

# Evaluation of Malawi's Emergency Human Resources Programme



## EHRP Final Report

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## Acronyms

ART	Antiretroviral Therapy
BASICS	Basic Support for Institutionalising Child Survival
CEA	Cost Effectiveness Analysis
CHAM	Christian Health Association of Malawi
COM	College of Medicine
DFID	Department for International Development
DHRMD	Department of Human Resource Management and Development
EHP	Essential Health Package
EHRP	Emergency Human Resource Programme
ETP	Emergency Training Plan
FP/RH	Family Planning/Reproductive Health
GDC	German Development Corporation
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOM	Government of Malawi
GTZ	Gesellschaft für Technische Zusammenarbeit
HMIS	Health Management Information System
HR	Human Resources
HRH	Human Resources for Health
HRM	Human Resource Management
HRMIS	Human Resources Management Information System
HRTWG	Human Resources Technical Working Group
HSA	Health Surveillance Assistant
HSSP	Health Sector Strategic Plan
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
KCN	Kamuzu College of Nursing
LATH	Liverpool Associates of Tropical Health
MCHS	Malawi College of Health Sciences
MEJN	Malawi Economic Justice Network
MICS	Multiple Indicator Cluster Survey
MNH	Maternal and Newborn Health
MOE	Ministry of Education
MOF	Ministry of Finance
MOH	Ministry of Health
MSC	Management Solutions Consulting (MW) Limited
MSH	Management Sciences for Health
NAC	National AIDS Commission
NGO	Non Governmental Organization
NHA	National Health Accounts
NORAD	Norwegian Agency for Development Cooperation
OVC	Orphans and Vulnerable Children

PLWHA	People Living with HIV/AIDS
PMTCT	Prevention of mother to child transmission of HIV
POW	Programme of Work
SLA	Service Level Agreement
SOW	Scope of Work
SWAp	Malawi Health Sector Wide Approach
TA	Technical Assistance
TB	Tuberculosis
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNV	United Nations Volunteer
USAID	U.S. Agency for International Development
VCT	Voluntary Counselling and Testing
VSO	Voluntary Services Organization

## Executive Summary

### Introduction

In August 2009, the Government of Malawi, with technical and financial assistance from DFID, contracted Management Sciences for Health and Management Solutions Consulting (MSH/MSC) to undertake an independent evaluation of the Six-year Emergency Human Resource Programme (EHRP). The EHRP was designed primarily to address the health crisis in Malawi that was largely caused by the acute shortage of professional workers in the public health sector. This intervention was implemented by the government with technical and financial assistance from the cooperating partners. Central to this commitment was the need to improve staffing levels and increase the production of health workers through a coherent package of financial incentives and investments in local health training institutions.

The EHRP is one of six pillars of the Malawi Programme of Work and is administered by the MOH through a sector-wide approach, SWAp. The SWAp in Malawi is highly effective because of its high level of collaboration across all stakeholders. The EHRP, or Pillar 1, is monitored by a Technical Working Group drawn from the SWAp.

The core objective of this evaluation was to assist the Government of Malawi and its partner, the Christian Health Association of Malawi (CHAM) assess the implementation progress of the EHRP and take stock of its achievements against planned targets. The evaluation was also aimed at assessing the impact of the EHRP on health service utilization and the costs of the programme. Specifically, it was centred on the five core interventions – known in the EHRP as elements – that government and its cooperating partners had introduced under the EHRP. These include:

<b>Element 1</b>	Improving incentives for recruitment and retention of Malawian staff in government and mission hospitals through a 52% taxed salary top-up for 11 professional cadres, coupled with a major initiative for recruitment and re-engagement of qualified Malawian staff
<b>Element 2</b>	Expanding domestic training capacity by over 50% overall, including doubling the number of nurses and tripling the number of doctors and clinical officers in training
<b>Element 3</b>	Using international volunteer doctors and nurse tutors as a stop-gap measure to fill critical posts while more Malawians are being trained
<b>Element 4</b>	Providing international technical assistance to bolster capacity and build skills within the Ministry of Health's human resources planning, management and development functions
<b>Element 5</b>	Establishing more robust monitoring and evaluation capacity for human resources in the health sector, nested within existing health management information systems, which are being strengthened to support implementation of the Essential Health Package

Based on the analysis of the data, the evaluation team has documented results and lessons learnt from the programme, and made evidence-based recommendations for strengthening Human Resources for Health (HRH) systems and practices in Malawi's public health sector.

## **TECHNICAL APPROACH AND METHODOLOGY**

In order to address the project objectives in the most comprehensive, cohesive and consistent manner, the consultants adopted a multi-pronged consultative and client-focused process that was led by an EHRP Human Resource Task Force and chaired by the Ministry of Health with representatives from various units in the health sector.

The evaluation included a combination of traditional research methods and other field tested approaches to gather data. A variety of tools were employed during the data gathering process. For quantitative data, primary source data was gathered from the MOH and pre-services training institutions, reports and desk reviews. Qualitative data was collected through focus group discussions and key informant interviews using a set of well structured research questions derived from an Evaluation Framework designed by the consultants. Additional qualitative data was gathered through an HRM survey of district level managers, each of whom reportedly had significant responsibilities for HRM in MoH, to identify competency gaps in HRM. Analysis of the data was conducted in collaboration with the HR Taskforce.

## **KEY FINDINGS, COST AND IMPACT**

Overall, the findings of this evaluation indicate that the EHRP successfully accomplished its primary goal, to increase the number of professional health workers in Ministry of Health and CHAM institutions. Across the 11 priority cadres, the total number of professional health workers increased by 53%, from 5,453 in 2004 to 8,369 in 2009. However, only 4 of the 11 cadres met or exceeded their targets, as set out in the original EHRP design document. A hardship incentive package that was included as part of the financial incentives was not implemented.

Total graduates from Malawi's four main training institutions – the Christian Health Association of Malawi, Malawi College of Health Sciences, Kamuzu College of Nursing, and the College of Medicine – showed an overall increase of 39%, from 917 in 2004 to 1,277 in 2009. Physicians from the College of Medicine increased by 72%, from 18 graduates in 2004 to 31 graduates in 2009. Nurses increased by 22%, from 575 graduates in 2004 to 699 graduates in 2009.

A summary of all components of the EHRP is outlined on the following page.

### *Summary of Inputs, Outputs, Outcomes, and Impact of EHRP*

ELEMENTS	INPUTS (USD)	OUTPUTS	OUTCOMES	IMPACT	LIVES SAVED
1a. Incentive payments	34.1 million	8,369 health workers at MOH and CHAM facilities by 2009  10,507 HSAs in community by 2009	1.44 Health Workers per 1,000 population:  0.02 Physicians,  0.37 Nurses,	49% increase in OPD services  15% increase in safe deliveries  7% increase in ANC	6,433  265
1b. Recruitment	169,069	1,093 staff recruited	0.8 HSAs	10% increase in immunization	2,842
2a. Training - Student Fees	29.9 million	6,316 health workers trained	per 1,000 population	18% increase in PMTCT	3,647
2b. Training - Infrastructure	16.7 million				
3. International volunteers	6.4 million	552 person-years			
4. Technical assistance	1.5 million	HR Policies			
5. M&E system	112,529	N/A			

In addition to evaluating the inputs and outputs from each element, the five elements of the EHRP were costed using a bottom-up approach. For the purposes of this evaluation, direct costs are defined as those directly relating to the implementation of Elements 1-5 of the EHRP. This comes to a total of USD 95,587,010 for the period covering the calendar years 2004 to 2009.

