic reforms enacted to ensure that the surplus labour force resulting from this demographic process is well educated, healthy,

skilled and economically engaged, the country will reap massive economic benefits, referred to as the Demographic Dividend, from effective management of its population challenges. The National Population Policy has been revised to guide programme responses that will help minimize the negative effects of population dynamics and optimize the role of population as a key development resource for the country. Achieving these objectives will help achieve sustainable economic growth, as envisaged in the MGDS II and MDG development frameworks.

4.4.3 Direct Obstetric Deaths

Table 14 below shows that Lilongwe has the highest direct obstetric deaths followed by Blantyre, Mzimba, Mangochi.

TABLE 14: DIRECT OBSTERIC DEATHS BY DISTRICT/CENTRAL HOSPITAL

District	Expected EOC cases	Direct obstetric complications treated at obstetric care facility		Direct Obstetric inpatient Deaths
		No	%	No
Balaka	2,973	1335	45	10
Blantyre	9,625	3200	33	48
Chikwawa	4,003	824	21	19
Chiradzulu	2,387	859	36	11
Chitipa	1,627	446	27	4
Dedza	5,516	1963	36	38
Dowa	5,733	1864	33	14
Karonga	2,531	571	23	15
Kasungu	6,197	1731	28	30
Likoma	78	43	55	2
Lilongwe	18,696	6860	37	108
Machinga	4,561	1459	32	30
Mangochi	7,628	2708	36	43
Mchinji	4,422	2262	51	38
Mulanje	4,292	1370	32	18
Mwanza	781	568	73	8
Mzimba	8,395	3180	38	46
Neno	1,131	425	38	3
Nkhata Bay	2,018	486	24	11
Nkhotakota	2,846	2055	72	9
Nsanje	2,112	1193	56	5
Ntcheu	4,294	1651	38	22
Ntchisi	2,144	600	28	8
Phalombe	2,802	2105	75	13
Rumphi	1,565	648	41	9
Salima	3,146	1062	34	12
Thyolo	4,829	886	18	14
Zomba	5,996	1851	31	36
QECH		7126		58
KCH		709		20*
ZCH		874		17
MCH		426		13
Malawi	90220	53,340	59.1	712

***Unconfirmed Figure**

4.4.4 Antenatal services

Antenatal care services are crucial for safe motherhood as they are instrumental in supporting early identification of pregnancy related complications and allow for early treatment. The health sector uses the number of women who attend ANC to facilitate identification and management of obstetric complications such as pre-eclampsia, tetanus toxoid immunization, intermittent preventive treatment for malaria during pregnancy (intermittent preventive treatment in pregnancy, IPTp), and identification and management of infections including HIV, syphilis and other sexually transmitted infections (STIs). ANC is also an opportunity to promote the use of skilled attendance at birth and healthy behaviors such as breastfeeding, early postnatal care, and planning for optimal pregnancy spacing. In the first half of the 2014/2015 financial year, the Ministry of Health recorded 16% of Women visiting ANC in their first trimester of pregnancy an increase since the 10.6 % recorded at midyear. With respect to skilled attendance at birth 54% of expected deliveries were reported to have delivered by trained personnel as shown in Figure 24.

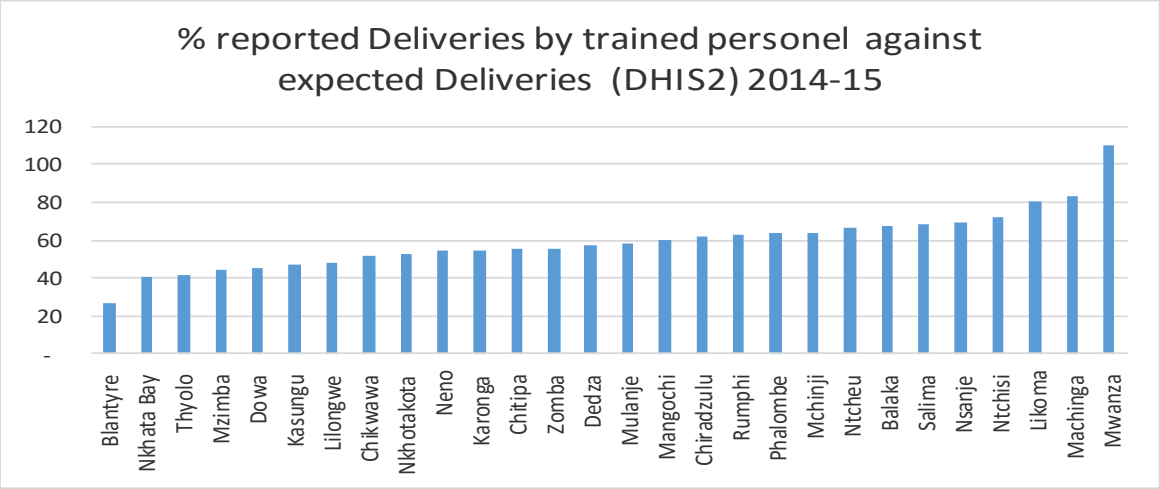


FIGURE 23: PERCENTAGE REPORTED DELIVERIES BY TRAINED PERSONNEL

In conclusion, the following are the issues that need to be considered moving forward: (i) Fertility has declined but not sufficiently to halt the growth of population; (ii) There have been substantial declines in adolescent fertility in many high-fertility countries, but adolescent fertility remains very high with adolescent birth rates of above 143 births per 1,000 women aged 15-19 years in 2013. Adolescent fertility continues to account for a high proportion of births; based on the Malawi DHS (2010), 35% of women between 20-24 years of age had given birth before the age of 18 (UNFPA); (iii) Based on current trends, fertility decline in the country is projected to be more gradual with but if Malawi is to reach total fertility of 2.6 or below by 2030-2035, then there is need to move beyond current interventions and approaches; (iv) The female mean age at first birth has remained fairly unchanged between 2004 and 2014, and the average age at first birth remains young below 19 years; (v) There has been a dramatic increase in the contraceptive prevalence rate in the country from 31% in 2000 to 46% in 2007-2013. Despite this

increase, high levels of unmet need for family planning remain, with more than one married woman in four having an unmet need in half of the high-fertility countries. Most unmet need for family planning in the high-fertility countries of Africa is for delaying or spacing births whereas in the high-fertility countries of Asia and Latin America and the Caribbean most unmet need for family planning is for stopping childbearing (i.e., women wish to have no more children); (vi) The present high-fertility rates for the country will result in a growing and youthful population, even with further fertility declines in the future. It is important for the country to start positioning itself to take advantage of the opportunities from changes in the age structure brought about by continued declines in fertility if increased investments in human capital, job growth and other supportive policies are put in place.

4.5 Extended Program in Immunization (EPI)

Vaccinations are some of the most important tools available for preventing diseases. Vaccinations not only protect children from developing a potentially serious disease but also protect the community by reducing the spread of infectious disease. In the period under review, 87% of children under the age of one year were fully immunized, 2% above the target of 85%. Table below shows summary performance in terms of immunization. Comparing with targeted outcomes, measles (91%) is 1% above the targeted 90% and Pentavalent 3 (91%) is 2% short of the targeted 93%.

TABLE 15: IMMUNIZATION PROGRESS AGAINST TARGETS AT NATIONAL LEVEL

	Fully immunised	Fully immunised target	Penta 3	Penta 3 target	Measles	Measles target
Progress	87	88	90%	93	89	91

At District level, Table 15 below shows that Dowa and Chitipa are of major concern and require immediate corrective measures as they are below targets on Measles, Penta 3 and FIC. Steps to improve vaccination of children under one year are also required in Ntchisi, Neno and Mzimba to ensure that adequate children are immunized.

TABLE 16: VACCINATION COVERAGE BY DISTRICT

District	%Fully Immunized	%BCG	% Penta 3	% Polio 3	%PCV 3	%Rota 2	% MCV1
Balaka	87	97	90	92	91	84	90
Blantyre	90	90	95	99	97	79	92
Chikwawa	85	98	96	96	95	85	91
Chiradzulu	95	98	95	98	94	89	99
Chitipa	72	78	74	76	75	70	73
Dedza	92	99	99	99	99	92	99
Dowa	71	73	76	77	76	74	74
Karonga	90	94	90	90	90	83	92
Kasungu	90	87	86	85	87	74	85
Likoma	89	85	86	84	93	74	90
Lilongwe	90	96	87	92	92	87	90
Machinga	96	96	99	99	99	92	97
Mangochi	92	99	97	98	99	96	98
Mchinji	83	87	85	86	85	83	84
Mulanje	92	96	97	99	96	98	96
Mwanza	86	99	97	91	97	95	93
Mzimba	79	78	81	78	80	70	78
Neno	78	78	79	84	79	71	79
NkhataBay	77	85	85	85	85	81	78
Nkhotakota	86	94	90	92	89	84	91
Nsanje	82	99	99	95	95	85	89
Ntcheu	84	88	94	95	93	89	87
Ntchisi	75	87	78	77	77	70	75
Phalombe	97	90	98	98	98	98	99
Rumphi	85	99	87	91	87	83	102
Salima	90	99	93	96	95	89	92
Thyolo	84	94	91	99	93	87	92
Zomba	88	95	88	93	88	86	85
Malawi	87	92	90	92	91	84	89

TABLE 17: PERFORMANCE AGAINST TARGETS

Planned outputs	Progress against targets	Source of Funding
Traditional Vaccines and related injection materials Procured	Done	MwG & KFw
New Vaccines and related injection materials Procured	Done	Gavi
Co-financing for New Vaccines and related injection materials	Done	MwG
cold rooms and generators Maintened	Done	MwG
vaccines and related injection materials Distributed	Done	MwG
supportive supervision conducted	Partially done	MwG
Mzuzu Cold room Constructed	Not done	Gavi
vaccine refrigerators Procured	Done with KFw	Gavi & KFw
vaccine cold rooms Procured	Done	KFw
bicycles Procured	Not done	Gavi
disease surveillance trainings Conducted	Partially done	WHO
Measles Second Dose (MSD) Introduced	Done	Gavi
Inactivated Polio Vaccine (IPV) Introduced	Not dome	Gavi
Capacity building for health workers	Partially done	KFw, UNICEF, WHO, MCSP, Save the Children
Child health passports and under 2 year registers Printed	Partially done	KFw

TABLE 18: PROGRESS AGAINST TARGETS

Strategy	Indicator	Target	Progress
1. Strengthen immunization services through RED approach	% national Penta 3 coverage	93%	90%
	% districts with Penta 3 coverage of ≥80%	100%	86%
	% national measles coverage	91%	89%
	% districts with Measles coverage of ≥ 80%	100%	79%
	% Fully Immunized coverage	88%	88%
	% districts with Fully Immunized coverage of ≥ 80%	100%	79%
2. Ensure availability of adequate vaccines and injection materials.	% availability of vaccines at district level	100%	100%
	% availability of injection materials at district level	100%	100%
3. Advocacy for increased funding for procurement of vaccines	% availability of approved funding for procurement of vaccines	100%	100%
4. Ensure cold chain capacity at all levels	Number of zonal cold rooms constructed	1	0
	Number of vaccine refrigerators procured	540	65
5. Strengthen monitoring and evaluation	Number of supportive supervisory visits conducted	4	3
	Number of Child health passports printed	980,000	560,000
	Number of under 1 year registers printed	1,500	0
6. Disease surveillance	Non polio AFP rate of 4 per 100,000 children under 15 yrs. of age	4.0	1.5
	% adequate stool specimen	80%	79%
	% districts reporting non febrile rash rate of 2/100,000 of total population	100%	96%

While Tables 16 and 17 summarizes the performance of the program in the Fiscal Year under review. EPI also faces the following challenges in program implementation: Inadequate supportive supervision due to inadequate funding, frequent breakdown of vaccine refrigerators due to aging of equipment, inadequate M&E tools such as child health passports and under 1 year registers and poor data management. These challenges have contributed to some districts (Chitipa and Dowa) achieving a coverage of less than 80% in all six antigens while three Districts, Mzimba, Ntchisi and Neno achieved a coverage of less than 80% in 5

antigens. Furthermore, disease surveillance indicators such as the non-Polio AFP rate and stool adequacy rate have been sub-optimal.

4.6 Malaria

Malaria continues to be a major public health problem in Malawi, with an estimated 5 million cases occurring annually, targeting mostly children under the age of five and pregnant women (MIS, 2012). In Malawi, malaria control efforts have focused on scaling up interventions for prevention and treatment.

Vector control is the key intervention in malaria prevention. Ownership and use of long-lasting insecticide-treated nets (LLINs) and cross-cutting interventions such as behavior change communication have been critical in prevention. Consequently, to scale up vector control measures the National Malaria Control Program (NMCP) has been distributing LLINs across the country over the last five years. Free LLINs have been distributed to pregnant women at their first visit to an antenatal care (ANC) clinic, to children born in health facilities, and to children attending their first visit under the Expanded Programme on Immunisation (EPI), if an LLIN was not received at birth. To increase coverage, timely mass LLINs distribution campaigns have also been conducted. Between 2006 and 2010, over 6 million ITNs were distributed (DHS, 2010). Comparatively, 12 million LLINs have been distributed between 2011 and 2014, of which 6 million were through routine channels while the other half was through mass distribution

campaigns. Although not all distributed nets are used by recipients for the purpose of Malaria prevention, the LLINs distribution effort has helped to increase LLIN ownership and the number of people sleeping under treated nets. Figure 25 below shows the progress in Malaria prevention through improvement in ownership of mosquito nets.

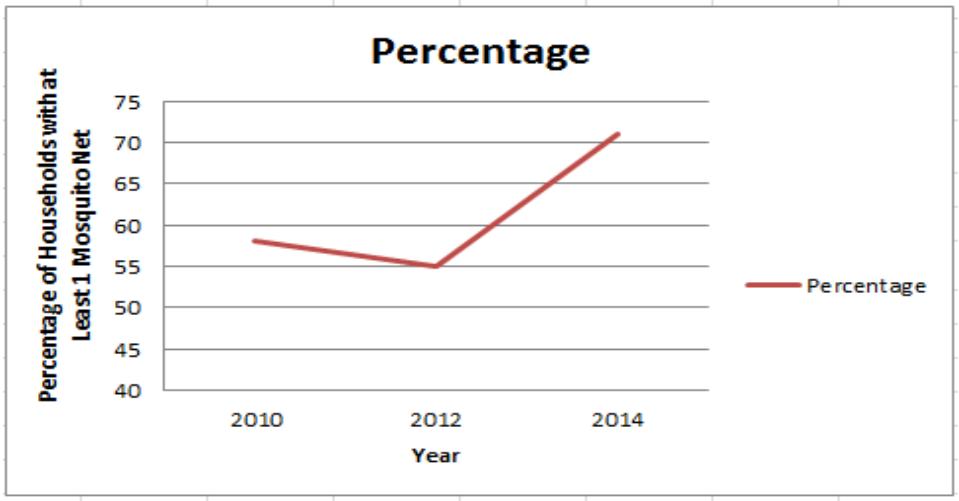


FIGURE 24:OWNERSHIP OF MOSQUITO NETS OVER TIME

Although ownership of mosquito nets decreased in 2012, there was a sharp increase from 55% in 2012 to 71% in 2014. Correspondingly, access to mosquito nets, as demonstrated by percent population sleeping under any mosquito net in Table 18 below, has increased from 35% in 2010 to 54% in 2014. Notably, the shift in policy to focus on LLINs has improved access to treated mosquito nets from 19% in 2010 to 52% in 2014.

TABLE 19: ACCESS TO MOSQUITO NETS OVER TIME

	2010	2012	2014
% Population who Slept under any net	35	45	54
% Population who Slept under ITN	29	41	53
% Population who Slept under LLIN	19	40	52

D,ata Sources: MIS (2010), MIS (2012), MIS (2014)

Due to high inequalities in economic and social benefits, women and children are more vulnerable to Malaria. Therefore, any progress in the fight against Malaria is reflected by achievements in ensuring protection to these groups. The percentage of children under five years who sleep under ITN has increased from 55.4% in 2010 to 72% in 2014 while for pregnant women it has increased from 50.8% to 62% in the same period. In complement, pregnant women have a second intervention against Malaria where they receive intermittent preventive treatment (IPTp), that is, at least two doses of SP/Fansidar with at least one dose received during an antenatal care visit, which occurred during the most recent pregnancy. The percentage of women receiving the recommended IPTp dosage has marginally increased from 60.4% in 2010 to 63.3% in 2014.

Awareness and literacy are additional interventions in controlling Malaria as they promote treatment seeking behavior and use of prevention strategies. As of 2010, the majority of women had heard of malaria (95.6%) with 86.9% awareness of the use of mosquito nets as a prevention method. Although with a slight drop, general awareness was

still high at 93% in 2014 with 84% knowing that mosquito nets can help prevent Malaria.

In terms of Malaria treatment, Malawi adopted in 2010 the World Health Organization (WHO) guidance towards universal diagnostic testing for malaria, recommending that antimalarial treatment is administered only when a test is positive. To achieve this goal, the NMCP has taken significant steps toward strengthening the quality of malaria diagnosis and improving access to malaria diagnostic tests. Notably, the NMCP began introducing rapid diagnostic testing (RDT) in selected health facilities in November 2011. Building on this success, the government has rolled out the use of RDTs to all facilities and every suspected malaria case is expected to be confirmed before prescribing any antimalarial. Although the shift from clinical diagnosis of Malaria has significantly reduced the number of antimalarial use in treating fevers, expenditure on antimalarials, as other drugs, still remains high, a situation attributed to the weak accountability systems at facility level.

Owing to these control strategies, government has managed to improve the quality of life of Malawians by reducing morbidity due to Malaria. Figure below shows that, although going at a slow pace, government is progressively winning the fight against Malaria with a reduction in prevalence from 484 in 2011 to 319 in 2015.

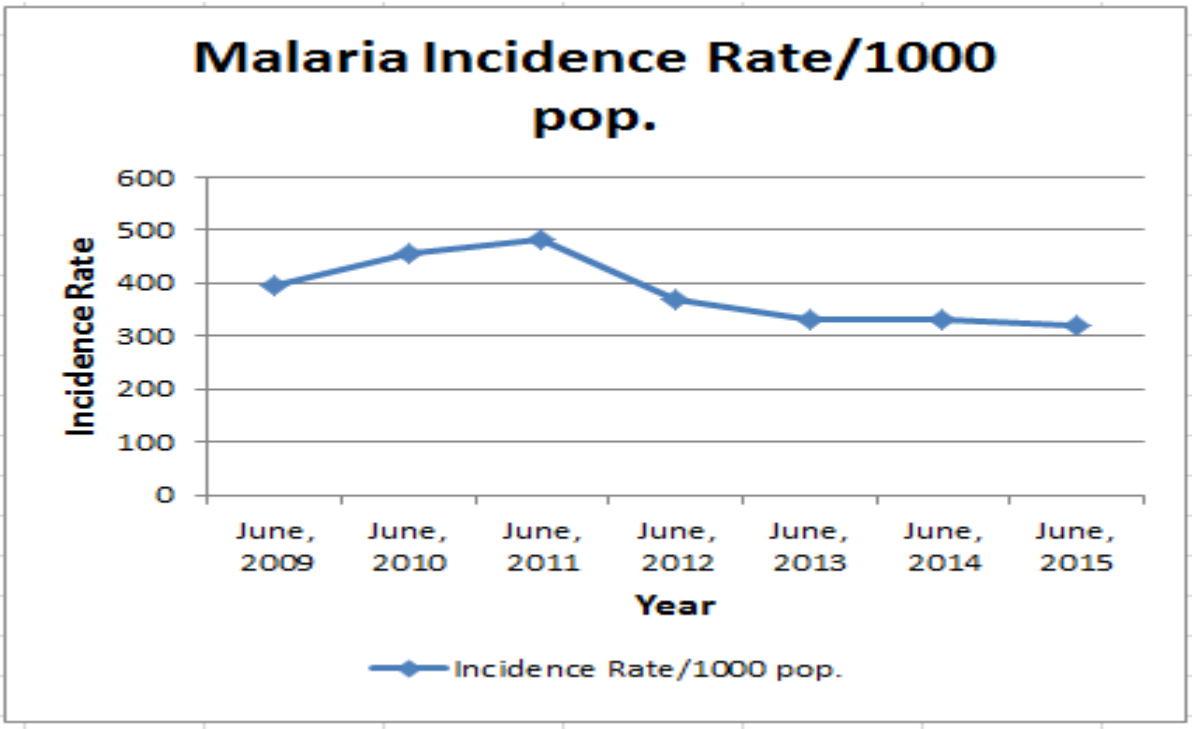


FIGURE 25: MALARIA INCIDENCE RATE PER 1000 POPULATION OVER TIME

Consequently, Government has also managed to reduce mortality due to Malaria as in the Figure below, achieving a reduction in Malaria case fatality rate (CFR) from 46% in 2011 to 24% in 2014, representing a reduction of 50%.

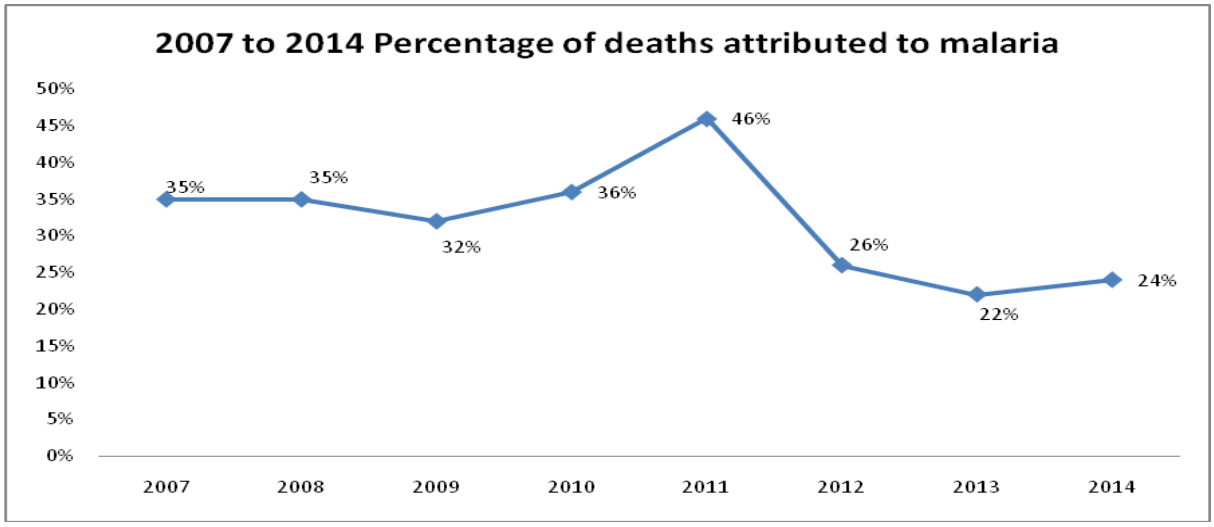


FIGURE 26: PERCENTAGE OF DEATHS ATTRIBUTABLE TO MALARIA

Although Government is winning the fight against Malaria, challenges still exist. Admittedly, the progress is slow with some Districts still recording high incidence rates as shown in the Figure 28 below. To make considerable gains, moving forward, a focused approach might be necessary to address high incidence rates of Malaria in the top ten Districts of Malawi including Mwanza, Nkhotakota, Nkhatabay, Salima, Likoma, Neno, Ntchisi, Karonga, Rumphi and Nsanje.

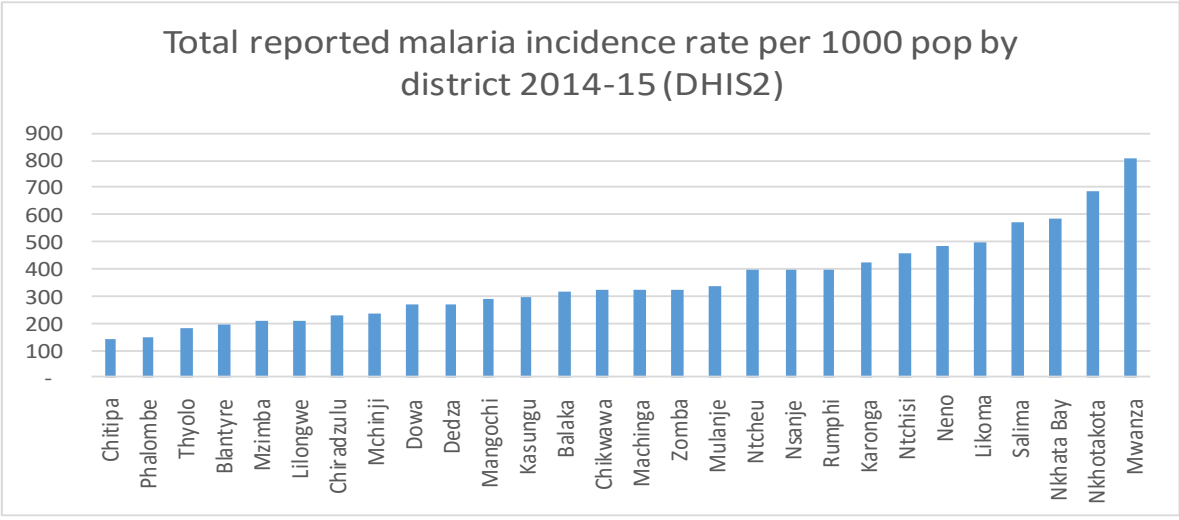


FIGURE 27: TOTAL REPORTED MALARIA INCIDENCE RATE PER DISTRICT 2014-15

4.7 Acute Respiratory infections

ARI is still a significant cause of morbidity and mortality especially amongst children. The graphs below show incidences by District for under-fives and reported inpatient case fatality rates. The Districts with the highest reported incidence rates are Likoma , Neno, Rhumpi Ntchisi and Mwanza with Phalombe, Blantyre , Mwanza Salima and Nsanje.

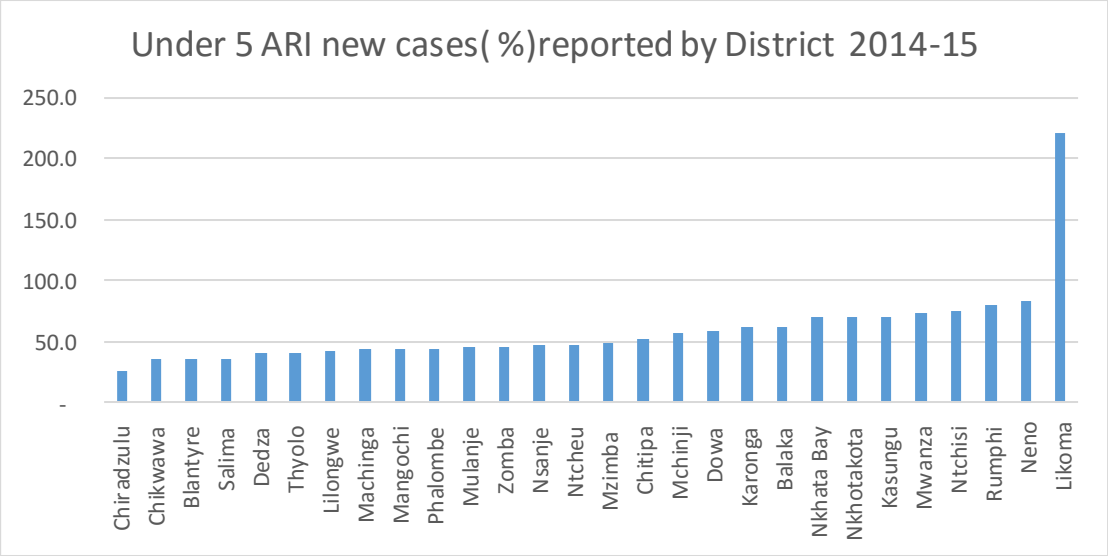


FIGURE 28: UNDER-FIVE ARI NEW CASES

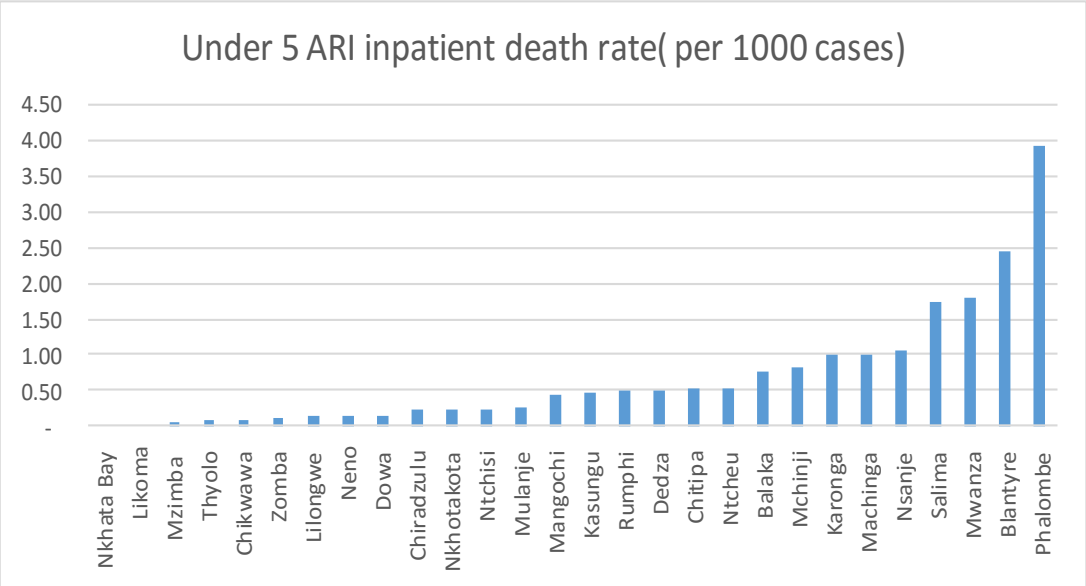


FIGURE 29:UNDER 5 DEATHS DUE TO ARI

Table 19 shows that implementation of planned activities for the program is on course with the introduction of CPAP to seven hospitals. The Program however needs improvement on supervision and peer review seminars.

TABLE 20: PROGRESS AGAINST TARGETS FOR THE ARI PROGRAMME INTERVENTIONS

Output targets	Planned	Conducted	Progress	Challenges
ARI supervision	4	1	One supervision was conducted successfully	Only one out of the 4 planned supervision was funded
Peer Review Seminar	4	1	One quarterly peer review was done successfully	Only one out of the 4 planned quarterly reviews was funded
Pneumonia recording forms available at all facilities	20,000 copies	20,000 copies printed	Pneumonia recording forms were available in hospitals implementing ARI activities throughout the year	
Procurement of ARI Deputy Programme Manager Laptop	1	1 laptop was procured	Laptop is available	
Introduce CPAP activities to Phase 3 Hospitals	7 Hospitals	7	7 Phase 3 District Hospitals are now implementing CPAP activities	Insufficient funding

4.8 Diarrheal diseases

Diarrheal diseases are a major vulnerability for children under the age of 5. Although it is both preventable and treatable, globally, diarrheal disease is the second leading cause of death in children under five years old. In the period under review, there were 453,661 Reported cases of diarrheal diseases in under-fives. As shown in the Figure 31 below, the five Districts reporting the highest incidence of diarrhea are Likoma,

Rhumpi Nsanje, Mwanza and Neno, whilst the lowest five are Nkhata bay, Phalombe, Zomba Dedza and Mangochi.

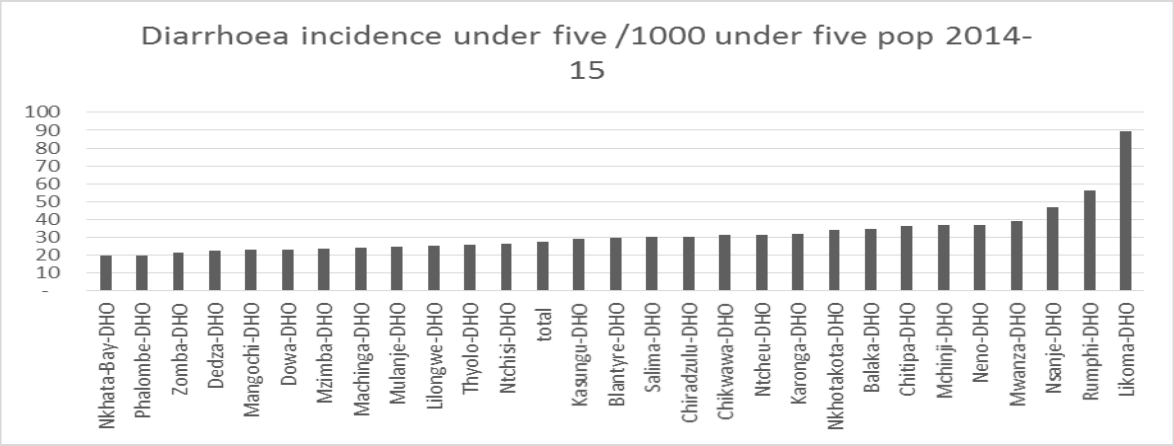


FIGURE 30: DIARRHOEA INCIDENCE UNDER FIVE PER 1000 UNDER FIVE

Figure 32 shows that inpatient death rates are highest in Blantyre, Mulanje , Mwanza , Nsanje and Nkhotakhota with lowest death rates in Zomba , Ntcheu , Mzimba Nkhatabay and Lilongwe districts.

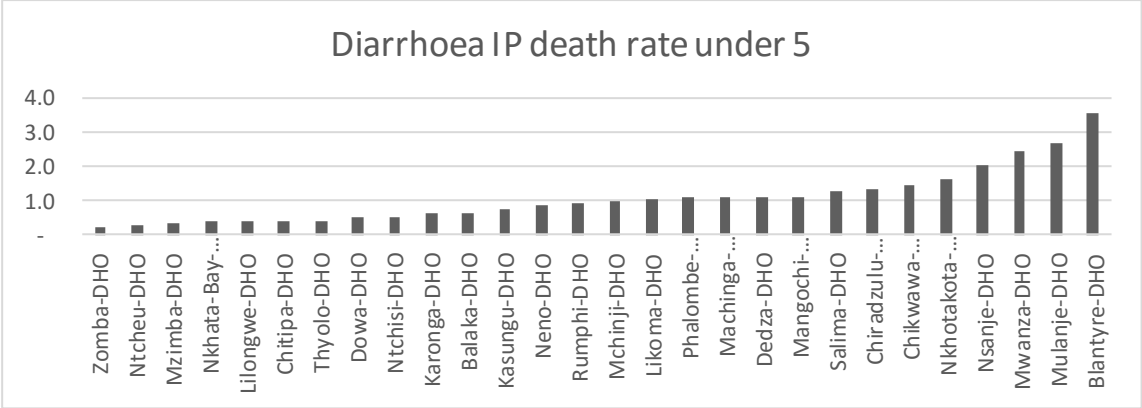


FIGURE 31: DIARRHEA INPATIENT DEATH RATE

4.9 Cholera

An outbreak of cholera occurred in post-flooding in the South of Malawi after three consecutive years of zero recorded cases. The current outbreak resulted in 607 Cases of cholera with a 1.6% Case fatality rate.

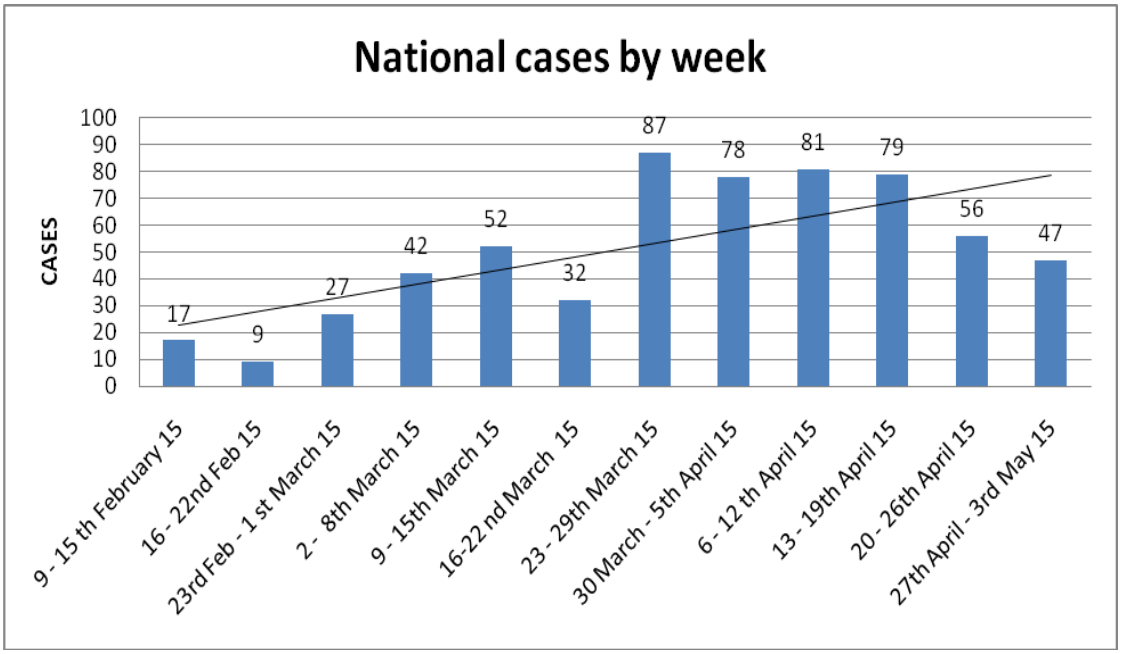


FIGURE 32: CHOLERA CASES BY WEEK 2014-15

4.10 Sanitation and hygiene

In terms of sanitation and hygiene, basic latrine coverage is at 64%, while improved latrine coverage is low at 15%. Additionally, the proportion of households with hand washing facilities with soap is low at 13% and on the other hand, the proportion of villages declared open defecation fee is 27%.

In terms of food safety, only 25.6% of all food premises were audited with proportion of food inspected fit for human consumption at 99.9%. Additionally, only 15.4% of food handlers underwent medical examination.

4.11 Tuberculosis

Tuberculosis is a major single cause of adult illnesses and death from communicable diseases in Malawi. Its greatest impact is on the poor, with crowding and poor nutrition contributing to the transmission of the disease. In addition, the advent of HIV/AIDS has resulted in an increase in the number of TB cases. This section will look at a trend analysis of the TB disease from 2000 to 2015, by comparing case notification and outcome data provided by the National TB Control Programme (NTP).

In 2006, the Stop TB Partnership launched the Global Plan to Stop TB 2006-2015, which includes the Millennium Development Goal target of halting the incidence of TB and reducing prevalence and deaths by 50% by 2015. This global plan has shown positive results from the onset as prevalence of tuberculosis has decreased by 50% between 2005 and 2010, while the HIV co-infection rate among TB patients has declined by 18% from 2000 to 2012. The success of this plan is attributed to the key targets and strategies set by the NTP and its partners to enable Malawi achieve the MDGs, these strategies include: the expansion of DOTS, collaboration between HIV/AIDs unit and National TB Control

Programme in tackling TB/HIV and the introduction of new diagnostics, drugs and vaccines.

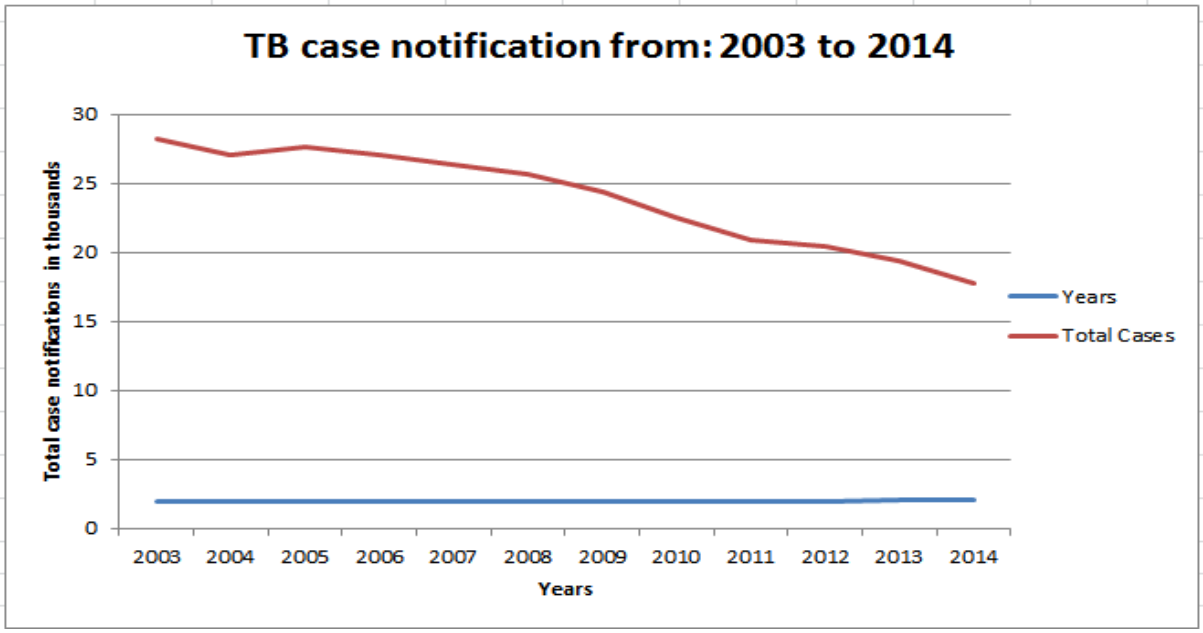


FIGURE 33: TB CASE NOTIFICATION

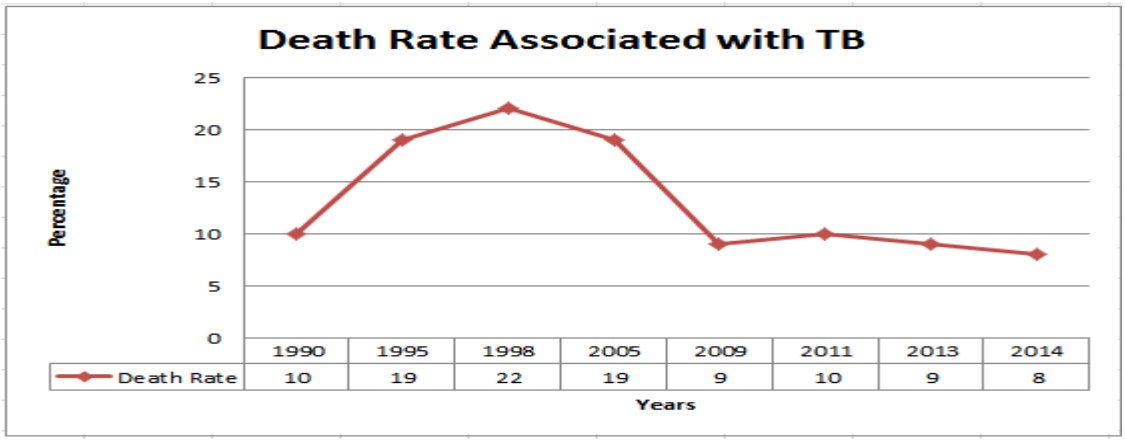


FIGURE 34: DEATH RATE ASSOCIATED WITH TB

As seen in the Figure 34 above, since 2003, there has been a downward trend to just below 18,000 notified TB cases recorded in 2014. Death rates associated with TB cases have also declined from 19% in 2005 to

8% in 2014 as shown in the Figure 35 above. The sharp increase in TB cases between 1990 and 1998 as observed in the figure above was a result of TB cases co-infected with HIV and AIDS. The drop in the death rate and the notified cases is attributed to the success of the direct observed treatments short-course (DOTs) and other interventions introduced by the NTP and its partners.