Elements	Total
<b>ELEMENT 1</b>	34,267,841
<b>ELEMENT 2</b>	53,347,861
<b>ELEMENT 3</b>	6,378,803
<b>ELEMENT 4</b>	1,479,977
<b>ELEMENT 5</b>	112,529
<b>GRAND TOTAL</b>	95,587,010

The ultimate goal of increasing the health workforce is to improve a country's health status. Several studies have been undertaken in other countries linking health worker density to positive health outcomes. At the outset of the EHRP in 2004, the total health

provider density, including HSAs, was 0.87 per 1,000 population in the public sector (MOH and CHAM). This figure rose to 1.44 by 2009, representing a 66% increase. Over the same period of time, the total population of Malawi increased by 10%. Thus, health worker density increased beyond simply keeping pace with the population increase.<sup>1</sup>

The evaluation team selected six indicators against which to measure increases in utilization in priority health services: (1) antenatal visits; (2) deliveries by trained staff; (3) fully immunized children; (4) administration of Nevirapine for PMTCT; (5) total outpatient visits; and (6) ART registrations. All of these indicators showed an increase under the EHRP, four of which are analysed in terms of lives saved. Impact on health outcomes was analysed in this evaluation by assessing these changes in service delivery, and thereby health outcomes, from the baseline year of the EHRP to 2009, with the assumption that the increased staff played a significant role in these health outcomes. The evaluation selected four indicators to analyze using Lives Saved Tool (LiST) and the result is 13,187 additional lives saved due to increased coverage of these indicators.

## **RECOMMENDATIONS**

The evidence shows that Malawi has moved beyond the emergency stage with regards to staffing and the production of health workers, but the gains are fragile due to the lack of a plan for sustainability, weak health systems, population growth and a continuing high burden of disease. For these reasons, the recommendations in this evaluation reflect a transition stage from emergency to sustained growth. The following illustrate some of the key recommendations:

1. Conduct an analysis of the cadres most needed to achieve the Millennium Development Goals and implement the Essential Health Package and set targets for these over the next five years.
2. Develop a plan to institutionalize a new pay structure for the Ministry of Health that will sustain the 52% top-ups.
3. Expedite the implementation of a hardship incentive package to attract health workers to the hardship areas.
4. Convene a high level committee of the Ministry of Health, Ministry of Education, Ministry of Finance, pre-service training institutions and donors to balance the costs of health training and student fees going forward.
5. Implement a staff development strategy with a focus on capacity building and management for all beneficiary training institutions
6. Review the need for medical specialists and target these in the UNV program
7. Establish the role of HRM&D at a higher level in the MOH and staff it with a core of experienced HR managers.

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<sup>1</sup> Health worker density is based on the ratio of staff to population; as population grows, the number of staff must increase proportionally to maintain the same density. If the density in Malawi were the same in 2004 and 2009 this would still represent an increase in the absolute number of health workers, because population increased by 10%. Thus, the 37% increase in health worker density represents a true increase above maintaining the same ratio of staff to population.

8. Balance the production of traditional cadres such as nurses, doctors with the need for other skilled cadres, such as pharmacists, lab technicians.
9. The MOH and the MOE should work together to keep student costs in line with expected salaries given that the production of additional health workers is a core element in the HR strategy.
10. Streamline the roles of the HRM&D Division, MOH; DHRM&D, Office of the President Council (OPC); the Health Service Commission; the Treasury and the MOF for maximum efficiency in the whole personnel process from entry to exit.
11. Establish a tracking system to monitor progress on HR Programme of Work,
12. In collaboration with local partners and training institutions, initiate an in-service program to strengthen leadership and management at all levels of the MOH and CHAM.

## **LESSONS LEARNT**

The EHRP Evaluation has revealed a number of valuable lessons for Malawi and other countries. Some examples of these include the following:

1. Government commitment to taking direct action is essential.
2. Successful implementation of a comprehensive HR plan needs the collaboration and commitment of a multi-sector group.
3. The implementation of short-term emergency interventions and longer-term interventions combine well for success, but short-term measures by themselves will not produce lasting impact.
4. Donor willingness to support the 52% salary top-ups and the Government of Malawi's willingness to allow the different pay scales was a key success factor.
5. A long time horizon is necessary to see improvements.
6. Planning for sustainability must be considered from the beginning.
7. The successful implementation of HR plans must be grounded in professionally designed organizational systems and institutional arrangements. Similarly, success depends on sound leadership and having a team of suitably qualified and experienced HR practitioners in place.
8. An integrated and well functioning Human Resource Management system (recruitment, deployment, transfer, promotion, performance management) is the foundation on which to base implementation of an HR strategy.
9. Accelerating the production of traditional cadres, i.e., physicians, nurses, may not meet all the needs of a government's health plan or be the most cost effective. In the case of Malawi, the focus on the implementation of the Essential Health Plan calls for skills of other cadres, i.e., HSAs, pharmacists, lab technicians.
10. Clear and regular communication to all stakeholders, including students in pre-service training and people already employed in the health workforce, about the goals and expectations of the HRH plan is critical in order to avoid confusion and/or backsliding that could result from any changes in policy, especially those involving compensation or the payment of student fees.

## CONCLUSION

The evidence shows that Malawi has moved beyond the emergency stage with regards to staffing and the production of health workers. Sizeable gains (increases of more than 50%) have been made in the number of staff now in the workforce and the number of enrolled students in the health training colleges. This is to be highly commended. Malawi is currently at the level of Tanzania in terms of staffing ratios of physicians and nurses to population, thus achieving one of the original goals of the EHRP.<sup>2</sup>

At the same time, these gains are fragile and Malawi is also vulnerable due to high population growth and a continuing high burden of disease. For these reasons, the next Programme of Work should be considered a transition phase, moving from the emergency phase to a fully staffed health system through a development phase that emphasizes strategic planning, systems strengthening, performance management and sustainable funding for financial incentives.

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<sup>2</sup> Source: WHO World Health Atlas; Malawi 2009 figures based on primary data from MOH and CHAM vacancy analyses; Tanzania 2009 figures from: The health worker shortage in Africa: are enough physicians and nurses being trained? Yohannes Kinfu, Mario R Dal Poz, Hugo Mercer & David B Evans Volume 87, Number 3, March 2009, 225-230. Note Tanzania figures decreased from 2004 to 2009.

## Background

In April 2004, Malawi's Ministry of Health described the country's human resources situation as 'near collapse,' as low levels of health workers were overwhelmed by the demand for services resulting from population growth and high levels of HIV/AIDS, along with the advent of globalization which was fuelling the migration of nurses and doctors out of the country.<sup>3</sup> The ratios of doctors and nurses to population in Malawi were lower than those of its neighbouring Sub-Saharan African countries (see Table 1, page 4).<sup>4</sup> At its core, the reasons for chronic shortages in the country stemmed from an inability to plan for and invest in the production and retention of adequate numbers of health workers in the public sector. The public sector in Malawi, which is the focus of this evaluation, includes the Ministry of Health, providing 60% of the health services and the Christian Health Association of Malawi (CHAM) providing 40% of the health services.