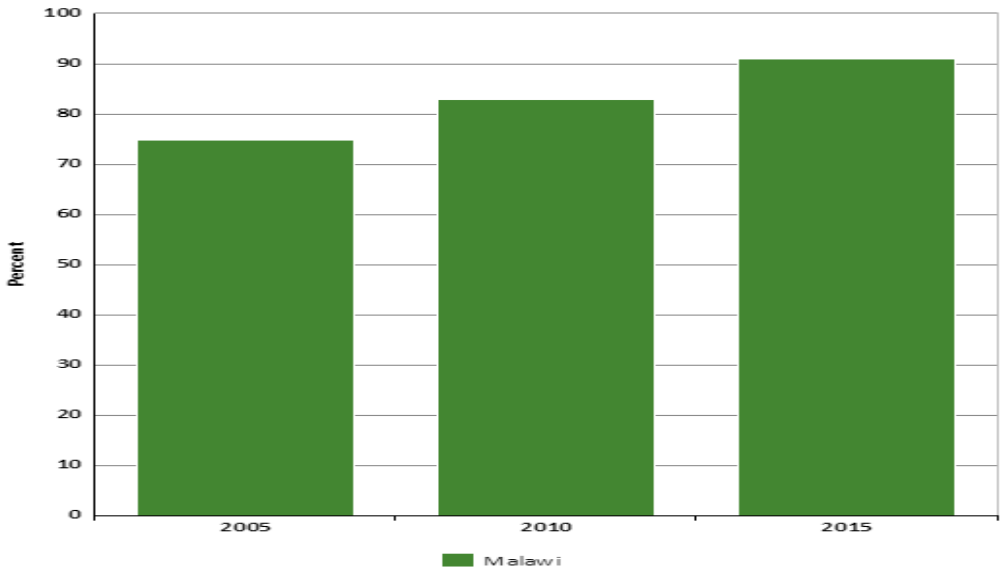


FIGURE 35: PERCENTAGE TB CASES CURED UNDER DOTS

The proportion of TB cases cured under DOTS has increased from 75% in 2005 to 91% in 2015 as indicated in the Figure 36 above. This is mainly attributed to the clear policy on TB control, improved case detection, standardized TB treatment, adequate effective drugs and universal access to treatment even in the most remote areas

In 2014, the contribution of smear positive TB cases to all notified TB cases varied across Districts. The percentage smear positive TB cases were 31.39 % of the overall notified TB cases in Malawi. There has been variation among Districts. Nsanje has the highest % (56%), followed by

Ntcheu and Kasungu. Lilongwe, Blantyre and Zomba continue to be the largest contributing districts of notified TB cases as shown in Figure 37 below.

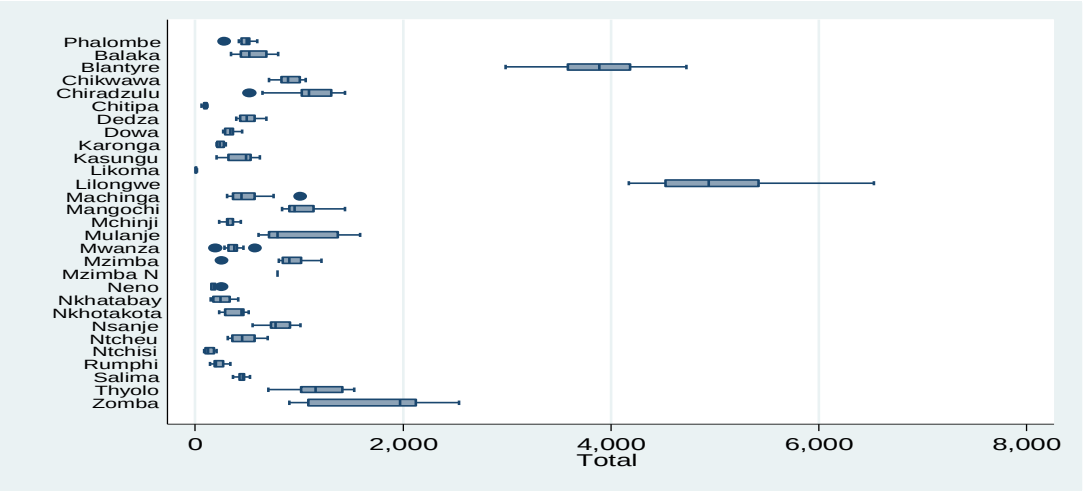


FIGURE 36: DISTRIBUTION OF CATEGORIES OF TB BY AGE

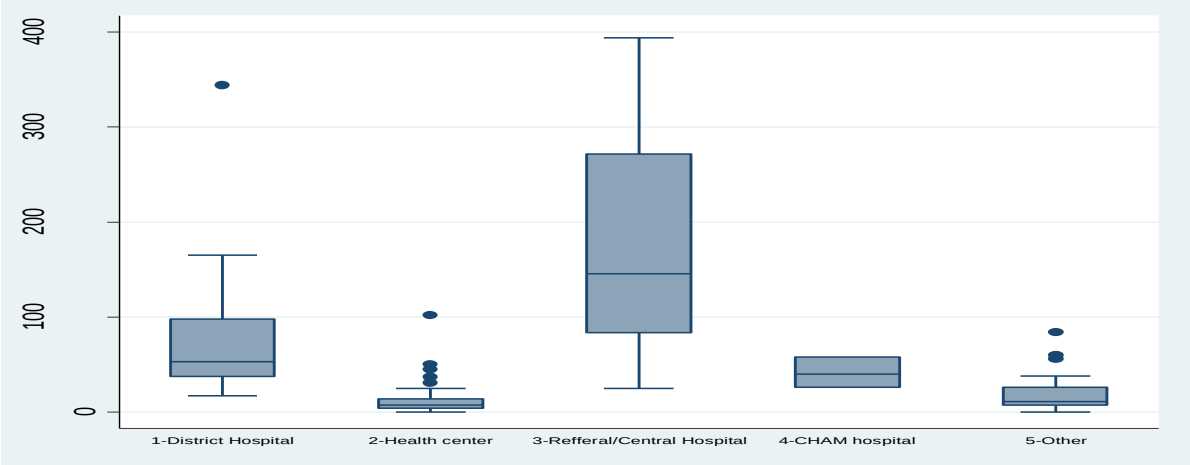


FIGURE 37: BOX PLOT SHOWING DISTRIBUTION TB NOTIFICATION BY HOSPITAL

The figure 38 shows that the country's Central Hospitals dealt with most of TB cases followed by District Hospitals. Possible explanations could

include high populations in the cities as opposed to Districts, high population density and poor living conditions in cities.

In the past Fiscal Year, the National TB Control Program with support from its Partners managed to conducted program and epidemiological reviews to inform its new strategic plan. In addition, the program has completed the development of its National Strategic Plan (NSP) covering the period 2015—2020, and is currently working in collaboration with the HIV/AIDS Department to improve supervision, data management and quality of TB service.

In summary, the key strategies and targets implemented by NTP and its Partners to reduce TB prevalence and deaths by 50% have been successful. In addition, in 2014/15 Fiscal Year, TB registered an 8 % reduction of its notified cases with treatment success rate reported at 86%. There were 251 TB registration sites and 276 centres providing microscopic service and 42 Health Facilities providing TB diagnostic services using GeneXpert machines. Furthermore, a total of 106 RR/MDR cases were reported out of which, 19 were confirmed cases. Of the 19 confirmed cases, 17 were put on second line treatment. All this is an indication that Malawi is on the right track to halting TB incidences.

However, the NTP utilizes a passive case finding method which is an inexpensive way to manage and control TB within the community. The problem with this data method is that TB can be underreported and some patients with active TB can be misdiagnosed. In addition NTP has not yet

disseminated the findings of the population based TB prevalence survey which was conducted in 2014. The findings of this survey will give a true reflection of TB prevalence in the country. As the preliminary results from the survey indicate, there still remain a high TB burden with an estimated prevalence rate of 451/100000 (95% CI 308-594).

4.12 Nutrition

Under nutrition is a major contributing factor to high morbidity and mortality among various population groups especially children under the age of five, pregnant and lactating women and people living with HIV. For example, globally, it is estimated that one third of under-five children mortality is due to under nutrition. Under nutrition puts children at a great risk of death and severe illness due to common childhood infections such as pneumonia, diarrhea, and malaria. A child who is severely underweight is 9.5 times more likely to die from diarrhea than a child who is not, and for a stunted child, the risk of death is 4.6 times higher (UNICEF Nutrition report, 2008).

As shown in the Figure below, MDHS 2010 found that almost half of the under-five children (47%) are stunted (short for their age/chronic under nutrition), and 4% are wasted (thin for their height/acute under nutrition). Underweight was at 13% in 2010 against the MDG target of 14%. As of 2014, stunting has gone down to 42.4% representing 10% reduction and underweight children went down to 3.8% representing a

5% decrease. Wasting has, however, increased to 16.7% representing 28% increase.

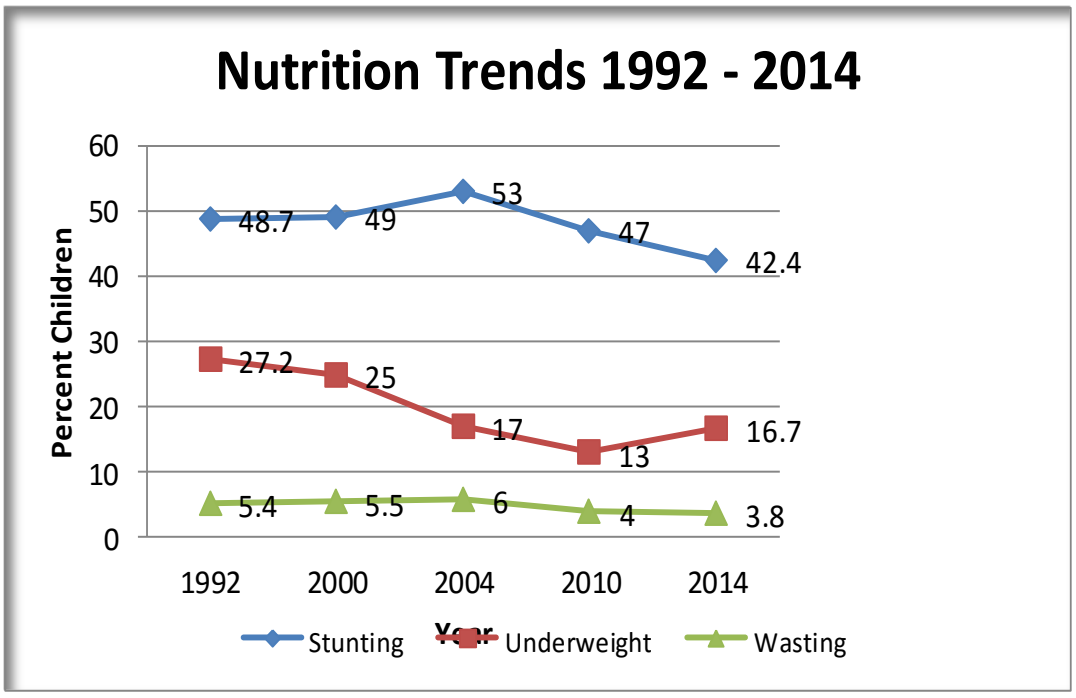


FIGURE 38: TRENDS IN CHRONIC AND ACUTE UNDER NUTRITION

Micronutrient disorders are also a major public health concern as shown in the figure below.

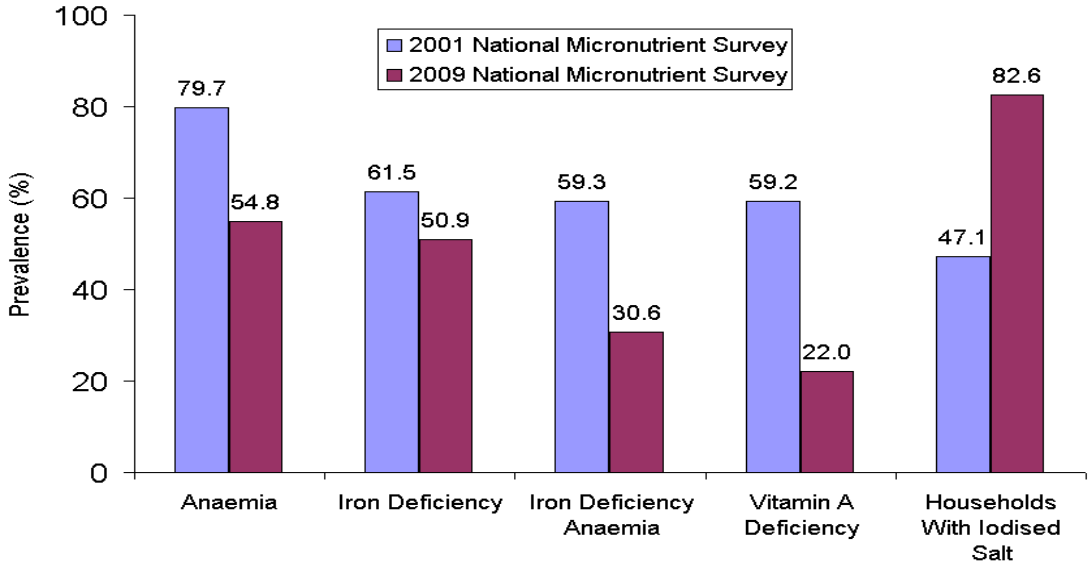


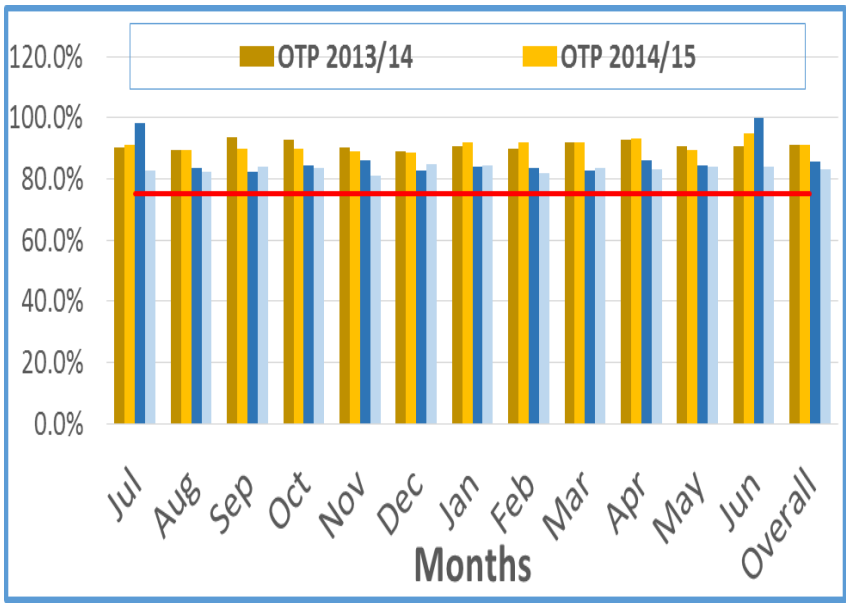
FIGURE 39: TRENDS IN MICRONUTRIENTS UNDERNUTRITION

Though improvements have been registered in some areas as the above graphs, the numbers are still very high according to WHO cut off points. The major contributing factors to these high levels of under nutrition are inadequate intake of various nutrients required by the body, coupled with poor hygiene and high disease burden. On the other hand, some of the factors that have contributed to the improvements in the nutrition indicators include (i) Creation of an enabling environment that adequately provides for the delivery of Nutrition Services and the implementation of the Nutrition programs, projects and interventions (e.g. policies, guidelines, multisector collaboration and well defined coordination mechanism); (ii) Scaling Up Nutrition(SUN) – 1000 special days to reduce stunting through intensification of the implementation of the nutrition specific programs through the SUN movement and enhanced implementation of nutrition sensitive programs such as agriculture subsidy programs; (iii) Promotion of consumption of micronutrient rich foods (dietary diversification) and supplementation through routine services and biannual child health campaigns.

As for Acute Malnutrition, the Ministry of Health adopted Community-based Management of Acute Malnutrition (CMAM) in treatment of acute malnutrition. CMAM has four main components namely, Community Outreach, Out-patient Therapeutic Programme (OTP), Nutrition Rehabilitation Units (NRU) and Supplementary Feeding Programme (SFP). Management of acute malnutrition is implemented throughout the country with technical and financial support from UNICEF, WFP, Clinton Health Access Initiative, SSDI, Irish Aid, USAID and DFID. All the 29

Districts are implementing CMAM. There are 589 OTP sites representing 92.2% Health facility coverage, 561 SFP Sites representing 87.8% and 101 NRUs.

During the year under review, overall CMAM programme performance was within acceptable standards. In Out-patient Therapeutic Programme (OTP), a total of 27, 392 children with severe malnutrition were admitted. Nutrition Rehabilitation Units admitted 8,051 with severe malnutrition with medical complications and those with moderate acute malnutrition who were admitted in Supplementary Feeding programme were 61, 129. Progress within the OTP was on track with all the indicators standing within the recommended sphere standard. As shown in the Figure below, the average cure rate, death rate and default rate were 90.3%, 1.1% and 2.2% respectively. Additionally, in NRUs, the average cure rate, death rate and default rate was at 86.6%, 9.1% and 2.3% respectively while in SFP, the average cure rate, death rate and default rate was at 89.9%, 0.3% and 8.2% respectively.



Key: Sphere Standards

	SFP	OTP
Cured	>75 %	>75 %
Defaulted	<15 %	<15 %
Died	< 3 %	<10 %

FIGURE 40: SEVERE MALNUTRITION CURE RATES

Other major achievements over the period include: Increase in Vitamin A supplementation to children 6-59 months to over 85 % now; Increase in the number of children aged 12-59 months who receive deworming tablets to over 90% coverage; Scaling up of CMAM from 2 Districts in 2004 to 29 Districts now. Although these achievements have been made, there is need to address reduction in the proportion of children under the age of 6 months that are exclusively breastfed from 71% in 2010 to 70.2% in 2014, increase in underweight children from 13% in 2010 to 16.7% in 2014 and reduction in households that use iodized salt from 80 % in 2010 to 77.9% in 2014;

Under CMAM, in line with the CMAM protocols, the following have been strengthened: Promotion of routine HIV Testing and Counselling (HTC) for all children and their care givers in the CMAM program, modification

of the antibiotic protocol to include cotrimoxazole, modification of the OTP admission protocols to include moderately malnourished HIV positive children, referral of HIV positive children to appropriate care and support, monitoring tools and reporting systems including HTC in place, revised guidelines and manuals incorporated Infant and Young Child Feeding in the context of HIV.

Some of the major challenges facing the fight against malnutrition include: Inadequate finance, human and materials resources; Inadequate community/frontline workers at community level to advance the nutrition agenda; Inadequate capacity to track and follow up caregivers at community level; and Poor Supply chain of nutrition therapeutic supplies – in most instances, supplies are available at district level but not at service delivery level due to transport challenges within the district.