Six years ago, Malawi's only medical school graduated 20 doctors a year, half of whom did not enter the government health sector. With an establishment of 8,963 nursing posts in the public sector, 4,934 (55%) were vacant.<sup>5</sup> The rate of training could not keep pace with the need. Low salaries, demanding workloads, difficult working conditions and a lack of supplies and equipment all contributed to the crisis. Malawi's health indicators were rapidly deteriorating: in 2004, the maternal mortality rate was 984 deaths per 100,000 live births; infant mortality rate was 76 per 1,000 live births; under-5 mortality was 133 per 1,000; and there was a 12% prevalence of HIV/AIDS in adults.<sup>6</sup> As a comparison, the average for Sub-Saharan African countries for the same period was a maternal mortality rate of 940 deaths per 100,000 live births; infant mortality rate of 102 per 1,000 live births; under-5 mortality of 171 per 1,000; and 7.5% prevalence of HIV/AIDS in adults.<sup>7</sup>

A visit to Malawi in 2004 from Peter Piot, then the Executive Director of UNAIDS, and Suma Chakrabarti, then the Permanent Secretary of DFID, highlighted the crisis, suggesting that the current state of the health system was a key constraint to an effective response to HIV/AIDS, ART roll-out, and, more broadly, health sector reform.<sup>8</sup>

In response, the government, which was committed to greater transparency, fiscal management and collaborative donor engagement, decided to implement an Essential Health Package, including a major scale-up of HIV/AIDS services. Central to this commitment was the need to improve staffing levels. With the assistance of donors, the Government of Malawi developed an Emergency Human Resource Programme (EHRP),

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<sup>3</sup> Ministry of Health, Republic of Malawi: Human Resources in the Health Sector: Towards a Solution. Blantyre 2004.

<sup>4</sup> WHO Global Health Atlas – An Interactive World Map. <http://atlas.globalhealth.org/>

<sup>5</sup> Palmer, Debbie. Tackling Malawi's Human Resources Crisis. *Reproductive Health Matters*, Vol. 14, No. 27, 2006.

<sup>6</sup> Malawi Demographic and Health Survey, 2004. National Statistical Office, Zomba, Malawi; ORC Macro, Calverton, MA; December 2005.

<sup>7</sup> UNICEF Statistical Summary for Sub-Saharan Africa, accessible at [http://www.unicef.org/sowc06/pdfs/regional\\_stat\\_sum\\_s21\\_ssa.pdf](http://www.unicef.org/sowc06/pdfs/regional_stat_sum_s21_ssa.pdf)

<sup>8</sup> Palmer, Debbie. Tackling Malawi's Human Resources Crisis. *Reproductive Health Matters*, Vol. 14, No. 27, 2006.

which had a primary focus on increasing staffing levels through financial incentives and a massive scale-up of pre-service training.

The EHRP was, and is, unique in its scope and innovation. A study of five countries (Cameroon, Indonesia, Malawi, Rwanda and Tanzania) in the area of human resources indicated that Malawi was the only one to have initiated relatively extensive sets of incentive schemes to retain health workers both in the public and private sector.<sup>9</sup> (The EHRP and, as a result, this evaluation, focus only on Malawi's public sector health services). The study also found that, while attention to the HR crisis is increasing, there is still a focus on single initiatives. Another study of interventions in Sub-Saharan Africa, ranging from non-financial incentives to bonding schemes, but with none as comprehensive as those undertaken in Malawi, showed mixed results.<sup>10</sup>

In examining the current state of the global health workforce, it is clear that the EHRP is unique not only in its scope and innovation, but also in the level of funding and support it has received from donors. A 2009 tracking survey by the Global Health Workforce Alliance (GHWA) conducted desk research on 57 countries identified as being in 'crisis' because of shortages of health staff. The survey tracked progress on a set of indicators tied to the Kampala Declaration adopted in March 2008 at the first Global Forum on HRH held in Kampala, as well as the Agenda for Global Action. Progress has been made. Overall, 55 countries have at least an HRH plan, an HRH unit, and stakeholder involvement and many of these (31) have donor commitment for at least one part of their plan.<sup>11</sup>

In their 2008 Declaration, the G8 recognized the importance of the Kampala documents and pledged to support efforts to address the chronic shortages of health staff. Donor commitments from the UK, the US and Japan to train new health workers have put this response into practice. Several countries have made great strides in training new health workers, especially midwives and community level staff, including Afghanistan, Ethiopia, and Southern Sudan. A few countries, including Ghana and Nigeria, have pledged to increase salaries, while other countries are working to improve the availability of data to inform their HRH policies.

To address the challenge of providing access to health services in the rural areas, WHO recently completed a year-long initiative to gather evidence on practices that work to attract and keep staff in these areas. Their report: "Increasing Access to Health Workers in Remote and Rural Areas through Improved Retention" provides expert guidance to countries as they tackle this pressing challenge.<sup>12</sup> Countries will also get support from a recent accord adopted by Health Ministers to avoid recruiting doctors and nurses from poor countries where there is an acute shortage of medical staff. This voluntary code of practice for WHO member

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<sup>9</sup> A cross-country review of strategies of the German Development Cooperation to strengthen human resources. Windisch et al. 2008.

<sup>10</sup> Maximising Human Resource Capacity in Rural District Health Systems in Malawi: August 2008. Eilish McAuliffe, Ogenna Manafa, Cam Bowie, Fresier Maseko, Malcolm MacLachlan and Charles Normand

<sup>11</sup> Baseline Report of Tracking Survey (Kampala Declaration and Agenda for Global Action) and Preparing for the 2<sup>nd</sup> Global Forum).

<sup>12</sup> "Increasing Access to Health Workers in Remote and Rural Areas through Improved Retention: Global Recommendations" WHO, Accepted for Publication.

states, under negotiation since 2004, provides hope that low-income countries, like Malawi, will not lose precious resources after investing in their training.

Against this backdrop, Malawi's EHRP was ahead of its time.<sup>13</sup> Designed in 2004 and implemented in 2005, the EHRP not only meets most of the dimensions of the Kampala Declaration, but it has had sustained donor support for close to six years. The importance of sustained funding cannot be underestimated when addressing the magnitude of the HRH crisis because of the time horizon needed to train health workers and reform policy systems.

The three main sources of funding to the EHRP are the Government of Malawi, DFID, and the Global Fund to Fight AIDS, TB and Malaria (Global Fund); other additional donors include the World Bank, the Norwegian Agency for Development Cooperation (NORAD), the German Development Cooperation (GDC), UNFPA, and UNICEF. The EHRP forms the first pillar of Malawi's six-year Programme of Work (POW). The remaining five pillars of the POW are: pharmaceutical and medical supplies, essential basic equipment and infrastructure development, routine operations at the facility level, and central operations, policy and systems development. The POW is administered by the MOH with support from a network of donors, ministries and other stakeholders and is implemented through a Sector Wide Approach (SWAp). The SWAp in Malawi is considered to be a highly effective mechanism because of its high level of collaboration across the various departments within the health sector. Progress on Pillar 1, Human Resources, is monitored by the HR Technical Working Group.