4.13 HIV/AIDS and Other Sexually Transmitted Infections (STIs)

Malawi continues to experience a serious generalized HIV epidemic. The first HIV infection was diagnosed from stored blood samples collected in 1982[7] and the first AIDS case was documented in 1985. HIV prevalence among adults (15–49) increased sharply in the 1990s, reaching a peak at 16.4% in 1999 and has declined steadily since then, reaching 12.0% in

2004 and 10.6% in 2010.[8] Latest epidemiological models indicate a prevalence of 10.3% among adults (15-49 years) in 2013.[9]

HIV prevalence varies considerably by gender, age, socio-economic characteristics, and geographic location. Based on 2010 MDHS data, HIV prevalence is higher among women who account for 58% of PLHIV. The decline in HIV prevalence has been offset by the rapid population growth in Malawi and also concurrent decline of new infections and AIDS deaths due to the rapid ART scale-up (by June 2014 half of the HIV population was on ART.10). This has resulted in a fairly stable number of PLHIV, moving from 1.1 million in 1999 to 1.0 million in 201311 (Figure 1):

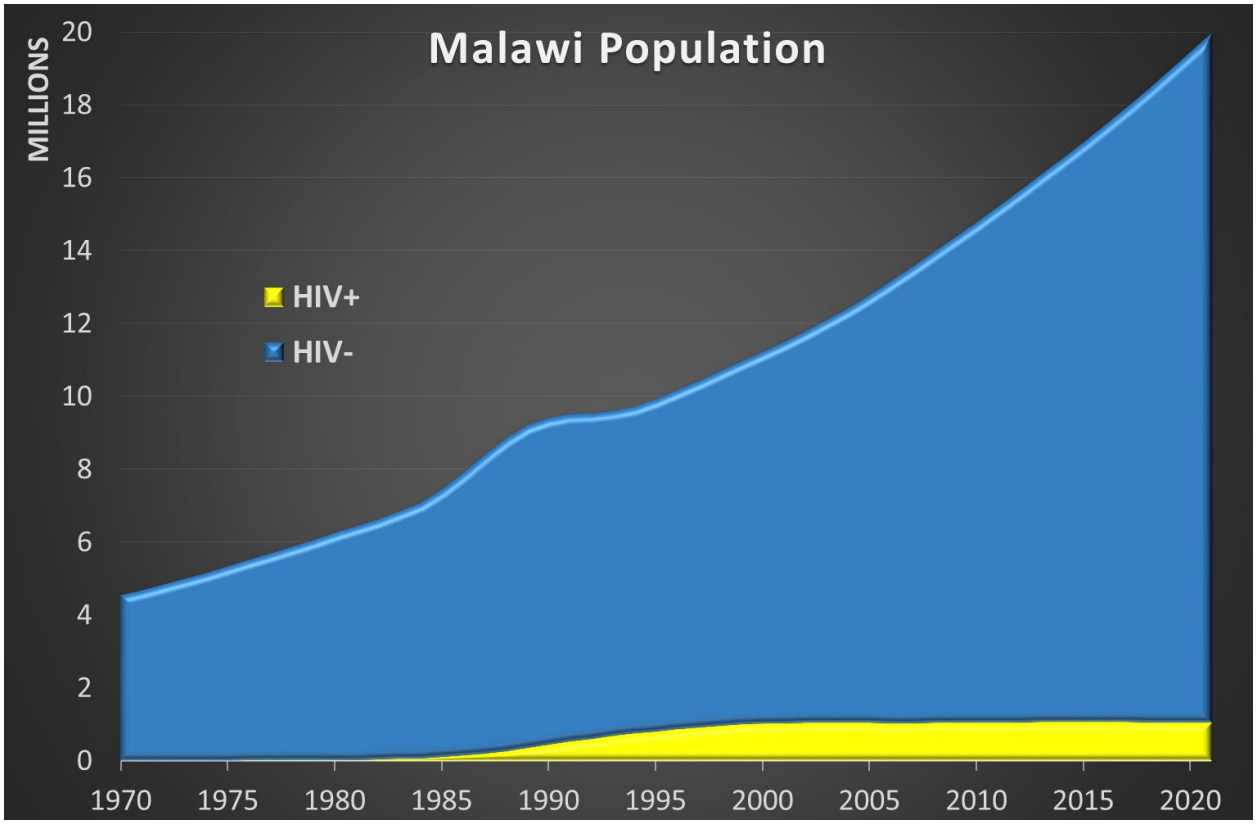


FIGURE 41: MALAWI POPULATION AND PROPORTION OF PLHIV

4.13.1 Geographic Variation

HIV prevalence is generally higher in areas with high population density. This leads to a considerable concentration of PLHIV in the south and in a few urban centres in the north and central regions (Figure 2). Urban/rural differences in HIV prevalence are much more pronounced in the northern and central regions, while rural HIV prevalence is similar to urban prevalence in the southern region.

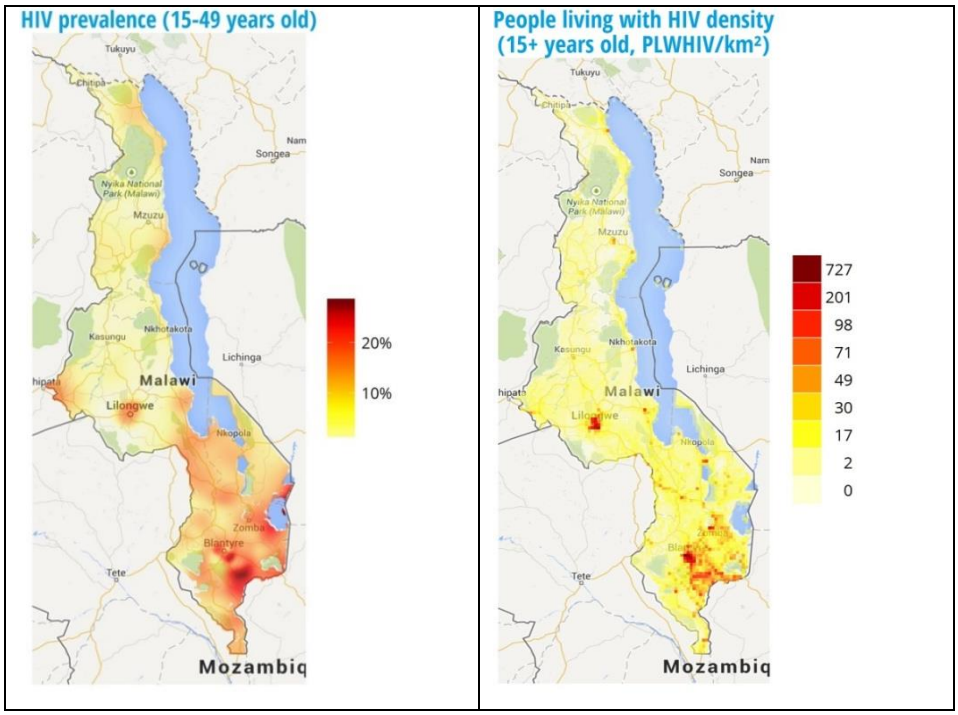


FIGURE 42: HIV PREVALENCE AND POPULATION DENSITY OF PLHIV

In terms of incidence, in the absence of direct incidence measurements at the national level, incidence is estimated from epidemiological models (Spectrum) based on prevalence trends measured in ANC or population surveys. The most recent such estimates suggest a national average HIV incidence of 0.41 per 100 person-years among adults (15–49).12 This implies a decline of 45% from 0.74 at the start of the current HIV prevention strategy in 2009. However, the most significant decline in new HIV infections started in the late 1990s, before the scale up of prevention interventions. Incidence peaked at 2.2 per 100 adults in 1999 and was estimated at 1.4 per year at the beginning of the ART program in 2004. This early decline follows the natural course of the epidemic and was probably also driven by a reduction of risky sexual behaviour as the population became aware of HIV as the cause for the massive death wave

with over 90,000 deaths in 2004. In 2014, 52% of all new infections were estimated to be among females and 36% of these were adolescent/young women (15-24 years). The absolute number of new infections among adults between 25-34 years is thought to be similar for men and women. This is the peak age group for new infections among males.

It is important to note though that the current positive trend in the reduction of HIV infections coupled with a reduction in the burden of disease resulted from the adoption and implementation of specific intervention strategies. During the financial year 2014/15, Malawi revised and began implementing the revised HIV program following the **2011 Malawi Integrated Clinical Guidelines**. The 2014 edition took into account the following key policies:

- **PMTCT Option B+**, which requires universal life-long ART for all HIV infected pregnant and breastfeeding women regardless of clinical or immunological stage. The implementation of PMTCT Option B+ requires the provision of ART services in all health facilities with Maternal and Child Health services. This has necessitated a massive acceleration of the **decentralization of ART services** from 303 static sites in 2011 to 714 sites as of 2015.
- **Standard HIV exposed child follow-up to age 24 months**, to improve Early Infant Diagnosis (**EID**) and ART initiation.
- **Early ART initiation**, which requires universal ART for all children under 5 years confirmed with HIV, children over 5 years

and adults with CD4 count ≤ 500 and patients with hepatitis B co-infection.

- Standardized **pre-ART services** for all HIV-infected persons not eligible for ART.
- Provider initiated provision of contraceptives and condoms for all adults in pre-ART and ART clinics to reduce the rate of unwanted pregnancies among adults and to reduce HIV transmission between sexual partners.
- Isoniazid preventive therapy (**IPT**) for pre-ART patients to reduce the incidence of TB and intensified TB case finding (**ICF**) for all patients in pre-ART and ART follow-up to enable early diagnosis and treatment of TB transmission in HIV clinics.
- Roll-out of scheduled **viral load monitoring** to improve early detection of treatment failure and initiation of second line ART.

By mid-2014, ten years after ART roll out, half of the 1.1 million HIV positive Malawians were on ART, with a sustained reduction of the newly infected every year from 120,000 in 1999 to 33,000 in 2014. Significant reduction in paediatric infections have also been realized through the introduction of Option B+ in 2011 with the number of children infected by their mothers (including during the breastfeeding period) declining by 66% from 30,000 in 2010 to 10,000 in 2014. There is a gradual decline in estimated AIDS deaths projected to fall below 25,000 by 2020 with a gradual increase in the number of patients on ART (Figure 44).

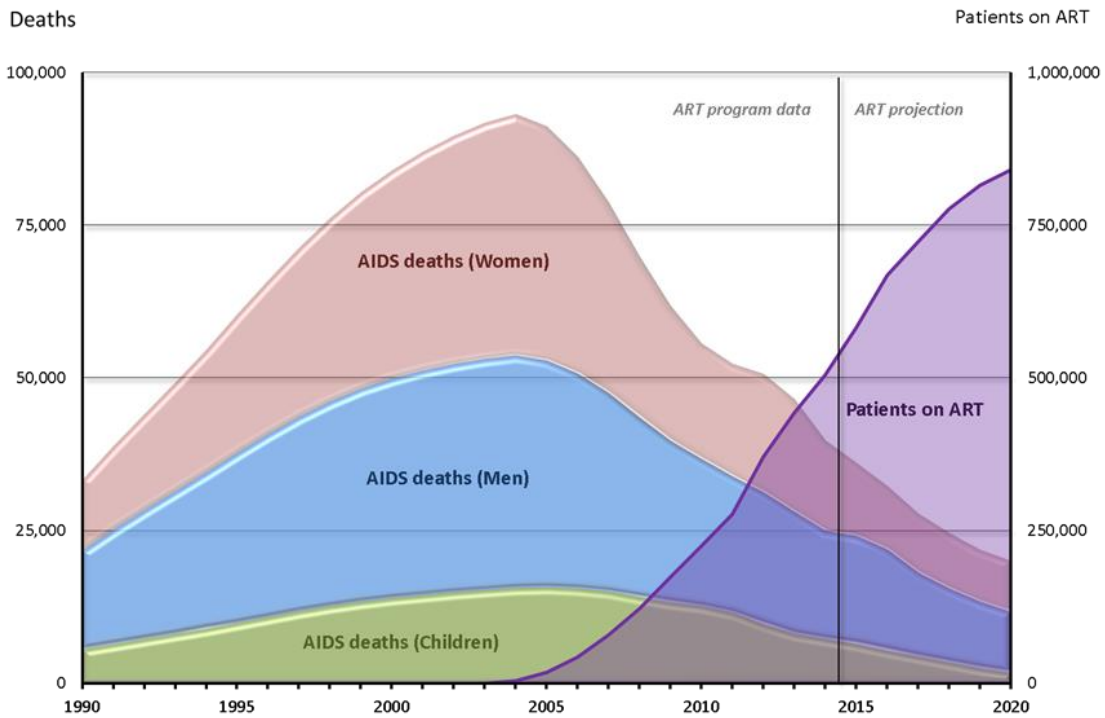


FIGURE 43: ESTIMATED AIDS DEATHS (2014 SPECTRUM MODEL) AND ART SCALE-UP

HIV testing and counseling: Testing is conducted in 724 static sites and 188 outreach HTC sites. 1,951,052 people were tested and counseled for HIV in the period Apr 2014 to Mar 2015.

ART Program: Out of the **795,144** patients ever initiated on ART, **551,566 (69%)** were retained alive on ART, **75,536 (9%)** were known to have died, **178,071 (22%)** were lost to follow-up and **3,109** (<1%) were known to have stopped ART. An estimated **503,604** adults and **47,962** children (<15 years)

Where is Malawi today?

- 1.1 million HIV infected population
- 38,000 new infections (2015)
- 31,000 AIDS deaths (2015)
- 551,566 on ART = 1 out of 20 Malawi adults
- 85% ART coverage among HIV+ pregnant women

were alive on ART by the end of March 2015**.** By the end of June 2015, there were 35,710 patients in pre-ART program and 568,000 estimated in ART program. At least 603,710 of HIV positive patients knew their HIV status.

PMTCT and Option B+: By May 2015, 80% (11,583 of 13,317) pregnant women infected with HIV were on ART. An additional **1,584** breastfeeding women started ART due to ***Option B+*** (in WHO clinical stage 1 or 2), bringing the total number of newly started on ART under *Option B+* to **5,901. 7,866** infants were confirmed to have started NVP prophylaxis at maternity and approximately 80% of HIV infected TB patients were receiving ART. The rapid scale-up of Option B+ was facilitated by the high ANC attendance rates in Malawi (>95%).

Viral load suppression: By 2014, viral load monitoring coverage was estimated at only 17% of ART patients due to delayed establishment of VL sample collection at peripheral sites and health worker challenges.

Voluntary Medical Male Circumcision (VMMC): The VMMC program target is to circumcise 60% of males aged 10 – 34 years old by 2020. To achieve this target, it aims to circumcise 2,460,742 eligible males in 28 Districts from 2015 to 2020. 1,300,568 of these are targeted in 14 priority districts. The program has trained 547 providers and accredited 72 VMMC static sites. 155,000 males are estimated to have been circumcised as of December 2014.

As stipulated in the National HIV and AIDS Strategic Plan 2015-2020, Malawi aims to meet the ambitious 90-90-90 treatment targets set out by UNAIDS in 2014 to control the AIDS epidemic by 2030[13], i.e. diagnose 90% of PLHIV, start and retain 90% of those diagnosed on ART and achieve viral suppression for 90% of ART patients. Achieving this aim would result in 73% (756,000 of 1,036,000) people living with HIV virally suppressed, ensuring a dramatic reduction in transmission at the population level[14].

The logistics section supported development of the distribution list for HIV commodities for 726 ART/PMTCT Sites for Distribution Rounds 22 and 23 to cover the consumption periods of Q2 (April-June 2015) and Q3 (July-Sep 2015). During the January to March 2015 quarter, there was a marked improvement noted with the procurement and delivery of 5A (tenofovir / lamivudine / efavirenz) resulting into 5.1 and 5.2 months of stock in the warehouse and health facility levels respectively as per the April 2015 National Stock status report. **478,644 (93%)** of 517,003 patients receiving first line adult formulation ART were on this preferred regimen by the end of March 2015.

Physical stock counts for ARVs and other medicines for HIV-related diseases were performed at all sites during the supervision visits in April 2015. Health facility stocks of the key adult and paediatric regimens were estimated to last until August 2015. **478,644** patients were on regimen 5A, which was 12,764 **(2.6%)** less than projected in the

previous forecast for the end of this quarter **(**491,408**).** The national ART program forecast and quantification was updated in July 2015 to inform procurement planning and budgeting for HIV commodities for the period ending December 2017.

Despite laudable success, there are challenges that must be addressed going forward and lessons that should be drawn from the past to inform the future. First, Voluntary Medical Male Circumcision (VMMC) uptake has remained low due to inadequate demand creation activities, concerns of abstaining for 6 weeks coupled with HRH constraints. Going forward, there is need to prioritize males between 10 and 34, introduce early infant male circumcision (EIMC) in combination with parental education, employ innovative service delivery such as Prepex, revamp demand creation and introduce female champions to promote VMMC.

Second, HIV Testing and Counseling (HTC) outputs have flat lined at around 400,000 tests per quarter since 2009 due to reliance on HSAs trained as HT counsellors, under reporting of tests performed, concerns about 'protocol drift' and poor proficiency of some HTC staff and poor stock management of test kits leading to supply raptures. During the period 2015-2020 these challenges will be addressed through improved active collection of quality data across all sites; daily inventory reporting at the testing room; quarterly centrally coordinated distribution of test kits and introduction of dedicated 'HIV Diagnostic Assistants'. Third, the condom promotion program has been affected by supply and uptake challenges. Condom use among long-term discordant couples has not

been sufficiently promoted although 40% of new infections are estimated to occur within this group. Furthermore, gender inequality strips women and girls of their ability to negotiate safer sex and procurement is based on past consumption data instead of forecasts. Addressing this calls for comprehensive condom programming using a total market approach covering effective education and efficient distribution.

Fourth, ART coverage among children (29%) has remained lower than for adults (54%) and uptake among pregnant women enrolled under Option B+ has been suboptimal. Major challenges for ART include low pediatric and infant ART coverage, adherence and retention in care and sample transportation for early infant diagnosis and routine VL testing. The program is examining different modes of delivery to further improve uptake and retention on Option B+, an integrated sample transportation system and early identification of HIV-positive people and enrolment in care towards the 90-90-90 treatment goals. Fifth, current STI program coverage remains unsatisfactory due to a number of factors such as poor documentation and reporting, unsatisfactory provider-initiated HIV testing and counseling (PITC) and a weak referral to and from HTC services leading to missed opportunities. Training and supportive supervision services coupled with the integration of STI/HTC services should help to improve on the quality of STI services rendered and increase HTC services for STI clients who have a higher prevalence than the general population.

Overarching challenges include low service delivery capacity due to inadequate HRH, inadequate funds, poor infrastructure and poor laboratory capacity. Additionally, there is also low uptake and retention of services which is attributed to low treatment literacy, low male support for PMTCT and inadequate community support for adherence.

4.13.2 HIV Stock management

The logistics section supported development of the distribution list for HIV commodities for 726 ART/PMTCT Sites for Distribution Rounds 22 and 23 to cover the consumption periods of Q2 (April-June 2015) and Q3 (July-Sep 2015). During the January to March 2015 quarter, there was a marked improvement noted with the procurement and delivery of 5A (tenofovir / lamivudine / efavirenz) resulting into 5.1 and 5.2 months of stock in the warehouse and health facility levels respectively as per the April 2015 National Stock status report. 478,644 (93%) of 517,003 patients receiving first line adult formulation ART were on this preferred regimen by the end of March 2015.

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4.13.3 Non Biomedical HIV Activities

The following progress has been made on non biomedical HIV activities: (i) Chiefs' declaration of commitment on women, girls, gender equality. HIV and AIDS has been signed by nine senior and paramount chiefs namely M'mbelwa v (Mzimba), Gomani V (Ntcheu) Chikulamayembe (Rumphi), Chowe (Machinga), Kachindamoto (Ntcheu), Kwataine (Dedza), Lundu (Nsanje), Chikumbuu (Mangochi) and Malemia (Blantyre) (ii) Developed National HIV and AIDS Strategic Plan 2015-2020 including Prevention Strategy and National M&E Plan (iii) Guidelines for Elimination of Stigma and Discrimination development process initiated draft document is in place. (iv) Guidelines for Environmental and Social Impact Assesssment review process in progress in order to incorporate gender health including HIV and AIDS particularly in large capital project/investment as they tend to fuel issues of HIV and AIDS at an early stage of the any development project/invest (v) HIV and AIDS Prevention and Management Bill. The review/development process of the draft Bill is progress. (vi) Facilitated the development of Community Charter for Civil Society for attainment of global 90:90:90 targets. (vii) Facilitated the development Global Fund Concept Note and HIV Data Systems Project to be funded by the Bill and Melinda Gates Foundation.

4.14 NON COMMUNICABLE DISEASES (NCD's)

Non Communicable Diseases (NCDs) previously were considered as diseases of the affluent and a distraction from business of prevention control of communicable diseases contributed to its overshadowing. The probability of dying from non-communicable diseases between the ages of 30 and 70 years is highest in Sub-Saharan Africa (SSA) and the four major NCDs of importance in Malawi are: Diabetes, cardiovascular diseases, cancer and chronic lung diseases (Asthma). This is in line with the Malawi Health Sector Strategic Plan (2011-2016) and the National Action Plan for Prevention and Control of Non-Communicable diseases (2012-2016).

In Malawi, NCDs and their risk factors constitute a public health problem. Despite their public health importance in Malawi, NCDs have been overshadowed in the last 10 to 15 years by the focus on infectious diseases. In Malawi, NCDs as a group are probably the second leading causes of deaths in adults after HIV/AIDS. They account for 16% of all deaths with 17% in males and 14% in females. They are ranked 4th as a cause of disability adjusted life years (Bowie, 2006).

It is important therefore that the Malawi health care system has the capacity to appropriately diagnose and treat NCDs. The NCDS and Mental Health Unit was established in 2011-2012 financial year to coordinate national response to NCDs and MH problems in the country. NCDs control services are decentralized from Central and District levels down

to Community level to increase access to services. NCDs and MH were included in the EHP (HSSP 2011-2016) and an Action Plan (2012-2016) was developed and launched on 4th December 2013 during commemorations of World Diabetes Day.

Risk factors for various NCDs in Malawi are gender related (Msyamboza et al 2011). Tobacco smoking (25% vs 3%), harmful use of alcohol (30% vs 4%) and elevated blood pressure (37% vs 29%) are more common in males than females whereas Overweight (28% vs 16%), raised cholesterol (11% vs 6%) and physical inactivity (13% vs 6%) are more common in females than males.

The World Health Package for Essential Package for Non-Communicable diseases (WHO-PEN) in Malawi started in Kasungu District on pilot basis with support from the World Health Organization (WHO). This has similarly been implemented at Kamuzu Central Hospital and Area 25 Health Centre in Lilongwe. This has proved to be a success and as a result the World Diabetes foundation has started a project to improve access, care and prevention of NCDs in Malawi and this will be extended to other Government, CHAM, and Private Health facilities in the Central and Northern regions of Malawi. This project is expected to be launched on 30th September, 2015.

A Human Papilloma Vaccine (HPV) demonstration project has also been a success in Zomba and Rumphi Districts, targeting 9-13 year old girls, attaining coverage of 89.5 % for both Districts. With support from Gavi,

plans are under way to scale-up HPV to 5 Districts, targeting three new Districts, using health facility based approach, in the zones not currently implementing HPV. This is in addition to Zomba and Rumphi Districts.

Sports for Health Initiative are another intervention being implemented by the Ministry of Health as a means of addressing major NCDs. This was launched as a means of creating awareness and disseminating other NCDs preventative and control measures. Other avenues of creating awareness have been through open days, print and electronic media which has mainly been facilitated by Health Education Section.

Development of the alcohol policy (draft) has been another break through. The policy will be regulating alcohol distribution and sales as a measure of addressing alcohol consumption as amongst NCDs common risk factors. Prevention and control of common injuries including gender based violence (GBV) is amongst the activities being implemented by the Unit. NCDs and Mental Health Unit in collaboration with relevant sectors and with support from partners have developed One Stop Centre management guidelines (draft) which will be used when conducting One-Stop Centre management trainings as a means of managing gender-based violence. With support from UNICEF and UNFPA, One-Stop Centres are being implemented in 15 Central/District Hospitals and District teams have been trained on the same. Plans are underway to scale-up One Stop Centre management to all the 28 Districts across the country.

In terms of mental health, the unit in collaboration with partners trained100 health care workers (9 Nurses and Clinicians) in Salima, Mchinji, and Lilongwe on mental health focusing on managing adolescents and youth. The fight against NCDs has been done in collaboration with relevant Stakeholders, partners and associations such as cancer and diabetes associations of Malawi. Key challenges under NCD's include; Human and financial resources; Poor reporting on DHS2 NCDs and Mental Health data by health facilities; and Poor infrastructure for chronic care clinics. Recommendations for going forward include; NCDs to be in cooperated in HIV/AIDS at work place committees to avoid parallel structures; ensure sustained public health promotion campaigns; Training of more health care workers who can ably manage NCDs; and Promotion of early case seeking and adherence to treatment at community level.

4.14.1 Palliative care Services

A research in palliative care targeting 39 implementing sites was conducted and disseminated. Additionally, out of 96 palliative care service providers from CHAM and Government hospitals, 88 were trained in palliative care while 79 facilities were mentored and supervised twice during the year. A total of 113, 914 patients, families, clients and school aged children received care and support. Of these, 11.9% received palliative care focusing on pain management and control of distressing symptoms that occur at end of life due to advanced chronic life threatening illnesses. Furthermore, 1, 200 palliative care revised training materials were printed and distributed, a CHBC documentary

video was produced in English and 500 copies of the national palliative care policy printed in local language and disseminated.

Similarly, 3000 copies of national palliative care policy and 3000 copies of national palliative care guidelines reprinted. Refresher training on contemporary CHN services was also conducted for 14 Community Health Nurses from the South West Zone covering 7 districts of Nsanje, Chikhwawa, Mwanza, Neno, Chiradzulu, Thyolo, and Blantyre with follow up of 136 providers at zonal level. Moreover, 50 % of the districts namely Lilongwe, Dowa, Mzimba South, Mzimba North, Rumphi Chitipa, Mangochi, Thyolo, Zomba, Mulanje , Balaka, Chikhwawa, Neno, Dedza, and Machinga have made efforts in scaling up Community Mobilization for palliative care services.

4.14.2 Gender based violence

Gender based violence has significant impacts on physical and mental health with an estimated 28 percent of women (15-49 age group) ever experiencing physical violence in the form of beating, hitting, or battering since the age of 15. Seventy-two percent of children aged 1-14 years experienced psychological aggression or physical punishment during the previous one month (Gender-Based Violence Baseline Survey Report 2012[15]). Services to deal with GBV are delivered by the Police under the Ministry of Home Affairs in the form of Victim Support Units and One Stop Centers at central and district hospitals.

One Stop Services are provided at Blantyre Central Hospital, Zomba Central Hospital, Lilongwe Central Hospital, Mzuzu Central Hospital and Nkhatabay District Hospital, Chiradzulu District Hospital, Dedza District Hospital, Mchinji District Hospital, Dowa District Hospital and Mauwa Community Hospital Chiradzulu. They are located within hospitals with linkages to other services based outside the hospital. Referral mechanisms have been established so that police investigators, prosecutors, and social welfare are all involved when a case is registered at the hospital. Case review meetings are encouraged each month to review how cases were handled. These meetings help address any gaps in the provision of services. Linkages to NGOs and faith-based organizations ensure that psychosocial services are provided to victims of abuse. Monitoring of One Stop Centers was done in the reporting period. All 13 GEWE districts were visited. Observations revealed that only Chiradzulu and Mchinji are fully functional, with Nsanje and Dedza almost ready. A total of 64 Sexual, 5 Defilement, 56 Physical, 40 Emotional and 53 Prosecuted cases were documented as presented in Figure 4.19 below. Identified gaps include: Most DHOs are not fully oriented to the initiative; providers are operating from different offices; Providers not oriented to the new guidelines and different guidelines and monitoring tools being used.

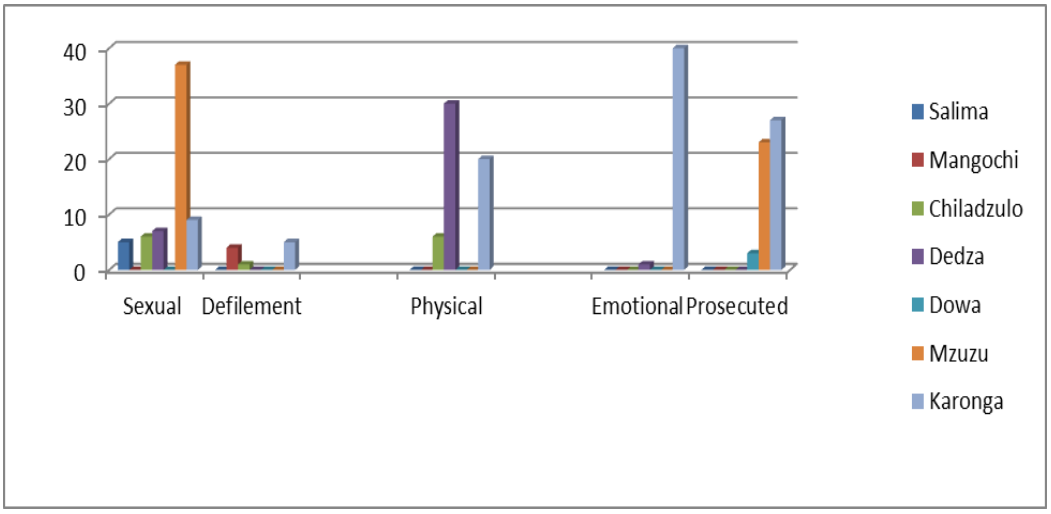

FIGURE 44: DISTRIBUTION OF REPORTED GBV CASES BY DISTRICT

4.14.3 Injuries as a result of road traffic incidents

Road traffic accident injuries and deaths are a large problem in Malawi. This includes injuries and deaths to drivers and passengers, pedestrians, and bicyclists. Data is not yet available to disaggregate the burden of road traffic morbidity and mortality experienced by each of these groups. When available, this data will provide valuable information to assist in reducing risk factors such as lack of reflective clothing, drunk driving, and operating unsafe vehicles.

Figure below, shows the number of clinic visits due to road traffic accidents reported by each district between July to December 2014; and Figure 4.21 shows a comparison between

this and the number of road traffic accidents reported through HMIS during 2013. It should be expected that, during 2014 (July to December), half or less injuries were reported than in 2013 (January to December). This is often, but not always, the case. Road traffic injuries reported to the four District Hospitals and each District, resulting deaths reported, and case-fatality rates (figure 46). The overall case-fatality rate for road traffic injuries, across Malawi, according to facility-based HMIS data, is 1.3%.

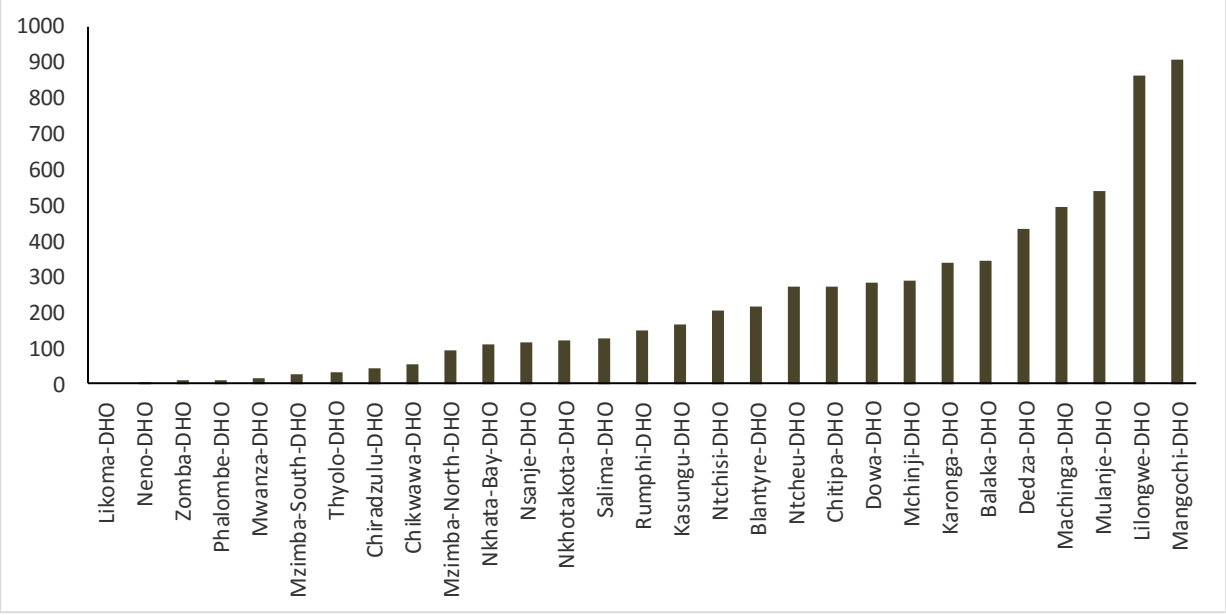

FIGURE 45: HMIS ROAD TRAFFIC INJURIES, JULY TO DECEMBER 2014

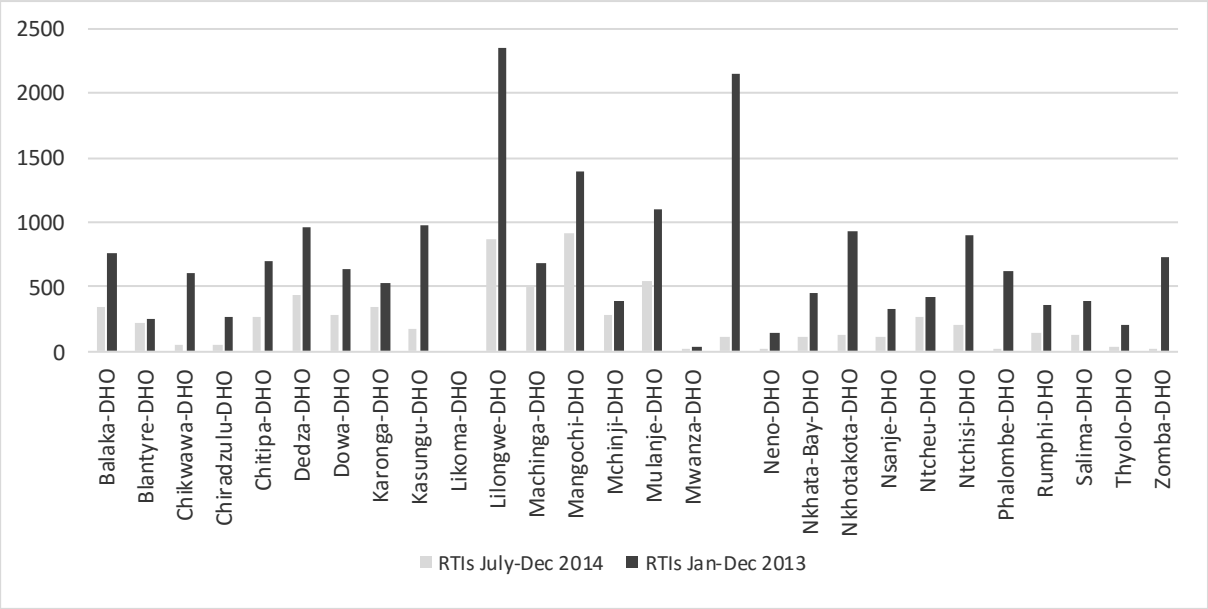

FIGURE 46: A COMPARISON OF ROAD TRAFFIC INJURIES,

TABLE 21: CENTRAL HOSPITAL RTA INJURIES, DEATHS, AND CASE-FATALITY RATES, JULY TO DEC 2014

Central Hospital	HMIS Traffic Injuries	HMIS Traffic Injury Deaths
Mzuzu	641	8
KCH	2, 810	N/A
Queens	2, 141	21
Zomba	257	11

TABLE 22: DISTRICT RTA INJURIES, DEATHS AND CASE FATALITY RATES, JUL-DEC 2014

District	HMIS Traffic Injuries	HMIS Traffic Injury Deaths	Case fatality rate (%)
Likoma-DHO	0	0	0
Phalombe-DHO	9	1	11
Mzimba-North-DHO	90	0	0
Nsanje-DHO	115	2	2
Nkhotakota-DHO	120	1	1
Salima-DHO	128	4	3
Rumphi-DHO	150	3	2
Chitipa-DHO	270	0	0
Mchinji-DHO	289	2	1
Karonga-DHO	336	3	1
Dedza-DHO	432	3	1
Machinga-DHO	494	4	1
Mulanje-DHO	542	0	0
Mangochi-DHO	909	3	0
Lilongwe-DHO	863	3	0
Dowa-DHO	281	2	1
Ntcheu-DHO	269	9	3
Balaka-DHO	347	29	8
Kasungu-DHO	168	11	7
Blantyre-DHO	218	0	0
Nkhata-Bay-DHO	107	0	0
Chiradzulu-DHO	43	2	5
Thyolo-DHO	31	0	0
Mzimba-South-DHO	27	0	0
Ntchisi-DHO	205	0	0
Zomba-DHO	7	0	0
Chikwawa-DHO	51	4	8
Mwanza-DHO	14	0	0
Neno-DHO	5	0	0

Table below shows all injuries reported through HMIS for Kamuzu Central Hospital (KCH) between July and December 2014. As seen in the table, fractures represent 60% of all injuries reported, followed in number by falls (17%), road traffic accidents (15%), burns (5%), stab wounds (1%), and head injuries (1%).

TABLE 23: ALL INJURIES REPORTED THROUGH KCH, JUL-DEC 2014

Diagnosis	Number of Patients	Percentage (%)
RTA Cases	1,526	15
Fall	1,777	17
Gun shot	38	0
Burn	521	5
Stab Wound	148	1
Head Injury	134	1
Fractures	6,109	59
Trauma amp	28	0
Trauma - new	0	0
Poisoning	17	0
Trauma - IPD	1	0

4.15 Neglected Tropical Diseases (NTD's)

4.15.1 Special Lymphatic Filariasis

Lymphatic filariasis, more commonly known as elephantiasis, is a painful and profoundly disfiguring disease. While the disease is usually acquired in childhood, its visible manifestations occur in adults leading to temporary and permanent disability. It has a major social and economic impact on endemic countries.

Malawi has two previously known LF foci: one in the southern part of the country (Shire valley) and the other in the northern region along the Songwe river which forms its border with Tanzania. Surveys conducted in 2000, in those two foci have reported high antigenaemia prevalence based on immunochromatographic (ICT) card tests. The antigen prevalence approached 80% in some of the sampled villages. There was

also remarkably high prevalence of LF associated disease in both areas (4% lymphoedema and up to 18% hydrocele). In addition, the survey in Karonga established that *W. bancrofti* infection is more wide spread than previously recognized, whereas in the lower Shire valley a surprisingly high antigenaemia prevalence (55%) was found amongst children (aged 1-9 years) than has been reported anywhere else.

A nationwide survey was done between November and December 2003 with the intention of determining the LF situation in other Districts in Malawi. The results are presented in the map below. The main focus of that survey were to measure the prevalence of *W.bancrofti* antigenaemia (based on ICT) in randomly selected villages which would determine District level endemicity status, to develop a map of the partial distribution of LF infection in Malawi based on village prevalence data, to provide baseline data that would inform decisions on instituting a "National LF Elimination Programme" and be able to sensitize District and Ministry of Health personnel regarding LF and the prevalence level within their respective districts.

Survey prevalence data by District and Village ranged from 0% to 35.9%. The highest prevalence (35.9%) was recorded at Kalembo village in Balaka district in southern Malawi. In that survey it was concluded that in Malawi lymphatic filariasis infection is more widespread than previously appreciated. In all the Districts, except Chitipa in the North, there was at least one individual who was positive on ICT. The relatively high prevalence found in Salima, Ntcheu (Bwanje Valley), Balaka,

Mangochi and Phalombe was unexpected. However, there have been isolated unpublished reports of cases with chronic manifestation of LF (hydrocele and elephantiasis) in these areas. It is worth noting that the ecological conditions in these Districts are ideal for supporting large potential LF vector populations. Incorporating data from 2000, surveys clearly shows that the priority areas for LF control activities in Malawi were the lakeshore Districts, Phalombe plain and the Lower Shire Valley.

These findings had important implications for initiating the "Malawi LF Elimination Programme". First, following WHO's recommendation that all implementation units with a prevalence on ICT of over 1% be considered endemic and thus treated, the Malawi programme has involved 26 Districts with a target population of over 13 million. The population affected was far greater than ever envisaged. Secondly, both the Northern (Karonga) and Southern foci (the Lower Shire Valley) share international borders which are largely porous. This called for innovative approaches in carrying out control activities, as they had to be synchronised with those in neighbouring countries.