At its inception, the EHRP set a target to increase Malawi's health workers to the level of staffing ratios in Tanzania (see Table 1 below).<sup>14</sup> In 2004, Tanzania had doctor and nurse to population ratios of 2.3 and 36.6, respectively. Malawi at the time had 1.1 doctors and 25.5 nurses per 100,000 population.

**Table 1: Staffing Levels per 100,000 Population in 2004<sup>15</sup>**

Cadre	South Africa	Botswana	Ghana	Zambia	Tanzania	Malawi
Physicians	69.2	28.7	9.0	6.9	2.3	1.1
Nurses	388	241	64	113	36.6	25.5

From the beginning, the EHRP was seen as an 'emergency response,' but there was strong consensus that its ultimate success would depend upon other factors to sustain it, including stronger institutional capacity and human resource management systems. Now, six years later, the Government of Malawi, supported by DFID, has called for an evaluation of the EHRP and, as the MOH prepares for the next five-year POW, the issue of sustainability is at the forefront once again.

<sup>13</sup> Martin-Staple, Anne. Six-Year Human Resource Relief Programme: Retention, Deployment and Recruitment, June 2004.

<sup>14</sup> Please note that staff to population ratios are used as rough illustrative comparisons and may be subject to variations in numerators and denominators (i.e., the definition of what cadres comprise a nurse).

<sup>15</sup> WHO Global Health Atlas – An Interactive World Map. <http://atlas.globalhealth.org/>

## The Emergency Human Resources Programme

The Emergency Human Resources Programme (EHRP), developed in 2004, is a six-year comprehensive strategy to address the staffing crisis in the Malawi health sector. It was intended to stop the flow of health workers out of the country and increase production internally. As such, it focused on financial and non-financial incentives (including salary top-ups), expanded pre-service education, the use of international volunteers, technical assistance to improve management, and a more robust monitoring and evaluation system. It was intended that this programme would give the government time to address the root cause of the HR crisis which was seen as an underlying lack of planning, management and support to health workforce. The five elements of the EHRP are outlined in Table 2 below.

**Table 2: Scope of the Five Elements**<sup>16</sup>

<b>Element 1</b>	Improving incentives for recruitment and retention of Malawian staff in government and mission hospitals through a 52% taxed salary top-up for 11 professional cadres, coupled with a major initiative for recruitment and re-engagement of qualified Malawian staff
<b>Element 2</b>	Expanding domestic training capacity by over 50% overall, including doubling the number of nurses and tripling the number of doctors and clinical officers in training
<b>Element 3</b>	Using international volunteer doctors and nurse tutors as a stop-gap measure to fill critical posts while more Malawians are being trained
<b>Element 4</b>	Providing international technical assistance to bolster capacity and build skills within the Ministry of Health's human resources planning, management and development functions
<b>Element 5</b>	Establishing more robust monitoring and evaluation capacity for human resources in the health sector, nested within existing health management information systems, which are being strengthened to support implementation of the Essential Health Package

### Goals of the EHRP

The overarching goal of the EHRP, as stated previously, was to address the staffing crisis in Malawi and bring the country's staffing levels up to a level comparable to that of Tanzania. Individual goals and targets were set for each of the five elements of the EHRP as follows.

Interventions proposed under Element 1 included salary top-ups and strategies for recruitment and retention. Through these components, numbers of health workers were expected to increase significantly by 2010. Individual targets were set on a yearly basis,

<sup>16</sup> Palmer, Debbie (2006), based on: Department For International Development. Improving Health in Malawi: £100 million UK Aid (2005/6–2010/11). A Sector Wide Approach including Essential Health Package and Emergency Human Resources Programme. Programme Memorandum, November 2004. London, DFID, 2004.

by cadre, with an overall increase of from 6,047 health workers in 2004 health workers to 10,543 in 2010, representing a targeted 74% overall increase (Annex A).<sup>17</sup> The staffing targets were established by senior officials in the MOH in collaboration with a consultant health economist.

The eleven priority cadres of staff identified to receive the top-ups are: physicians, nurses (including midwives), clinical officers, medical assistants, laboratory technicians, radiography technicians, pharmacy technicians, dental therapists, physiotherapists, environmental health officers, and medical engineers. The 11 cadres were selected in discussion with the MOH, training schools and professional associations. These cadres were perceived to be the most under stress and necessary to deliver the Essential Health Package and roll out HIV/AIDS-related services.<sup>18</sup>

Recruitment galas were planned to identify and recruit graduates from training institutions, as well as to re-engage health workers that had left the public sector for a variety of reasons. In addition, a hardship package was proposed, in which health workers would receive additional incentives for accepting posts in remote hardship areas.

The purpose of Element 2 was to significantly increase the number of Malawian health workers in training, and to improve capacity at the major training institutions. This was to be accomplished by paying for student tuition fees at the institutions, and providing money for infrastructure development to allow for increased student capacity. The training institutions were expected to increase graduate output by 50%, including doubling the number of doctors and tripling the number of nurses and clinical officers. This general target was refined with a training costing model that detailed outputs by cadre, taking into consideration the current and projected capacity of the major training institutions (Annex B).<sup>19</sup> The model projected an increase in graduates from 842 in 2004 to 1,534 in 2010, representing an 82% increase. The four main training institutions are Malawi College of Health Sciences (MCHS), Kamuzu College of Nursing (KCN), College of Medicine (COM), and the CHAM institutes.

No specific targets were set for the number of volunteers for Element 3 in the EHRP design documents, although an approximate number of 90-100 was suggested.<sup>20</sup> The volunteers were suggested as a stop-gap measure, to fill emergency gaps while more Malawian doctors were being trained under Element 2; therefore, this element of the EHRP was not planned to be sustained indefinitely.

The goal of Element 4 was to increase capacity of the MOH in human resource management. Initially, the MOH planned to recruit three long-term technical assistants to

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<sup>17</sup> Martin-Staple, Anne. Six-Year Human Resource Relief Programme: Revisions and Year-One Implementation Plan. Short-term consultancy report, December 2004.

<sup>18</sup> Source: Debbie Palmer, personal communication, May 26, 2010

<sup>19</sup> Martin-Staple, Anne. Proposed 6-Year Human Resource Relief Programme for the Malawi Health Sector, Part II: Training and Tutor Incentive. June 2004.

<sup>20</sup> Presentation by Matt Gordon, "Malawi's Emergency Human Resources Programme: An Overview" made to DFID, 5 November 2008.

help implement the EHRP.<sup>21</sup> The main objectives of the TA were to support the development, implementation, and monitoring of the HR Management Development systems; facilitate capacity development; and spearhead the revival of the HR Planning Unit of the MOH.

The general purpose of Element 5 was to bolster the monitoring and evaluation capacity for human resources in the health sector. However, there was no concrete strategy detailing the specific goals for this element.

At the beginning of the EHRP, it was acknowledged that these five interventions would need to be supported by strengthened infrastructure, leadership and management capacity in order to sustain any potential gains that would be realized. Increasing the numbers of health workers and graduates from pre-service training institutions was the first step. For the longer-term benefit to the people of Malawi, however, these health workers will need to be supported in order to ensure their retention and their provision of quality services at a high level of performance.

The Final Report of the SWAp Design Team<sup>22</sup> acknowledged underlying issues of inequities in the terms and conditions of work for health staff, uncertainties about career opportunities, few and untrained managers, and inflexible and out-of-date organizational processes. It noted, furthermore, that “uncertainties about decentralization, the health services commission, and autonomous hospitals, combined with limitations of management and leadership in the health sector inhibit the prospect of a rapid move to a managed process of service and staff development.” These are issues shared by many countries addressing the HRH crisis and remain challenges as Malawi moves forward.

## Introduction to the EHRP Evaluation

### Purpose of the Evaluation

The purpose of this evaluation, as defined by the Terms of Reference, is “to guide implementers and funders of the programme so that the EHRP can be improved . . . and, recognise the innovation at the heart of the Malawian response, to provide lessons for other countries in the design of similar responses as a public good.”<sup>23</sup>

In addition, the core objective of this evaluation is to assist the Government of Malawi in assessing the implementation progress of the EHRP and take stock of its achievements against planned targets. The evaluation is also aimed at assessing the impact of EHRP on

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<sup>21</sup> Department For International Development. Improving Health in Malawi: £100 million UK Aid (2005/6–2010/11). A Sector Wide Approach including Essential Health Package and Emergency Human Resources Programme. Programme Memorandum, November 2004. London, DFID, 2004.

<sup>22</sup> SWAp Design Team, “SWAps: Today, Tomorrow, Together”, Final Report, Government of Malawi, Ministry of Health, November, 2002.

<sup>23</sup> Terms of Reference for an Independent Evaluation of the Impact of Malawi’s Emergency Human Resources Programme.

health service utilization, and determining the cost of the programme to date.<sup>24</sup> Based on the outcome of the evaluation, the consultants are expected to document good practices and lessons learned from the programme and to make evidence-based recommendations for strengthening the EHRP going forward. The recommendations in this report will also serve as input as the Government of Malawi deliberates on its HR strategy for the next five-year Programme of Work.

This evaluation has been carried out by Management Sciences for Health (MSH), in partnership with Management Solutions Consulting, Ltd (MSC).

### **Organization of Report**

This report is organized into four main parts:

**Part I: *Evaluation of EHRP Implementation*:** This section of the report provides an analysis of the implementation of each Element of the EHRP, including the cost of each element.

**Part II: *Cost, Sustainability, Impact, and Cost Effectiveness*:** This section provides an analysis of the costs presented in Part I, including the total direct cost, indirect costs, cost-effectiveness, sustainability, and impact of the EHRP. In addition, cost and staffing projections for three different scenarios are modelled.

**Part III: *Recommendations*:** This section provides recommendations on how the EHRP could have been improved technically and describes critical issues that will have an impact on future outcomes and sustainability.

**Part IV: *Lessons Learned*:** This section provides a summary of the lessons learned for Malawi and the global HR community.

## **Methodology**

In order to most effectively address the purpose of this evaluation, the research methodology for the evaluation was developed around three research themes:

- Has each element of the EHRP been delivered as planned?
- What was the direct cost of implementing each element?
- What has been the impact and subsequent indirect costs of the EHRP on health services?

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<sup>24</sup> Note: this Evaluation will present costs of the EHRP up to the end of calendar year 2009.

## Overall Approach

The MSH/MSH team developed a comprehensive evaluation framework to address each research theme (Annex C) as follows.

For Part I, Evaluation of EHRP Implementation, a set of research questions was developed for each element, and detailed methodologies for collecting both quantitative and qualitative data were developed. Primary sources were used to calculate costs and gauge the extent to which each element achieved its purpose. This data was supplemented by qualitative information in the form of focus group discussions and key informant interviews. Additionally, a Human Resource Management (HRM) Study, previously carried out in Ethiopia, Uganda, Kenya and Tanzania in partnership with AMREF, was replicated in Malawi to determine the extent to which Element 4 (Building HRM Capacity through technical assistance) achieved its purpose.<sup>25</sup>

For Part II, Cost, Sustainability, Impact and Cost Effectiveness, the impact of the EHRP as a whole was assessed using Health Management Information System (HMIS) data to determine changing levels of utilization of health services. The total costs of the EHRP were summarized, and an analysis of indirect costs was conducted, such as changing levels of the MOH's contribution to total health expenditure. The feasibility of conducting a cost-effectiveness analysis was also assessed.

In Part III, Recommendations, the MSH/MSH team conducted an analysis of the EHRP using the Human Resources for Health Action Framework<sup>26</sup> as a guide. The previous data and analysis from Parts I and II were incorporated into this analysis. In addition, input from health and education managers at all levels, and key informant interviews with decision makers informed the recommendations. Throughout the process, the MSH/MSH team reviewed the literature and many reports from other commentators and reviewers of the EHRP.

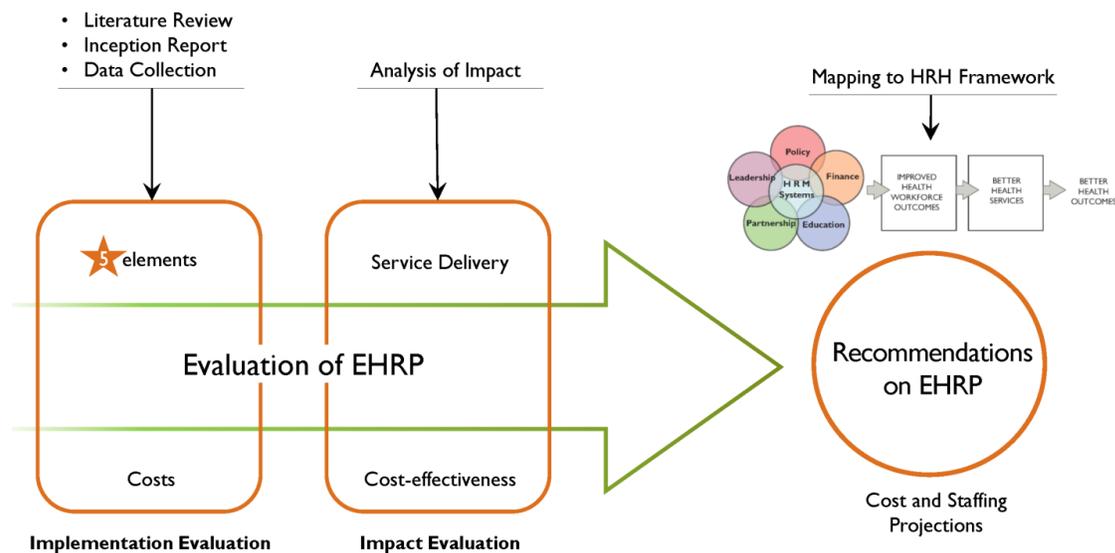
Figure 1 on the following page presents a visual framework of the research approach.