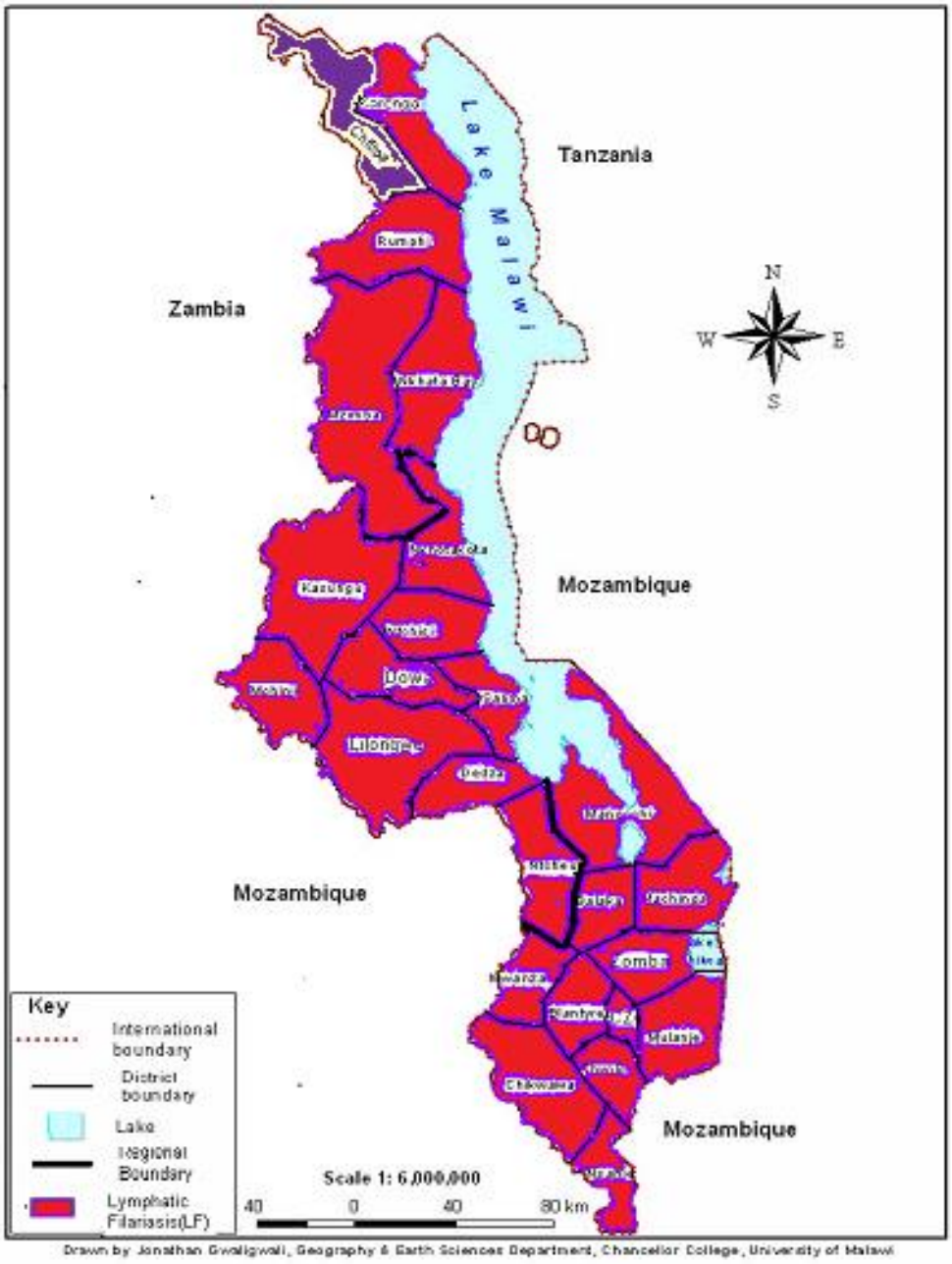

FIGURE 47: DISTRIBUTION OF LYMPHATIC FILARIASIS IN MALAWI

In terms of progress towards LF management, Ivermectin and albendazole were administered in 2014 resulting in coverage of more than 80% in all the sites in Malawi.

A Transmission Assessment Survey{TAS) was conducted in 2014 and concluded that LF has been eliminated, one year ahead of the projected elimination year of 2015.

The plan for Malawi from 2015 is to concentrate on case management, hydrocoele surgeries and lymphoedema management and surveillance.

1.1. Trypanosomiasis

In the year under review, the Ministry of Health had support from a number of key partners, including WHO, towards provision of technical support to the sleeping- sickness control programme; drugs, posters and registers for documentation of the disease. Similarly, the Foundation of Innovative New Diagnostics (FIND), an International NGO from Switzerland, Geneva assisted the programme by upgrading and setting laboratory facilities for case findings in five facilities (Rumphi District and Katowo Rural Hospitals, and Mwazisi H / Centre under Rumphi District and, Malidade and Thunduwike H/ Centres under Mzimba North District) around Vwaza Game Reservoir. Additionally, PATTEC under AU, sponsored the programme manager to attend a scientific meeting to Kinshasa, DRC.

Other activities in the period under review included HAT active case detection campaign to follow up cases in Liwonde national Park, Mzimba North and Rumphi and conducted two quarterly supportive supervisions. Additionally, the program conducted HAT Mapping of cases at Kasungu, Nkhotakota, Mzimba North and Rumphi Districts in the Fiscal Year.

The program experiences challenges in reporting with over 93 % of cases reported passively and at second stage. Additionally, there is an increased case fatality rate at 15.6 %. Furthermore, there the disease is spreading to new areas with new cases emerging from Nkhotakota Game Reservoir where we had no cases the last 5 years. This could be due to increase in infected flies in game reservoirs (87.6 % in Liwonde National Park, COM, 2009). In terms of programme implementation resources, the program faces challenges with transportation, high attrition of staff and underfunding.

1.2. Schistosomiasis & Soil Transmitted Helminth

Schistosomiasis (Schisto) is a public health problem in Malawi affecting 19%- 24% of school age children [1-2]. It is more prevalent along the shores of Lake Malawi, Lake Chilwa, Shire and other rivers where infection rate of up 80% or more in school age children (age 5-15 years) have been reported [3]. Efforts to control Schisto have been there since 1970s. However, these efforts were poorly coordinated and disjointed at district and national level, between Ministry of Health (MoH) and

Ministry of Education (MoE) and resources were not sustainable, in particular Praziquentel (PZQ).

In view of continued high prevalence of Schisto, in 2009, Ministry of Health with support of drugs and funds from World Health Organisation and World Vision International revitalized the National Schisto Control Programme using mass drug administration (MDA) with Praziquentel. The programme started in 9 out of 11 high endemic Districts along the lake shore and Lower Shire Valley. As more partners such as Save the Children joined in supporting MoH and MoE, the programme was scaled-up to 18 Districts by December 2011and to all Districts by December 2012. In 2012, the programme faced serious challenge of widespread hysteria following the administration of Praziquentel such that it was suspended in 2013. Thus, no Schisto MDA was conducted in 2013 in order to give more time to evaluate and respond to the challenge. The programme re-started in 2014.

All Preventive chemotherapy and transmission control (PCT) programmes within the country are encouraged to follow guidelines for deworming developed and published by the WHO. WHO advocates countries to also develop an integrated PCT strategy within their Neglected Tropical Disease (NTD) National Strategic Plans whereby coordinated approaches are utilized when appropriate for all activities for the delivery of drugs against SCH, STH, LF, onchocerciasis and trachoma. During all PCT campaigns, endemic Districts are encouraged to provide treatment for STH alongside PZQ where feasible.

In total, 14.604 million treatments were delivered across all 29 Districts in the country by the end of July 2015, reaching reported minimum coverage rates of 75% in all Districts. Children not in school remain a challenge to reach through PCT but the national programme is developing strategies to expand treatment coverage, for example with increased social mobilization and outreach to communities as has occurred in the country during the just ended Financial Year. Table below shows the reduction of intensity of SCH infection over time which is measured as the number of eggs per gram of faeces (epg) for *Schistosoma mansoni* and as the number of eggs per 10 ml of urine (eggs/10ml) for *S. haematobium*.

TABLE 24: SCHISTOSOMIASIS IN MALAWI

Impact indicator	Baseline	Target	Progress
1: Mean Intensity Of Infection	**Malawi** (2012):Sm = 1.89 epg Sh = 4.30 eggs/10ml *Baseline* conducted in all Phase I districts ready to commence PCT	infection intensity should have reduced by 50-65% for *S. mansoni* and by 65-80% for *S. haematobium* where 1 round of PCT has taken place.	*Post 1 round of PCT (2014):*Sm = 0.10 epg (94.7% rfb) Sh = 1.55 e/10ml (64.0% rfb) *Post 2 rounds PCT (2015):*Sm = 0.72 epg (61.8% rfb) Sh = 1.07 e/10ml (75.0% rfb)
2:Validated Treatment Coverage	**Validated treatment coverage in school-aged children**	target coverage for deworming programmes is 75% in SAC for both PZQ and ALB	*Post 1 round PCT* - Oct 2012: 75.9% female; 79.9% male *Post 2 rounds PCT* – Sept 2014: 78.3% female; 78.7% male

4.15.2 Oncorceciasis

The program carried out Mass Drug Administration (MDA) in all 8 Onchocerciasis affected Districts during the Fiscal Year, achieving treatment coverage of 83.1%. Out of a population of 2 183 237 persons, 1 813 432 persons, were treated. Additionally, the program continued with the collection of samples in 16 sites for transmission assessment for the second year. The main challenge was inadequate funding resulting non-performance on most of the planned activities.

4.15.3 Leprosy and Skin Diseases

Malawi achieved the WHO defined Leprosy elimination target of less than one case per 10,000 population in the year 1994 and since then, the country has maintained that status. Figure summarizes the prevalence over the years with Leprosy detection rates, trends in Leprosy case detection, Leprosy detection rate by District, and common skin conditions among general population presented in the tables and figures below.

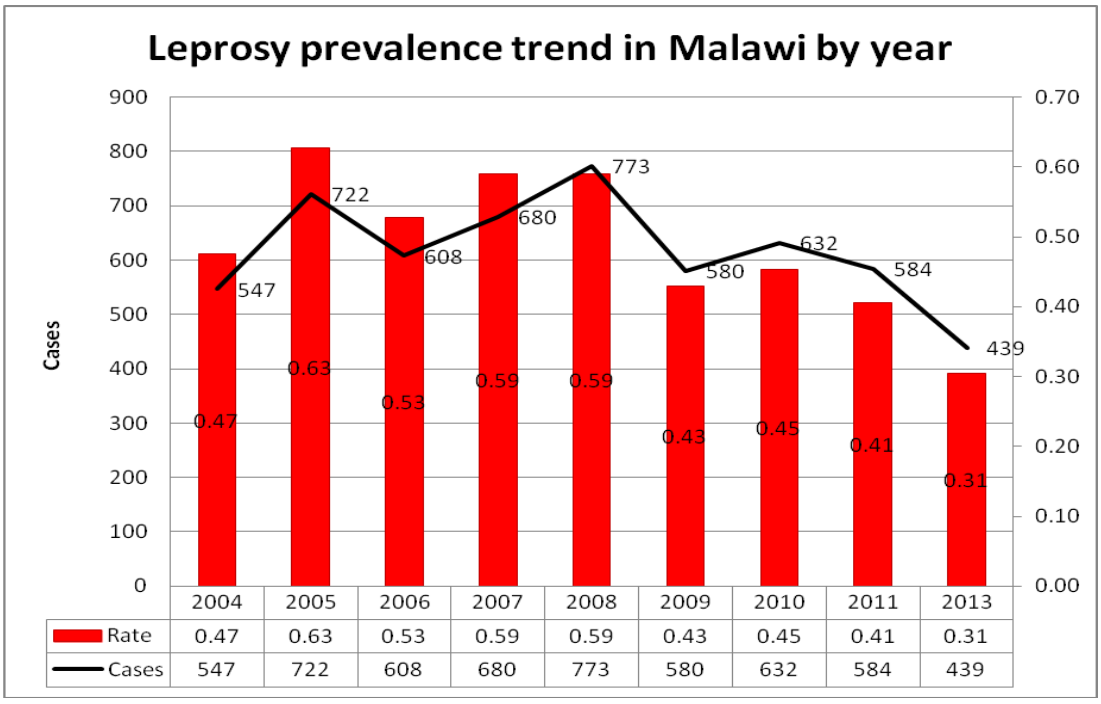

FIGURE 48: LEPROSY PREVALENCE TREND IN MALAWI BY YEAR

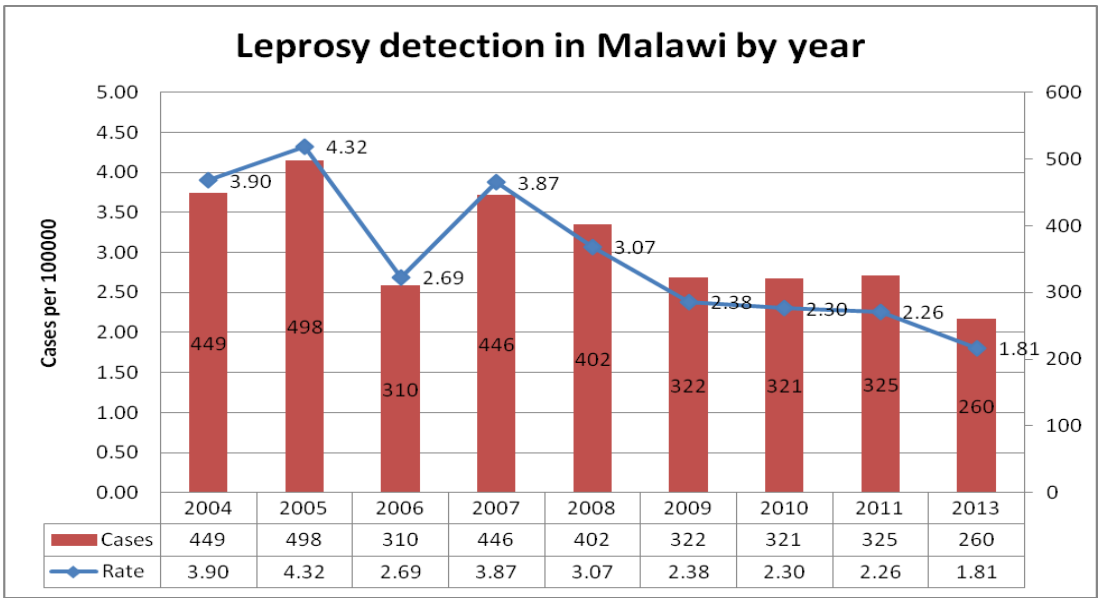

FIGURE 49: LEPROSY DETECTION RATES BY YEAR

TABLE 25: TREND OF LEPROSY CASE DETECTION BY YEAR (2004 TO 2013)

Leprosy detection rate by district - 2013			
District	**New cases**	**Population**	**Rate/100000**
Chitipa	1	194,707	0.5
Karonga	1	297,694	0.3
Rumphi	1	187,137	0.5
Mzimba	8	795,708	1.0
Nkhatabay	8	236,978	3.4
Kasungu	19	707,862	2.7
Nkhotakota	41	334,856	12.2
Dowa	4	641,895	0.6
Ntchisi	6	249,914	2.4
Salima	37	371,938	9.9
Mchinji	9	511,792	1.8
Lilongwe	40	1,325,010	3.0
Dedza	0	671,137	0.0
Ntcheu	5	513,865	1.0
Mwanza	3	97,883	3.1
Chikwawa	20	475,140	4.2
Nsanje	8	255,995	3.1
Blantyre	17	364,708	4.7
Chiradzulu	3	301,586	1.0
Thyolo	6	603,129	1.0
Mangochi	32	885,355	3.6
Balaka	31	349,121	8.9
Zomba	14	614,268	2.3
Mulanje	11	543,745	2.0
Total	**325**	**11,531,423**	2.8

TABLE 26: LEPROSY DETECTION RATE BY DISTRICT

Leprosy prevalence rate by district - 2014			
District	**Cases**	**Population**	**Rate/10000**
Chitipa	1	194,707	0.1
Karonga	0	297,694	0.0
Rumphi	8	187,137	0.4
Mzimba	10	795,708	0.1
Nkhatabay	11	236,978	0.5
Kasungu	20	707,862	0.3
Nkhotakota	113	334,856	3.4
Dowa	10	641,895	0.2
Ntchisi	31	249,914	1.2
Salima	37	371,938	1.0
Mchinji	54	511,792	1.1
Lilongwe	49	1,325,010	0.4
Dedza	19	671,137	0.3
Ntcheu	15	513,865	0.3
Mwanza	5	97,883	0.5
Chikwawa	28	475,140	0.6
Nsanje	21	255,995	0.8
Blantyre	18	364,708	0.5
Chiradzulu	8	301,586	0.3
Thyolo	13	603,129	0.2
Mangochi	38	885,355	0.4
Balaka	37	349,121	1.1
Zomba	23	614,268	0.4
Mulanje	15	543,745	0.3

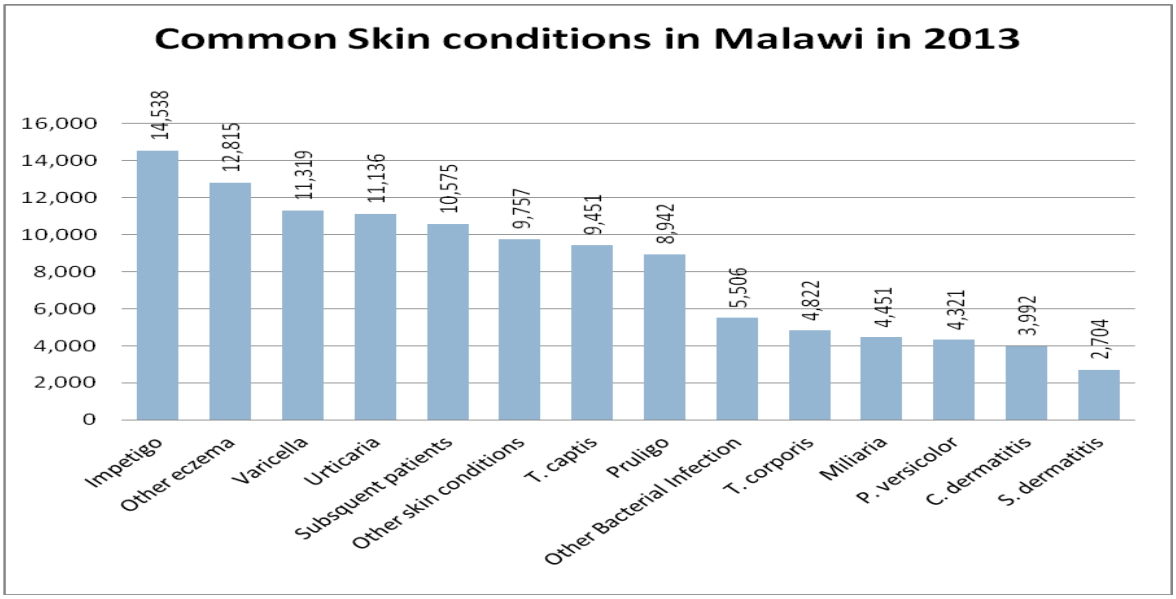

FIGURE 50: COMMON SKIN CONDITIONS AMONG THE GENERAL POPULATION IN 2013

4.16 Eye Health

In 2014/2015 financial year, 24 Districts in Malawi were mapped for blinding trachoma. It was found that only 9 Districts had trachoma threshold of less than 5% of TT and TF in children between 1-9 years of age. Two Districts had Trachoma Trichiasis of more than one per thousand, which is a public health concern. In these Districts, surgeries will be done as on-going activities and camp approach. Four more Districts of Kasungu, Lilongwe Rural, Dedza and Nkhotakota were added to make 17 districts destined for Mass Drug Administration for the elimination of trachoma. Additionally, Zithromax

application to International Trachoma Initiative was approved for the 2014 MDA following trachoma mapping.

World Sight Day was cerebrated on 16th October 2014, and was coupled with the launch of the Queen Elizabeth Diamond Jubilee Trust that is aiming at eliminating blinding trachoma in Malawi by 2018 in support of the Malawi Trachoma Action Plan (2014-2018).

4.17 Public Health Response to Emergencies

Recently, there have been two major events that have impacted on how the health system has been run here in Malawi. First, the Ebola outbreak in West Africa required the Country's health system to bolster infection control, monitor the progress of the outbreak in West Africa, and set-up services that could respond if the disease ever came to this region. Second, the MOH responded to severe flooding in southern Malawi with disaster relief and resources for affected Districts. Cholera and future food security still remains a concern.

4.17.1 Response to the Ebola Threat

Ebola Virus Disease (EVD) was first reported between November and December 2013, but was only confirmed in March 2014, in Guinea. The affected countries are Guinea, Sierra Leone, Liberia, Nigeria and Senegal. Due to the magnitude of the outbreak, the affected countries declared the outbreak a state emergency and the World Health Organization (WHO) also declared EVD a Public Health Emergency of International Concern (PHEIC) and the worst EVD outbreak in history. As a response to this threat and to meet its obligations with the International Health regulations, the Ministry of Health together with its partners has developed an EVD Preparedness Plan. This preparedness plan proposed measures that will prevent introduction of the Ebola virus to Malawi as well as ensure preparedness for prompt detection and appropriate response to limit morbidity and mortality. A number of partners contributed towards the preparedness plan including World Bank, WHO, UNICEF and CDC, MSF and others.

Malawi introduced screening of passengers at Chileka and Kamuzu International Airports. At the beginning of August all other ports of entry, both land, air and lake commenced

screening procedures shortly afterwards. Screening procedures included taking temperatures and passengers from affected countries were obliged to fill in a health declaration forms. All border staff at all ports of entry were trained in Standard Operating Procedures (SOPs) for Point of Entry.

The Emergency Risk Management Committee (under the instruction of Department of Disaster risk Management Affairs, DoDMA) and technical task force are in place and met every few weeks since the outbreak was declared. Rapid Response Teams have been appointed and trained in all the Central and District Hospitals as a first line to respond to any suspected cases. Standing Operating Procedures (SOP) have been developed to provide a guide on how to detect a case of Ebola, how a suspected/confirmed case of Ebola can be handled.

Three central hospitals (Queens Elizabeth's in Blantyre, Mzuzu Central Hospital and Kamuzu Central in Lilongwe) and six border Districts have been designated as treatment and management centres for Ebola. Laboratory staff have been trained specially for handling of potential Ebola infected specimens and protocols in place for transfer of suspected specimens to South Africa. Standard Operating Procedures on

Infection Prevention and Control were developed, Personal Protective Equipment (PPEs) and other Infection Prevention and Control materials were procured and distributed, and, Health Workers in Infection Prevention and Control were trained. IEC materials such as posters, leaflets, fact sheets were developed and a number of press briefings and press conferences. Four toll free lines were set up with mobile phone companies for the general public to get information on Ebola.

4.17.2 Response to the Floods and Subsequent Cholera Threat

As a result of severe flooding in Southern Malawi in January 2015, an estimated 638,000 people were affected with 79 deaths and 174,000 people displaced from the three most affected districts (Nsanje, Chikwawa and Phalombe). The Department of Surveys estimates that 63,531 hectares of land have been submersed by flood waters.

Relief efforts were coordinated by Department of Disaster Management Affairs and the MOH coordinated health interventions and oversaw the development of a response plan through the Emergency Health and Nutrition Cluster. Various partners contributed to the plan in the form of logistics, dignity

kits, essential drugs, mosquito nets and water and sanitation and surveillance.

A cholera epidemic in Mozambique resulted in a number of cholera cases being reported in Malawi. Since 11 February 2015, Malawi has registered 607 cholera cases with 10 deaths. The affected Districts are Nsanje Dedza Lilongwe and Mwanza In Nsanje, cases are mostly being imported from an outbreak at Jambawe illegal Gold Mine in Mutarare district - Mozambique, while in Mwanza they are from Moartize in Mozambique. There are concerns that camp residents without access to water and sanitation are particularly vulnerable to cholera.

TABLE 27: MALAWI'S PREPAREDNESS AND RESPONSE TO PUBLIC HEALTH EMERGENCIES

Output	Progress	Funding source
Country capacity to meet the International Health Regulations (IHR) core capacity requirements (for notification, assessing, reporting and responding to public health events of international/national concern) assessed	13 core capacities assessed March to June 2015 Final report being compiled Results disseminated National action plan being developed	NIPH-NMoFA
diseases outbreak investigation and response for: **Typhoid Fever (Mchinji and Kasungu), and** **Cholera (Chikwawa and Nsanje).** **Shigella (Balaka) Conducted**	outbreaks contained Public health action: Mchinji personal hygiene for school food preparation staff advised and oriented and school overhead tank cleaned and cover replaced. Nsanje: Cholera vaccine (OCV) provided to pop in campus and surrounding areas.	WHO GoM
National biannual supervision IDSR	Done first half of 2014-2015	CDC

system	Advised on prompt disease outbreak reporting and notification	
International trainings conducted In: outbreak investigation and response, and Laboratory quality assurance for diseases surveillance.	Done	CDC
memorandum of understanding with the Norwegian Institute of Public (NIPH) for the support of PHIM to monitor public health events as well as build capacity for PHIM for public health surveillance signed	Done Jan 2015 PHIM and NIPH have developed a number of activities to implement together to improve public health surveillance	NIPH
Ebola Virus Disease (EVD) preparedness plan developed	Done Budget amounting to MK3.7 billion	WB GoM
Terms of reference for the recruitment of a legal consultant to facilitate development of a legal framework and parliamentary draft bill to establish PHIM as a semi-autonomous entity developed	Consultant recruitment process on going One consultant identified there will be stakeholder engagement	International Association of National Public Health Institutes (IANPHI).
EVD training for all health cadres (Clinicians, laboratorians, HSAs, nurses, cleaners etc) carried out	Done	WB GoM
Presentation on areas on public health that should be included in the Public Health Act (bill) being reviewed now made at the Special law Commission	Advised the commission on need for further consultations with the health sector to speed up the process	None
Vehicles for EVD preparedness and response procured	Distributed to central hospitals, border districts and central level	WB
Ambulances for EVD preparedness and response procured	In progress	WB
Supplies for EVD preparedness and response procured	Done	WB GoM
Supplies (health cluster) for national disaster response Quantified	Done	
Field Epidemiology and Laboratory Training Program (FELTP) developed	In progress FELTP curriculum development in progress and Recruitment of FELTP Resident Advisor on track	CDC
***One Health Approach* national strategy. Developed**	In progress : A multisector collaboration for dealing with health threats at the human-animal-ecosystem interface.	CDC Identifying other potential funders

CHAPTER 5: HEALTH SECTOR REFORMS

In February 2015, His Excellency the State President launched a Public Sector Reforms programme that aims to implement significant reforms across government. As part of this Government-wide Public Sector Reform Agenda, the Ministry of Health proposed four reform areas that aim to improve universal coverage of essential health services, improve efficiency of the health sector, and mobilize additional resources for universal health coverage. The reforms have been designed to fast-track the achievement of the post 2015 Development Agenda that has placed strong emphasis on Universal Health Coverage. The following are the four major health sector reform areas proposed in the Public Sector Reform Agenda: (i) The revision of the partnership between the Ministry of Health and Christian Health Association of Malawi (CHAM) to improve access to basic health services across the country by removing financial barriers to health services access in CHAM catchment areas; (ii) Reforming Central Hospital operations and the District Health System to improve efficiency and accountability of health providers and expand access to, equity and quality of essential health services; (iii) Introduction of a Health Fund to mobilise additional revenue for the public health sector; and (iv) Exploration of a national health insurance scheme to mobilise additional resources for the health sector and improve universal access to essential health services.

5.1 Reviewing the partnership with the Christian Health Association of Malawi (CHAM)

On 17th April 2015, the Ministry launched negotiations between CHAM and MoH to update the existing CHAM MOU. The purpose of the reform is to revise the Partnership Agreement between the Ministry of Health (MOH) and the Christian Health Association of Malawi (CHAM) to improve access to, and utilization of, essential health services at CHAM facilities as well as eliminate inequalities in health services provision across the country. Negotiations were launched and a Government Team was assembled to meet with the CHAM Secretariat. Since then, a revised draft MOU has been agreed upon. Going forward, the CHAM Secretariat will now present this agreed version to the CHAM Board and proprietors to gather further feedback.

5.2 Establishing a Health Fund

The country's health sector is currently experiencing huge challenges at all levels to meet the vision and aspirations of the sector with regard to delivering a comprehensive range of quality, equitable, accessible and efficient health service to all the people of Malawi that leads to quality and productive life. An Expert Panel was set up with a range of stakeholders to assess the feasibility of a health fund and develop the concept further. A consultancy by SSDI and CHAI was commissioned and subsequently, a concept note was developed and submitted to the Ministry of Finance. As part of a request for further technical assistance,

Providers for Health (P4H), a network of coordinated technical assistance involving bilateral and multilateral partners like the World Bank and GIZ, will assist the Ministry in developing the Health Fund concept moving forward.

5.3 Revitalization of Health Insurance Schemes

The Ministry of Health established an Expert Panel to discuss the potential and implications of a national health insurance scheme in Malawi. A team of consultants from Chancellor College and the College of Medicine were recruited to do a review of existing literature on insurance and how it relates to Malawi. Based on the report produced, a concept note has been developed outlining the potential role of insurance in achieving universal health coverage. To assist in assessing the feasibility of an insurance program, technical assistance through P4H has been recruited to ensure that the implications and feasibility of the potential reform are thoroughly considered.

5.4 Reforming Hospital Operations and the District Health System

Expert Panels were formed to discuss the issue of hospital autonomy, decentralization of health services and the potential to delink non-core services. Consultants were commissioned to do a review of existing papers and based on their findings three concept notes were developed. To further improve the efficiency, strengthen primary care services, improve transparency and operations of Central Hospitals across the

country, the Ministry of Health is focusing on the following three areas, namely: (i) Make all Central Hospitals public trusts to be run by independent Boards; (ii) De-link non-core services from the Hospitals across the country. The development of Hospital Trusts will increase the capacity of central hospitals to provide specialised referral services by increasing their decision making powers as well as allowing them to focus on the provision of specialised care. Delinking non-core services from public hospitals will ensure that providers of health care concentrate in areas of their core competency while the Government taps from the private sector expertise and efficiency in the provision of the priority non-core services; and (iii) Implement full decentralization of health services by among other initiatives hiring Directors of Health Services at the District Level to manage both the Primary and Secondary level health services at the District, devolving payroll management to District and City Councils, and strengthening community structures to improve participation and oversight of the district health system.

CHAPTER 6: PARTNER REPORTS

6.1 Central Medical Stores Trust (CMST)

CMST was established by an Act of Parliament in November 2010 to procure, warehouse and distribute medicines and medical supplies to public health facilities in Malawi. It is committed to "Improving the health of Malawians by ensuring reliable, continuous access to the highest quality medicines and medical supplies through efficient procurement, warehousing and distribution services at the most affordable cost." This has been achieved through CMST local procurements of pharmaceuticals as well as through cooperation partner involvement under various projects such as Tuberculosis, HIV and AIDS, malaria and vaccines.

6.1.1 CMST Key performance indicators

In 2015 CMST, through a nationwide stakeholder consultative process developed 10 Key performance cross cutting indicators under the various business units. Among these are (i) Procurement / tenders and third party funding (ii) Reducing on rented warehouses (iii) Improved regional customer fill rate with at least 70 % catalogue items and 90% Must have items (iv) Attaining 80% on-time order submitted between the 1st and 10th of each month by June 2016 (v) Improving inventory control and expiry management of medicines (vi) Quality Management Systems development (vii) Quality assurance (iv) Quality Control of Products.

To ensure continuous flow of stocks, the CMST facilitated procurements, tenders and management of third party funding. In the year under review, a total of 22 tenders as RFQs were floated to address the needs of the facilities. Among these emergency orders from the 3 Central Hospitals topped the list. This was attributed to storage space constraints in these facilities. A total of 14 foreign suppliers against 12 local suppliers participated in CMST procurements. Additionally, a total of 199 LPOs were issued to all suppliers of which 90% completed their deliveries within the scheduled delivery periods. In complement, DFID through Charles Kendall floated tenders under Component 1 and 2 to the tune of $16m and $8 m respectively as recapitalization CMST. Some of the reasons for late deliveries were: problems with cash flow by most local suppliers as they claimed that CMST was not paying within 30 days as stipulated by the terms of the LPO, for International suppliers, Letters of Credit (LCs) without which goods cannot be shipped, were taking very long to be established. In order to manage procurements to best / competitive advantage, a prequalification of suppliers was undertaken which resulted in 11 suppliers and 11 manufacturers being approved for 2015 through 2017.

In terms of warehousing activities, the CMST has reduced the use of rented warehouses from 4 in the past to 2 in 2014. This was possible due to the boarding off of expired items procured prior to the establishment of CMST. To further reduce on the rental costs, CMST finalized co-financing agreements with Global Fund and Ministry of Health for the

completion of a new pharmaceutical warehouse which is expected to add 3000 cubic pallets of storage space. Construction is projected to finish in January, 2016.

Turning to distribution activities, the CMST aims to attain improved regional customer fill rate with at least 70% catalogue items and 90% must have items. Under this understanding, the CMST manages the supply chain by distributing health commodities to over 700 health facilities through the 3 regional medical stores strategically located in the South, Central and the Northern part of the country using a pull system or as per orders received from facilities. At the moment a fully pledged logistics unit has been established to manage both the internal and external deliveries using a hybrid distribution model. CMST fleet of 32 vehicles ranging from 1 to 30 ton is undergoing overhauls and repairs in readiness for full ownership of the distribution process in January, 2016. To increase efficiency, GPS vehicle tracking and management system will be installed in all the 32 vehicles for efficiency and close monitoring of the operations.

Still on distribution activities, the CMST further aims to attain timely order submission of 80% between the 1st and 10th of each month by the end of Jun, 2016. Even more, the CMST aims to deliver all stocks on time. Through the current third party logistics arrangement with Imperial Health services which was financed by DFID, there is a significant improvement in the delivery of commodities to facilities within 3-5 days of the agreed standard target schedule. To achieve this,

CMST vehicles shunted medicines across the regional warehouses whilst IHS trucks took over from the warehouses to the door steps of the facilities. Overall, there was low supply of stock against what was ordered by facilities mainly due to the unfloated/unlaunched annual tenders in 2014-2015. Other reasons were attributed to the non-availability of some drugs in CMST at the time of ordering.

To further increase efficiency in distribution the CMST has improved the commodity distribution information system. In support of this, distribution information reports are now available on weekly and monthly basis for decision making. The reports include cconformance to loading and first delivery per route, number of trips executed per district, end destination target versus actual results, route target versus actual days travelled, delivery cost per stop and delivery cost per branch.

Turning to inventory control and expiry management of medicines, internal control policies and procedures were put in place amongst the 3 Regional Managers and the receipt warehouse for continuous and timely communication including intra transfer of stocks as per facility demands. As a policy, products from suppliers with less than 80% shelf life are generally not accepted, leading to the availability of Quality commodities.

In terms of quality management systems, under the new guidelines from the World Health Organization for Central Medical stores which were approved in late 2014, CMST commenced on the preparations to develop and comply with the Model for Quality Assurance Systems(MQAS) as

part of the overall Quality Management system. This work is expected to last in 2017. A total of twenty business process mappings for Good warehouse and distribution practices and fourteen for the procurement department together with concomitant SOPs were developed to comply with MQAS, PMPB and procurement regulations of the Country. Similarly, quality assurance was designed as a cross cutting continuous issue within CMST business units to ensure that appropriate Quality standards are maintained. Again, CMST extended quality control to products. In the Fiscal Year, at total of 2676 product batches were received for sales and distribution. It is encouraging that only one product failed to meet release specifications which was rejected. However, a total of 11 products were recalled from the market as a result of reported adverse reactions and these were referred to PMPB for further investigations.

6.1.2 Staffing levels and capacity building

As per Trust staff establishment staffing levels are as follows:

TABLE 28: TRUST STAFF ESTABLISHMENTS

Posts	% of establishment filled
Top level management (CEO & Directors)	100%
Middle level management (Managers)	67% Branch Manager – Centre Procurement Manager
Lower level management (Officers)	84% Management Account HRAO
Clerical level (Pharmacy Technicians & Clerks)	100%
Support staff (Classholders, Packers, Drivers and Office Assistants)	Classholders 80% Packers 65% Drivers 100% Office Assistants 75%

In terms of finances and financial management, audits have been completed for June, 2012 and June, 2013 and final reports were approved by the board. As a way of clearing backlog, the audits for June, 2014 and June, 2015 are expected to be completed by December, 2015. The main source of finance is remains Government through the National Drug Budget that is administered by both the Ministry of Health, for medicines and medical supplies made to Central Hospitals and through the National Local Government Finance Committee for District Hospitals. Some revenue is also generated through warehousing and distribution of donated items. As at June 2015 unpaid invoices were K8.5billion. Government is committed to settle the arrears through the issuance of Promissory notes.

While CMST has been making strides in managing the flow of commodities across the country, a number of challenges exist. First, delays in National Budget Funding to CMST due to use of intermediary institutions (MOH & NLGFC). However, it is pleasing to note that Government has made a critical policy decision which entails the Ministry of Finance, Economic Planning and Development shall fund the CMST directly and on a quarterly basis, effective 1 July 2015. This will indeed assist in ensuring that CMST has access to adequate resources in to order drugs in bulk thereby reducing delays in supplying drugs to hospitals. CMST will ensure accountability through monthly reconciliations will be made with DHO's, MoH and NLGFC on invoices delivered to health facilities. Second, the Trust has no access to extended

credit facilities or loans from financial institutions – this requires GOM guarantee.

Moving forward, the CMST expects to start use of the national warehouse by 1st quarter 2016 and use of hybrid distribution systems by July 2016 (CMST and a local third party logistics company) following option study results conducted by consultants funded by DFID. Further, to better manage various stocks coming into the country, Trust is working to engage all partners involved in parallel supply chains.

6.2 CHAM

The CHAM strategic plan 2015 to 2019 was launched on 04th September, 2015 with a theme "Towards Sustainable Church-based Health Care in Malawi". The main thrust of this Strategic Plan is institutional and financial recovery of CHAM. Under this new strategic plan, the first two years will prioritize implementation of activities under Key Result Areas of Good Governance, Financial Recovery And Sustainability together with strengthened human resources and rebuilt relationships with member units and partners. A mid-term review is planned to be conducted in 2017, this will incorporate the strategic areas of focus under the new Health Sector Strategic Plan which is expected to be finalized in 2017. The key result areas in this new strategic plan are as follows: Good Governance, Financial Recovery and Sustainability, Networking and Advocacy, Human Resources Management, Coordination and Technical Support for Health Services, Monitoring & Evaluation and Research, Training of Human Resources for Health.

The Christian Health Association of Malawi is a crucial health sector partner, which provides an estimated 16% of all outpatient services and 26% of all inpatient admissions in the country. The Christian Health Association of Malawi (CHAM) members currently own 175 health facilities across Malawi, around 85% of which are located in rural settings, approximately 15% serving urban or peri-urban areas. These 175 facilities are comprised of twenty secondary level hospitals (with some specialist services), twenty rural hospitals, ninety health centers/dispensaries with maternity beds and forty five health centers/dispensaries without maternity beds. A mapping exercise of the location of these health facilities found that, on one hand, approximately 86 of these are located at least 8 kilometers away from their next closest, similar government or other CHAM facility. Malawi government policy is to have 100% of the population living within an 8 kilometer radius of a health facility. On the other hand, found that some CHAM facilities located in peri-urban areas primarily in Blantyre, Lilongwe and Mzuzu sit within an 8 kilometer radius but provide essential services to communities living in high density settings, thus reducing the burden on urban government health facilities.

During this reporting period CHAM Secretariat facilitated a Health facilities assessment exercise which was conducted in three categories as follows: Human Resources Situation analysis including personnel verification (head count), Service delivery provision assessment (covering facilities not covered by recent MoH SPA only) and financial

management. The exercise, which was a collaborative effort between CHAM and its partners including the MoH, aimed at collecting up to date information about the capacity and needs of CHAM facilities which will provide a basis for programme designing, resource allocation and service implementation evaluation in these facilities.

Further, a collaborative Human Resource situational analysis was conducted from August to November, 2014 focusing on the head count rather than overall system assessment as required. The findings were that CHAM had 9174 verified employees with 78 unverified employees appearing in CHAM payroll. The analysis further found that 101 facilities were found to have a clean payroll while 82 facilities had issues ranging from delayed payroll adjustments, wrong grade and basic pay, abbreviated first names and facilities without qualified health workers. The other challenges found were poor record for personnel files, CHAM Secretariat HR department weak capacity and recruitment of retired members of staff rising due to differences in retirement age between pensions Act and government's retirement age.

Other developments also registered in the CHAM health facilities in 2014/15 include four community hospitals ready to be upgraded to full hospitals, fifteen health centers ready to be upgraded to Community Hospitals, nineteen health centers without maternity now have maternity wings and qualified for upgrading to health centers with maternity, and finally three new health centers have joined the CHAM family.

In terms of progress towards service delivery, Table 27below summarizes the key services provided under CHAM facilities in the Fiscal Year.

TABLE 29: PROGRAMME PROGRESS ON SELECTED EHP INDICATOR (DHIS 2)

Indicator and Planned Activity	Numbers 2014/15
No. of Total ANC Visits	266,825
Number of births attended by skilled birth personnel	91,136
Number of births by caesarean section	6,502
Number of pregnant women receiving HCT and results	116,550
Tuberculosis – diagnosed new	5,526
Number of <5 seen with non-bloody diarrhoea	36,806
Number of <5 seen with malaria	259,442
Number of <5 fully immunized	106,609
Total OPD	1,463,323
Total Admissions	237,473
Malnutrition under 5 - new	16,214
Road Traffic Accidents	2,788

Turning to training, in 2014, CHAM training colleges graduated 1068 candidates of which 60% (641) were Nurse Midwife Technicians, 11% (118) were Clinical Officers, 15%(162) were CMA'S, 5% were Medical

assistants. In addition, to the preservice training, CHAM also supported 36 students for postgraduate Masters Programs which included tutors and other CHAM facilities health workers. CHAM also managed to mobilise 1, 257 scholarships for preservice training from different partners.

Several new colleges were also registered in this year as follows: St John of God College of Health Sciences and Daeyung College of Nursing and Midwifery were officially incorporated into the CHAM family of nurse and midwifery colleges. In addition, Ekwendeni College of Health Sciences introduced two new academic programs Clinical Officer and Registered Nursing. Furthermore, CHAM With the support from CDC, have undertaken assessment survey to do major renovations works to St Anne's Nursing and Midwifery Colleges and is about to start enrolling students. Despite the achievements in training, the latest cohort of community midwife assistants (CMA's) low pass rate of 30% for their qualifying Nurse's and Midwives Council of Malawi (NMCM) exams in 2014 is worrisome, in addition to delayed funding for the government sponsored students.