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<sup>25</sup> MSH/AMREF: "Competency Gaps in Human Resource Management in the Health Sector, An Exploratory Study of Ethiopia, Kenya, Tanzania, and Uganda", Final Report, Management Sciences for Health, July, 2009

<sup>26</sup> Human Resources for Health Action Framework, Global Health Workforce Alliance

**Figure 1: Research Evaluation Conceptual Framework**



### Role of the MOH and the HR Task Force

Throughout the evaluation process, the MSH/MSC team worked closely with the MOH through the HR Technical Working Group of the SWAp. A small subset of the HR Technical Working Group members volunteered to serve as an HR Task Force and was involved at every step of the evaluation process (Annex D). The task force’s role was to review each deliverable prepared for submission to DFID. In addition, the HR Task Force met with the MSH/MSC team several times to help analyze the findings and develop recommendations. These meetings were a very valuable step in the evaluation process, and the task force feedback and input has been incorporated into this evaluation.

### Detailed Methodology

#### Quantitative

The quantitative data presented in this evaluation was collected up to the end of calendar year 2009. The baseline for this evaluation is defined as the calendar year 2004. The initial version of the EHRP, “Human Resources in the Health Sector: Towards a Solution” was published by the MOH in April 2004. However, subsequent EHRP design documents were drafted in June and December of 2004.<sup>27</sup> In addition, the MOU between the GOM

<sup>27</sup> Reports prepared by Anne-Martin Staple as follows: “Proposed 6-Year Human Resource Relief Programme for the Malawi Health Sector: Retention, Deployment and Recruitment”, June 2004; “Proposed 6-Year Human Resource Relief Programme for the Malawi Health Sector, Part II: Training and Tutor Incentive,” June 2004; and “Six-Year Human Resource Relief Programme: Revisions and Year-One Implementation Plan,” December 2004. We consider these reports to be the primary EHRP design documents.

and the EHRP donors was signed in October 2004.<sup>28</sup> The EHRP did not begin implementation until 2005, and so the year 2004 has been established as the baseline.

Primary source data on numbers of professional health workers and salary expenditures were collected from the MOH and CHAM. The evaluation team collected total numbers of health workers from 2003 to 2009, with detailed breakdowns by number of established posts, filled posts, and the corresponding vacancy rates. The total numbers of health workers were also broken down by job title. Although vacancy analyses were accessed from the MOH and CHAM, data on health worker retention and attrition were not available. As a result, the evaluation team was unable to quantify the number of losses in the health sector due to deaths, illnesses, retirements, etc. Training enrolments and graduate outputs were obtained from the CHAM Secretariat, as well as from the individual training institutions of KCN, MCHS, and COM. Data on volunteers from the UN and VSO programmes were collected from the UNDP and the VSO Malawi offices, respectively. Information on TA and the M&E portions of the EHRP was collected from various sources, including the MOH, DFID, and reports submitted by the Technical Assistance providers.

Where possible, primary source data was triangulated using secondary sources of data, such as previously published reports and MOH documents.<sup>29</sup> For example, the 2007 Census of Health Workers in Malawi presented a comprehensive list of health workers, by cadre, but was only undertaken for a single year throughout the period of the EHRP. For a detailed list of primary data sources and other reports consulted, see Annex S.

### *Costing*

The EHRP was costed using a bottom-up methodology: individual components of each Element of the EHRP were identified and costed separately. These components were then added up to present a total cost. Due to limited availability of information, and in keeping within the boundaries of the scope of work, as defined by the Terms of Reference for this evaluation, the evaluation team identified key components of the EHRP which are addressed here. These key components are presented individually, by element, and also in the total costs of EHRP.

Primary source data on costs was collected where possible. The evaluation team collected data on total health workers salary expenditure for 2004-2009 by the MOH and CHAM, broken down by basic pay, top-ups, and other allowances. In addition, the MOH provided monthly payroll reports for 2005-2009 which included job titles, cadres, cost centres, and salaries; other details including age and gender were not provided. Salary structures, by grade, were collected for the same years to enable the tracking of changes in policy which would have an impact on top-up expenditure. In addition, monthly top-up reports from the

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<sup>28</sup> The Republic of Malawi Memorandum of Understanding Concerning the Health Sector Wide Approach in Malawi between the Government of Malawi and the Health Sector Collaborating Partners; October 29<sup>th</sup> 2004.

<sup>29</sup> See the Challenges and Limitations section of this evaluation for details regarding the validity and reliability of quantitative data collected.

MOH were obtained, giving a detailed break-down by cost centre of top-up spending on HSAs and all other cadres of MOH health workers. Costs of student fees and infrastructure were obtained from the various training institutions. Costs for the UNV programme were obtained from the UNDP. Costs for the TA and M&E Elements of the EHRP were obtained from various sources within the MOH and from DFID.

### *Cost and staffing projection tool*

A cost and staffing tool was developed on spreadsheets in Microsoft Excel.<sup>30</sup> The tool models the increase in the number of health workers and projects the funds needed to meet staffing targets input by the user. It requires input on assumptions including population growth, attrition rate, and rate of recruitment. The tool calculates the number of students, and the costs of student fees, needed to meet the target staffing numbers, and also the costs of salary top-ups for the numbers of health workers required to reach the target staffing. The tool will be made available to the MOH and DFID at the conclusion of this evaluation.

### *Qualitative*

While the MSH/MSC team made quantitative data its primary source of evidence in this evaluation, the team also felt it was essential to understand the perspectives of health workers. Their input has helped to add insight into how well the ERHP achieved its intended goals. Toward this end, the evaluation team designed focus group discussions, key informant interviews and an HRM survey, as described below.

**1. Focus Group Discussions.** Six topics were selected based on their relevance to the key objectives of the EHRP and target groups were identified (see Table 3, on the following page). Letters were sent to the identified District Health Offices and health facilities at the MOH and CHAM, as well as pre-service training institutions requesting that they select people in the identified target group, including a balance of male and female respondents.

A series of questions was developed for each topic (summarized in Table 3). Locations for the focus groups were chosen in collaboration with the EHRP Task Force members in an attempt to gather a representative sample of both rural and urban facilities and covering all five zones. Data was recorded by the MSH/MSC field team. The focus group responses were typed up and reported as detailed transcripts for each session in addition to a summary that highlighted major themes. Qualitative responses were then analyzed by both coding written responses in Excel and tagging the focus group transcripts using NVivo analytical software<sup>31</sup> to assess the frequency of responses to the various themes. The NVivo software allowed the research team to systematically arrange and sort responses from focus groups and interviews into key thematic areas to highlight the trends. Findings from the focus groups are reported in the commentary section under each Element. For the complete list of facilities where focus groups were conducted, see Annex E.

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<sup>30</sup> The use of Microsoft Excel requires a license from Microsoft Corporation. This tool is not a product of Microsoft Corporation and is not guaranteed by that company.