Despite the achievements and progress registered, CHAM faces a number of significant challenges. Primarily, ooutstanding SLA debts have remained a challenge in most of the SLA facilities despite the inclusion of SLAs in the NORAD/FICA funding to districts, which nonetheless, were not allowed to be spent on alleviating the debt position of the districts vis-à-vis CHAM facilities. Notably, current bills are still not serviced by

some of the DHO's, which have also lead to further debt accumulation. Besides the accumulated SLA debt, which adversely affects CHAM health facility operations and service delivery more generally, other challenges faced by CHAM includes: (i) Poverty of health facility users, with most facilities owed large sums of money by the communities in unpaid user fees. CHAM is in the process of gathering this information to at least have a national estimate. (ii) Many partners by-passing CHAM secretariat working directly with member facilities which has resulted in duplication of efforts and waste of resources. For example SSDI is working in facilities where we are also doing similar activities with NCA.

Furthermore, most of CHAM facilities do not meet the minimum staffing norms due to high attrition and vacancy rates. In 2014/2015 CHAM facilities vacancy rates of critical cadres on average were as follows; NMT 51%, Clinical Officers 59%, medical officers 82%, pharmacy technicians 85% and Laboratory technicians 71%. Staffing attrition remains high in CHAM facilities. This challenge is further increased due to the current recruitment ban by Government. Facilities are failing to replace the staff that have resigned, retired or died.

6.2.1 Funding

CHAM's largest funding partner is the Government of Malawi, which contributes approximately 45% of the total CHAM budget, primarily through the salary grant and SLAs. CHAM has also benefited from support from a number of external donors during 2014/15 including:

- CDC – continued strengthening of HIV services in 7 CHAM facilities, through provision of ARVs, diagnosis and support and care services
- KFW-Construction of various infrastructure e.g. staff houses, maternity wards, Equipment for the project facilities to carry out BEmONC functions, training of Health workers, in BEmONC when construction is complete and HIV at workplace sensitization will be done in all sites with construction underway
- Norwegian Church Aid – maternal and newborn health programme, providing infrastructure improvement to support delivery services, as well as training in a variety of MNH areas, such as newborn resuscitation, safe delivery etc. The training is funded and implemented through the CHAM Secretariat
- DFID/MHSP-TA: Support to the CHAM Secretariat to strengthen financial management systems, review CHAM institutional relationships, support to CHAM Board meetings and support Service Level Agreement review and revision discussions.
- AMREF – MNH support to one district, where AMREF is directly implementing their interventions. Includes support for safe delivery together with community mobilization to improve health seeking behaviors and referrals.
- Danish Church Aid, which is a community nutrition project that includes some construction of maternity wings and staff housing.
- Save the children SRH project with funding from EU –Cham supports community mobilization and the training of community

based health care workers and volunteers in the provision of youth friendly health services

6.3 Nurses and Midwives Council of Malawi

The Nurses and Midwives Act of 1966 was established under section 36:02 of Malawi laws. As part of Reform process the Act was revised in 1995 to ensure improved performance of regulatory services of the Council to enable it apply appropriate regulatory procedures, systems, tools, standards, ethics, conduct, conditions and standards previously lacking in the nursing and midwifery profession. The Council is made up of the Board called the Council and the Secretariat. The Council is the sole decision making body for the regulation of nursing and midwifery professions in Malawi. The Secretariat is an implementing arm of the Council headed by the Registrar. Nurses and Midwives Council of Malawi regulates nursing and midwifery education, training, and practice in Malawi. The Council's main objective is to protect the public from unsafe, unethical and unprofessional nursing and midwifery services and therefore ensures acceptable health services with regards to rights of patients and clients in the country.

The Council achieves these objectives through prescription of education and training standards and syllabi, monitoring of set nursing and midwifery education and practice standards as well as licensing and registering of the nurses and midwives who meet the requirements set by the Council.

On one hand, the total income for the period was K287.1 million against a budget of K314.8 million representing 9% shortfall. While most budget lines performed well beyond expectations, there was under collection on registration fees of K16.1 million representing a variance of 27%. The number of candidates taking examination increased drastically due to the increase of intake in most colleges resulting in an increase of examination fees income and index fees by 32% and 19% respectively. Under collections were registered under other income budget line due to an increase in donations as compared to last financial year. On the other hand, the overall expenditure for the period was K231.3 million against a budget of K314.8 million representing a variance of 27%. Out of this K20.0 million is a grant from National Aids Commission. Please refer to Appendix …. for detailed income and expenditure report.

6.3.1 Monitoring and Evaluation of Nursing and Midwifery Training Colleges

The department conducted monitoring and evaluation (M&E) of fourteen (14) training colleges to determine if the institutions are proving quality nursing and midwifery education and training in Malawi. This M&E was done through inspection of the college premises, review of documents and interviews with the heads of the institutions, tutors, support staff, students and clinical nurses.

Findings revealed that there is an increased student's population in most training colleges which may negatively affect the delivery of education

services. The table 28 below illustrates number of lecturers against number of students.

TABLE 30: NUMBER OF LECTURERS AGAINST THE NUMBER OF STUDENTS

College	No. Of students	No. Of lecturers	Clinical instructors
Daeyang	74	12	2
Malamulo	133	11	2
MCHS-ZA	256	20	1
MCHS-BT	362	22	1
MCHS-LL	64	10	0
St Joseph's	430	25	1
St Luke's	471	18	3
Ekwendeni	279	11	5
St John of God	18	6	0
Mzuzu University	165	13	0
Holy Family	235	11	4
KCN-LL	430	75	6
Trinity	240	11	1
St John's	217	19	1

Performance of training colleges

A score was attached to the findings in each college as a means of weighing the efforts the individual colleges were putting towards maintaining the set standards. Zero to 59% means the college was performing unsatisfactorily; 60% to 75% the college was performing satisfactorily and 76% to 100% the college had performed above satisfactory. In general, the findings reveal that colleges had not performed well considering that they were all accredited except for one college. The scores are illustrated in figure 51.

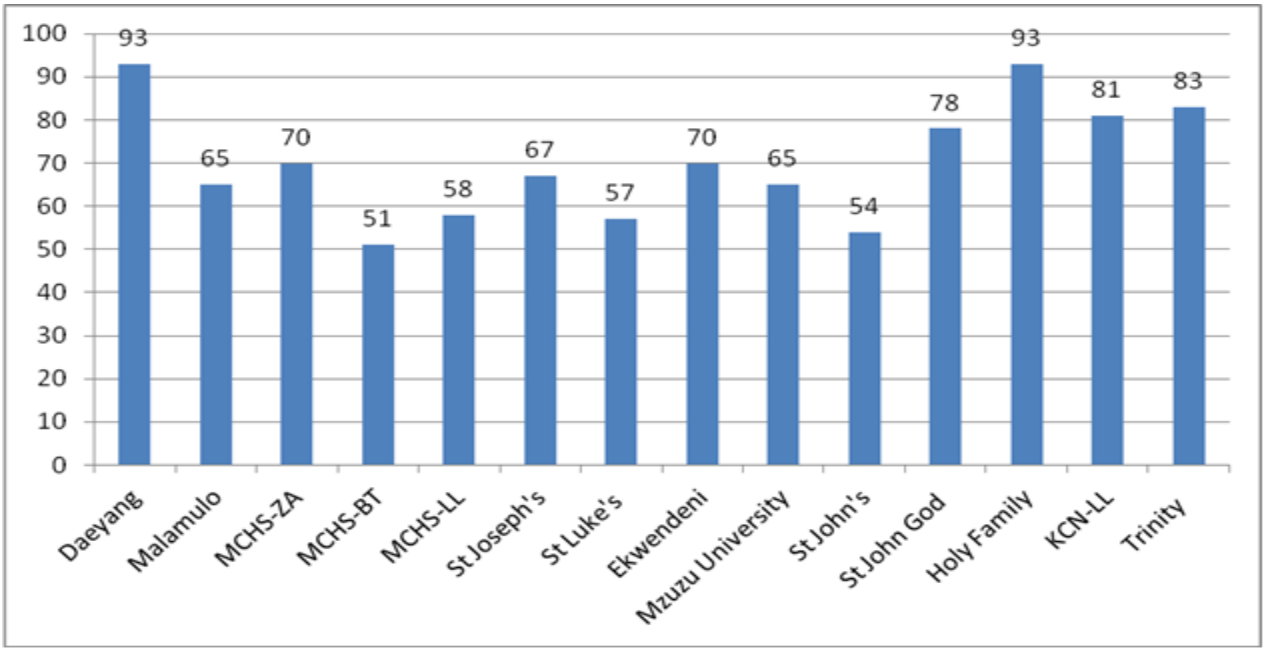

FIGURE 51: PERFORMANCE SCORE OF COLLEGES

Investigations of Complaints Presented to the Council

From January to June 2015 the Council received 10 complaints within Lilongwe city (4 from government facility and 2 private), Nkhotakota district health office (1), Mua Mission Hospital (1) and Mchinji district (1). These were investigated and reports are ready and awaiting review by Investigation Standing Committee.

6.4 The Pharmacy, Medicines and Poisons Board

As per its mandate as a National Medicines Regulator (Act No. 15 of 1988) and in order to contribute to the achievement of the Ministry of Health goals and objectives, the Pharmacy, Medicines and Poisons Board

undertakes to do the following: (i) Registration of medicines for use in both human and animals following comprehensive analysis by the National Medicines Quality Control Laboratory to ensure their safety, quality and efficacy (ii) Registration of Pharmacy Personnel who meet the required standards to practice pharmacy in Malawi (iii) Registration of Pharmacy businesses which uphold the appropriate standards according to the provisions of the Act (iv) Review and registration of Clinical Trials to ensure that participants are protected and that the appropriate science and procedures are followed (v) Inspections against illegal sales of medicines and counterfeit products; and (vi) Inspections of pharmaceutical suppliers and manufacturers both in Malawi and in other countries to ensure that the premises and medicines meet the required standards.

In the year 2014/15 the main activities of the Board were aligned with the strategies outlined above and gave rise to the outcomes as tabulated below:

TABLE 31: REGISTRATION AND RETENTION OF PHARMACY PERSONNEL

Pharmacy Personnel	Application and Registration		Retention		Total	
	Planned for FY	Actual for FY	Planned for FY	Actual for FY	Planned for FY	Actual for FY
Pharmacists Local	15	15	40	86	55	101
Pharmacists Foreign	12	5	28	34	40	39
Pharmacy Assistants	12	6	8	9	20	15
Pharmacy Technologists	30	44	90	120	120	164
TOTAL	74	70	166	249	235	319

TABLE 32: PMPB REGISTRATION AND RETENTION OF PHARMACY BUSINESSES

Pharmacy Business	Application and Registration		Retention		Total	
	Planned for FY	Actual for FY	Planned for FY	Actual for FY	Planned for FY	Actual for FY
Retail Pharmacy	5	15	50	34	55	49
Wholesale Pharmacy	5	10	40	42	45	52
Dispensing Clinics	25	59	450	231	475	290
Manufacturing Foreign	25 inspected and to be certified for CGMP					
Manufacturing Local	1	0	4	4	5	4
Medicine Stores	30	125	50	101	80	226
TOTAL	**116**	**209**	**474**	**412**	**559**	**621**

TABLE 33: PMPB REGISTRATION AND RETENTION OF PRODUCTS

Medical Products	Application and Registration		Retention		Total	
	Planned	Actual for FY	Planned	Actual for FY	Planned	Actual for FY
Local	5	0	80	90	85	90
Foreign	300	130	2000	1244	2300	1374
TOTAL	305	130	2080	1334	2585	1464

Among the key achievements of the Council include (i) The ability to sustain operations without subvention for the second year running (ii) Completion of Phase 1 of the Laboratory Project (iii) Introduction of the registration of medical suppliers. The Council was, however, affected by the Board of Directors in October, 2014. Other challenges faced by the Council include delayed revision of the Act to combat illegal handling of medical products among other issues resulting in handling of medicines by some unqualified persons operating from unsuitable premises, unapproved medical-product donations getting to health facilities and inadequate infrastructure for Medicines Quality Control Laboratory and office accommodation.

6.5 Malawi Blood Transfusion Service

The Malawi Blood Transfusion Service (MBTS), established by the Government of Malawi through the Ministry of Health with initial funding from the European Union (EU), started operations in 2004. The overall objective of the MBTS is to provide safe and adequate supplies of blood and blood products to authorized health facilities and hence reduce the incidence of HIV, and other diseases, transmissible by blood transfusion in the Malawi population. The MBTS receives funding from the Ministry of Health (MoH), the Centers for Disease Control and Prevention (CDC), the National AIDS Commission (NAC) and from the cost recovery program.

In the Fiscal Year under review, safe blood supplies improved to 80,000 per annum meeting the target of 90% of the blood and blood product needs of the 4 Central Hospitals and 70% of the needs of the major district and mission hospitals. Additionally, quality systems were put in place in all departments in preparation for MBTS being accredited. Table … below summarizes the results achieved over the Fiscal Year. It shows that this year's performance is not much different to that for the last financial year.

TABLE 34: END YEAR RESULTS FOR MBTS

Indicator	Annual Target	End-Year achieve-ment	Comments
Number of safe units of blood and blood products supplied to hospitals	80,000	65,224	82% of annual target achieved. This is the MBTS major outcome indicator. This level of blood supplies is 2% less than last financial year's blood supplies.
Number of whole blood units collected and tested for all 5 infections in a quality assured manner	80,000	50,311	63% of target achieved. This is 1% less than last financial year's blood collections.
Number of new blood donors recruited	18,000	27,096	153% of target achieved. More than expected number of first time blood donors donated blood in this year. MBTS has currently acquired software called e-Delphin to manage blood donors.
Number of repeat blood donors retained	30,000	29,531	98% of the target achieved
MBTS passes accreditation to AfSBT level II standards	Accredited	Not accredited	MBTS did not subject itself to a repeat assessment as it had failed to close off all outstanding non-conformances due to funding challenges.

In terms of income and expenditure, a total of K1.538 billion (K252 million indirect receipts) was received during the year under review representing 80% of the total budget of K1.930 billion. A total of K1.527 billion (K252 direct payments) was expended during this year. There was smooth disbursement of funds by CDC. In addition, the MBTS also received all the budgeted funds from NAC despite erratic disbursements. However, no sub-vention was received from Ministry of Health (MOH) for the year but invoices for cost recovery were settled on time except for the K241.7 million that is more than a year old. This was referred to the National Audit Office for assessment before it can be paid. That

assessment has not been carried out such that this payment is still outstanding.

6.6 Medical Council of Malawi

Medical Council of Malawi is a non-profit making statutory body established by the Medical Practitioners and Dentists Act No. 17 of 1987 to set and maintain standards of health care in relation to premises, equipment and supplies as well as the qualifications and credentials of personnel employed at health establishments including their behavior and conduct towards patients and clients. The main objectives of the Council include: (i) Assist in the promotion and improvement of the health of the population of Malawi (ii) Control and exercise authority effecting 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 (iii) Exercise disciplinary control over the professional conduct of all persons registered under the Medical Practitioners and Dentists Act and practicing in Malawi (iv) Promote liaison in the field of medical training both in Malawi and elsewhere, and to promote the standards of such training in Malawi (v) Communicate to the Minister of Health any information acquired by the Council relating to matters of public health. The Council achieves its overall objective through vetting of training curricula, inspection and licensure of premises (both training and service), monitoring practice standards of all registrable cadres (see table 1 below) and approve of institutions in Malawi for the training of medical and related personnel.

TABLE 35: PROGRESS AGAINST KEY INDICATORS

PLANNED ACTIVITIES	PLANNED BY JUNE 2015	ACHIEVED BY JUNE 2015	% OF ACHIEVEMENT
INSPECTION OF HEALTH FACILITIES			
• CHAM	175	9	5.1
• GOVERNMENT(include MDF/POLICE/PRISONS)	465	55	12.6
• PRIVATE(includes NGOs/companies/private for profit)	344	55	16
ANNUAL REGISTRATION RENEWAL OF PRACTITIONERS			
• ANAESTHETIC CLINICAL THERAPISTS	143	90	62.9
• ANAESTHETIC NURSE THERAPISTS	19	9	47.4
• ASSISTANT ENVIRONMENTAL HEALTH OFFICERS	84	21	25
• ENVIRONMENTAL HEALTH OFFICERS	307	81	26.4
• HEALTH ASSISTANTS	242	7	2.9
• AUDIOLOGISTS	8	3	37.5
• AUDIOLOGY TECHNICIANS	8	2	25
• CLINICAL PSYCHOLOGISTS	8	2	25
• CLINICAL COUNSELLORS	2	2	100
• CLINICAL NUTRITIONISTS	8	3	37.5
• GENERAL CLINICAL OFFICERS	1819	812	44.6
• ENT CLINICAL OFFICERS	13	8	61.5
• OPTHALMIC CLINICAL OFFICERS	54	28	51.9
• PSYCHIATRIC CLINICAL OFFICERS	35	21	60
• COMMUNITY ORAL HEALTH EDUCATORS	4	0	0
• DENTAL TECHNOLOGISTS	3	3	100
• DENTAL THERAPISTS	224	66	29.5
• DENTISTS	131	14	10.7
• DERMATO- VENEREOLOGY OFFICERS	9	4	44.4
• DIETICIANS	5	1	20
• LABORATORY ASSISTANTS	313	58	18.5
• LABORATORY TECHNICIANS	749	300	40.1
• MEDICAL LABORATORY TECHNOLOGISTS	257	125	48.6
• MEDICAL ASSISTANTS	2481	578	23.3
• MEDICAL PRACTITIONERS	2080	234	11.25
• OCCUPATIONAL THERAPISTS	41	3	7.3
• OPTICIANS	26	8	30.8
• OPTOMETRY TECHNICIANS	15	15	100

PLANNED ACTIVITIES	PLANNED BY JUNE 2015	ACHIEVED BY JUNE 2015	% OF ACHIEVEMENT
• OPTOMETRISTS	30	10	33.3
• ORTHOPAEDIC CLINICAL THERAPISTS • ORTHOPAEDIC TECHNICIANS • ORTHOPAEDIC TECHNOLOGISTS	101 14 5	61 2 2	60.4 14.3 40
• PHYSIOTHERAPISTS • REHABILITATION ASSISTANTS • REHABILITATION TECHNICIANS	137 4 77	15 1 33	11 25 42.9
• RADIOGRAPHERS • RADIOGRAPHY ASSISTANTS • RADIOGRAPHY TECHNICIANS	48 3 213	12 2 78	25 66.6 36.6
• SPECIALISTS • SPEECH THERAPISTS	617 5	102 0	16.5 0
INVESTIGATION OF REPORTED CASES		22	100
Accreditation of: Malamulo SDA Hosp, Mzuzu and Zomba CHs as UTH Neno Hospital as a District hospital	4	4	100
Closure of reported illegal clinics		11	100
Sensitization meetings in the 4 regions of the country with DCs, community leaders and police officers on illegal clinics and practitioners	4	1	25
Vetting of curricula from training institutions	4	4	100

TABLE 36: NEW REGISTRANTS FOR THE FISCAL YEAR 2014/15

CADRE	REGISTERED BY JUNE 2015	ACHIEVED BY JUNE 2015	% OF ACHIEVEMENT
INTERNS • GENERAL CLINICAL OFFICERS • DENTAL THERAPISTS • MEDICAL ASSISTANTS • MEDICAL PRACTITIONERS • OPTOMETRY TECHNICIANS • OPTOMETRISTS • PHYSIOTHERAPISTS	 184 34 228 155 4 1 17	 184 34 228 155 4 1 17	 100 100 100 100 100 100 100

REGISTERED PRACTITIONERS			
• ANAESTHETIC CLINICAL THERAPISTS	10	10	100
• ANAESTHETIC NURSE THERAPISTS	11	11	100
• CLINICAL OFFICERS GENERAL	107	107	100
• DENTAL THERAPISTS	18	18	100
• DENTISTS	5	5	100
• LABORATORY ASSISTANTS	47	47	100
• LABORATORY TECHNICIANS	84	84	100
• MEDICAL ASSISTANTS	109	109	100
• MEDICAL LABORATORY TECHNOLOGISTS	60	60	100
• MEDICAL PRACTITIONERS	99	99	100
• OPTOMETRISTS	8	8	100
• ORTHOPAEDIC CLINICAL THERAPISTS	11	11	100
• ORTHOPAEDIC TECHNICIANS	4	4	100
• ORTHOPAEDIC TECHNOLOGISTS	4	4	100
• PHYSIOTHERAPISTS	5	5	100
• REHABILITATION TECHNICIANS	14	14	100
• SPECIALISTS	42	42	100
• WHEEL CHAIR TECHNICIANS	2	2	100

The challenges facing the Council include old fleet of field vehicles (2 and are more than ten years old) and human resource shortage (only 2 inspectors against a population of 984 health facilities to be inspected at least once in a fiscal year). Additionally, erratic and inadequate funding compounded by a high default rate from registrable cadres is another challenge. In order to address some of the challenges highlighted above, Council has embarked on a diversified revenue collection approach by deducting at source all errant /defaulting practitioners, with effect from the current fiscal year. Further, Council is engaging potential

investors (Investment Banks and estate brokers) to assist it construct an 8-storey office complex at its City Centre plot for eventual leasing out. The other area of reform is the reviewing of the legal framework (The Medical Practitioners and Dentists ACT, 1987) in order to protect the public from unsafe and illegal practitioners. Also to mete out stiffer penalties to would be offenders as a deterrent from engaging in blatant malpractices.