<sup>31</sup> NVivo qualitative data analysis software; QSR International Pty Ltd. Version 8, 2008

**Table 3. Focus Group Discussions**

Focus group topic	Target Group	Purpose
Financial incentives for new and returning staff	People who had re-entered or have remained (after retirement) in the government and/or CHAM health services.  <i>62 people participated</i>	To examine the impact of financial incentives on recruitment of new staff
Financial incentives for current staff	Sample of various cadres of health workers, from all zones, currently in the Government and/or CHAM health services  <i>77 people participated</i>	To examine the impact of financial incentives on retention of current staff
Expanded training capacity	Faculty and administrators at health training institutions  <i>15 people participated</i>	To examine how innovative programmes increased intake and output of students
Student perceptions of school fees, bonding and commitment to Malawi health sector	Students in their final year of school at health training institutions  <i>56 people participated</i>	To determine views on student fees, bonding and commitment to Malawi health sector
Role of international volunteers	International volunteers recruited by UNDP  <i>30 people participated</i>	To examine the impact of international volunteers in the short term
Overall impact of EHRP on health services	DHOs, Hospital Directors, Heads of Health Facilities at MOH and CHAM  <i>27 people participated</i>	To solicit information regarding the impact of the EHRP on staff retention, recruitment, vacancies, and utilization of health services

**2. Key Informant Interviews.** As some objectives of the EHRP did not lend themselves to traditional focus groups, the MSH/MSH team identified a number of key informants based on their relevance to several key objectives and their ability to take a long term view of the EHRP. A set of questions was developed for each topic and used to interview the key informants (see Table 4 on the following page). The interviews were recorded, transcribed and used to inform the analysis for frequency of response to the various themes. The findings from the key informant interviews are reported in the overall evaluation and recommendations section of this evaluation. For the complete list of informants, see Annex F.

**Table 4. Key Informant Interviews**

Key Informant Interview Topic	Target Group	Purpose
Impact of technical assistance in HRH to the MOH	MOH and CHAM counterparts, managers with responsibility for HR	To determine the benefits and challenges of having external consultants provide TA in HRH to the MOH
HMIS/HRMIS capacity	MOH managers in planning and data management at all levels	To determine the functionality of the current M&E system and where the systems needs most improvement
Cross cutting issues, i.e., overall performance of the EHRP, policy, sustainability, original design and financial implications	Senior managers in MOH, CHAM, MOF, MOE, HRM&D	To contribute to the overall analysis of the evaluation and resulting recommendations

**3. Human Resources Management (HRM) Survey.** Recognizing the importance of HRM in overcoming Malawi’s human resource crisis, the MSH/MSH team replicated a study of “Competency Gaps in HRM.” This study was previously carried out by MSH in 2009, in partnership with AMREF, in four countries (Ethiopia, Uganda, Kenya and Tanzania).<sup>32</sup> The study was designed to document the role and experience of managers with HRM responsibility at the district level, identify their challenges, identify additional skills and knowledge needed to meet these challenges, and solicit recommendations to strengthen HR management.

In Malawi, the survey was administered to a sample of 26 departmental managers with significant HR responsibility at the district level (defined as having at least one or more of the following responsibilities: HR planning and policy, benefits, deployment, training, supervision, recruitment and administration). Purposive sampling was used to select the district offices and hospitals to participate in the study. The HRM survey instrument was composed of three parts: (a) demographic information; (b) views on human resource management and preparation; and (c) human resource management assessment of the respondent’s own organization and respondents’ individual skill building needs. The survey contained close ended questions.

The completed surveys were mailed to MSH headquarters, where Microsoft Excel software was used to aid in analysis of the qualitative data, identify common themes, draw conclusions, and verify the quantitative data collected.

<sup>32</sup> MSH/AMREF: “Competency Gaps in Human Resource Management in the Health Sector, An Exploratory Study of Ethiopia, Kenya, Tanzania, and Uganda”, Final Report, Management Sciences for Health, July, 2009

## **Review process**

In addition to the critical role of the HR Task Force in monitoring this evaluation process, the final draft report, including the recommendations, was reviewed for its cohesiveness and integrity by three global HR experts external to Malawi.<sup>33</sup>

## **CHALLENGES AND LIMITATIONS**

### *Availability of data*

One of the main challenges and limitations encountered in the course of this evaluation was the limited availability of data, particularly related to the quantitative data collection process. The evaluation team received a high level of support and cooperation from the MOH and development partners, but in certain cases data was unavailable and/or had not been collected over the years. Finding accurate baseline data was particularly challenging. Ideally, the team would have had access to data for several years prior to the EHRP, to determine trends and better understand the programme's impact. This data would have included detailed staffing information, such as deployment by cadre to facilities across the country. This data, in addition to critical information on attrition, has not been tracked.

The lack of computerized data has also been a significant challenge. For example, detailed payroll information for CHAM could only be found in hard copy, so that individual records could not be accessed and only large aggregate figures were provided. Payroll information from the MOH could not be accessed prior to 2005 due to a change in the database system used, with no back-up of previous records. Certain information that was requested from the MOH was said to be available only on the computers of various consultants providing technical assistance, many of whom were no longer in Malawi. Annual progress and financial monitoring reports for SWAp were often not available electronically and there was no central filing system at the MOH for these reports.

In some cases, the evaluation team had to make certain assumptions with regards to the data. For example, the original EHRP plan had specified targets for '11 priority cadres' of health workers.<sup>34</sup> The staffing lists provided by the MOH and CHAM, however, were not organized into the 11 cadres but rather grouped by job title. For the purpose of this evaluation, each job title has been grouped into one of the 11 cadres (see Annex H).

### *Reliability and validity of data*

At times, the reliability and validity of data made available is called into question. For example, the SWAp Indicator Matrix, as defined in the POW and reported in the Annual SWAp reports, includes many statistics which are self-reported by districts. There is no routine system of data validation for these indicators. This includes the number of facilities capable of providing the EHP and meeting minimum staffing requirements.

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<sup>33</sup> The global HR experts are: Jim Campbell, Director, Integrare, Barcelona; Gilles Dussault, Professor Catedratico, Instituto de Higiene e Midecina Tropical, Universidade Nova de Lisboa, Lisboa; and Delanyo Dovlo, Technical Advisor, Health Policy, Development and Services, WHO, Geneva.

<sup>34</sup> Martin-Staple, Anne. Six-Year Human Resource Relief Programme: Revisions and Year-One Implementation Plan. Short-term consultancy report, December 2004.

The accuracy of the HMIS data, reported in annual HMIS bulletins, has not been verified. In some instances, certain indicators are reported as achieving over 100% coverage where this is not possible (for example, % of fully immunized children or % of HIV-positive mothers receiving Nevirapine for PMTCT). However, as no other service utilization data exists on a national scale, this evaluation uses the HMIS figures to evaluate the impact of EHRP.

The population figures for Malawi in 2009 are questionable and have been the source of some controversy. The latest census data available from the National Statistics Office is for 2008, and the population figures reported for 2009 in the HMIS bulletin show a significant decrease (over half a million people) from the previous year. At the writing of this evaluation, the population issue has not been resolved. Lack of accurate population data is a particular issue in comparing staff to population-based ratios. For this reason, the evaluation team intends comparisons of population-based ratios across different countries to be rough illustrative approximations.<sup>35</sup>

Finally, there are some cases in which data reported from different sources were contradictory or did not correspond. Monthly top-up reports were aggregated by district and included no detail on cadres of staff, and did not always correspond precisely to the staff 'vacancy analyses' provided, which included staff that were not receiving top-ups. Based on our assumptions described earlier and in Annex H, we have removed the staff that should not have received top-ups from the vacancy analyses provided by the MOH and CHAM.

#### *Scope of this evaluation*

The availability and reliability of data had an impact on the scope and level of analysis that could be performed for this evaluation. In the absence of attrition data collected by the MOH and CHAM, there is still no exact picture of how many staff were retained per year. The evaluation team compared the change in total numbers of health workers with the expected number of entrants into the public sector (training institution and recruitment gala outputs) to get an approximate idea of attrition.

Secondly, undertaking an analysis of cost-effectiveness of the EHRP was limited by the lack of a control for comparison. The salary top-ups were rolled out simultaneously on a national scale, across all districts, so no in-country controls are available. The unique nature of this programme does not allow for direct comparison with interventions from other countries. Undertaking an analysis of impact of the EHRP has been limited by the availability of outcome data that is typically reported in household surveys such as the Demographic and Health Survey, the latest of which was published in 2004. The next DHS for Malawi will not be available until 2011.

Finally, the scope of the evaluation does not include an assessment of quality and productivity of health workers. The goal of the EHRP was to improve the numbers of health workers available in Malawi, and therefore we have focused on the quantitative outputs of this programme.

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<sup>35</sup> Population-based staffing ratios may also vary due to differences in the calculation of numerators. For example, when calculating nurses per 100,000 population, the definition of a nurse may not be uniform across all countries.

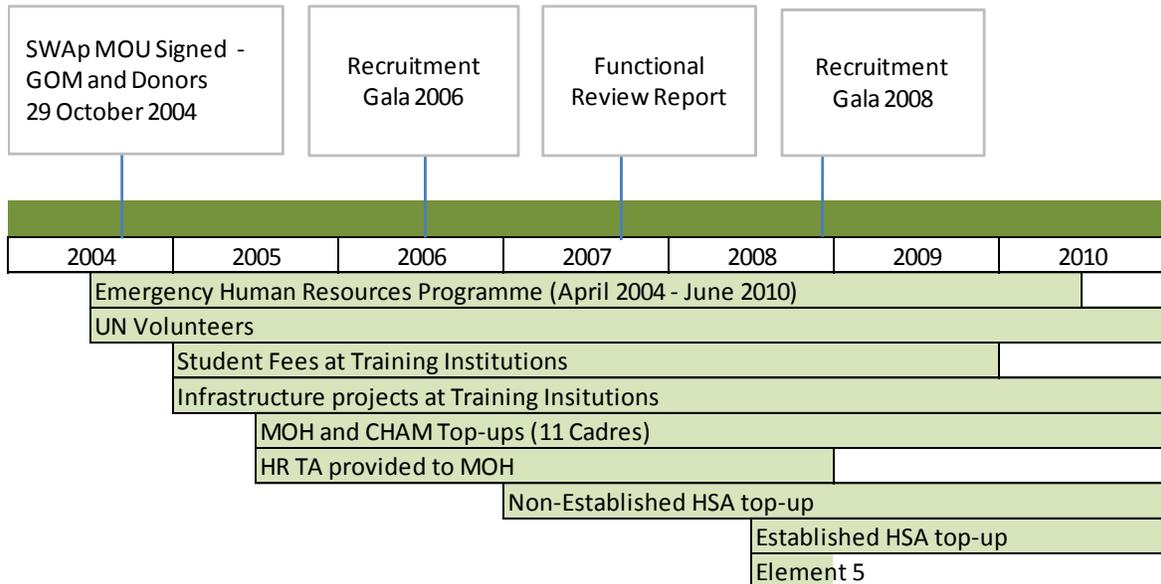
**Part I: Evaluation of EHRP Implementation**

This section presents the evaluation of the implementation, organized by each of the five Elements of the EHRP, and is laid out as follows:

- *Overview of Implementation:* a summary of the key interventions or activities carried out under the Element
- *Data and findings:* quantitative and qualitative data collected for the Element
- *Cost:* total costs to implement the Element
- *Discussion:* brief discussion of the implications of the evidence

A summary timeline of the EHRP implementation, including key activities for each Element, can be found in Figure 2. For the detailed timeline, see Annex G.

**Figure 2: Timeline of EHRP Implementation**



## **ELEMENT 1: IMPROVING INCENTIVES FOR RECRUITMENT AND RETENTION OF HEALTH WORKERS**

### ***Overview of Implementation***

The 52% top-ups to the 11 priority cadres of staff were implemented nationwide at MOH and CHAM facilities beginning in April 2005. Although not part of the original plan, an additional cadre, the Health Surveillance Assistants (HSAs), also received top-ups under the EHRP. HSAs are salaried community-based health workers that deliver various services, including: immunizations, family planning, well-child visits, and disease surveillance. MOH targets for HSAs are 1 per 1,000 population (CHAM does not employ HSAs). The HSAs are recruited and trained within each district by the District Health Teams. Currently, the HSA cadre is divided into two cohorts: those in established posts, as determined by the DHRMD, and those in non-established posts, recruited on an indefinite basis by the Global Fund. The new cohort of non-established HSAs was recruited in 2007 and received a 26% salary top-up. In response, established HSAs were also given 26% top-ups, beginning in October 2008.

The recruitment and re-engagement strategy under Element 1 involved two large-scale recruitment galas, in June/July 2006 and November/December 2008. The galas were advertised nation-wide, and held over the course of five days in each district. In addition to recruiting new health workers, a major focus of the galas was re-engaging staff that had left, due to retirement or other reasons. To address these issues, the retirement age was increased from 55 to 60 years, and three-year contracts were offered to health workers for re-engagement.

As of the writing of this Evaluation report, the hardship package proposed under Element 1 has not been implemented. No comprehensive plan has been developed detailing the components of the hardship package or how it would be implemented. This topic will be revisited in later sections of the report.

### ***Data and Findings***

#### ***A. Quantitative***

- Yearly targets were set at the inception of the EHRP (see Annex A). As of the end of 2009, four cadres have met or surpassed the yearly targets – physicians, clinical officers, laboratory technicians, and pharmacy technicians.<sup>36</sup> (Figures 3 – 6)
- Physicians increased from 43 in 2004 to 265 in 2009; a 516% increase (Figure 3). (Refer to Table 5 for complete list of percent increases by cadre).<sup>37</sup>

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<sup>36</sup> Full details of MOH and CHAM cadres by year compared with targets can be found in Annex I.

<sup>37</sup> Note that the large percentage increase in physicians is due to the low starting figure of 43 physicians. In real terms, there was an absolute increase of 222 physicians over the EHRP. Nurses, by comparison, saw an absolute increase of 1,356 nurses during the same period, which was a 39% increase.

**Figures 3 - 6: MOH and CHAM Health Worker by Cadre. Actual and Target**

Source: Vacancy Analysis provided by HR Departments of MOH and CHAM Secretariat

Figure 3: Physicians

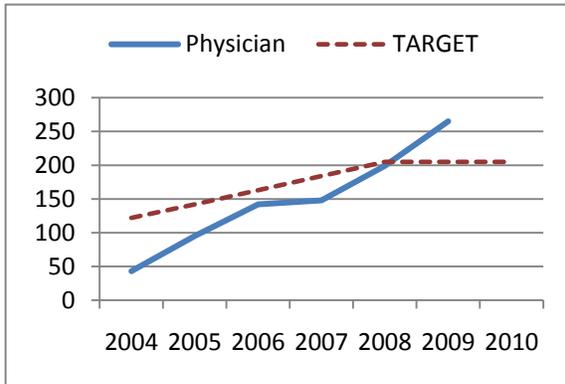


Figure 4: Clinical Officer

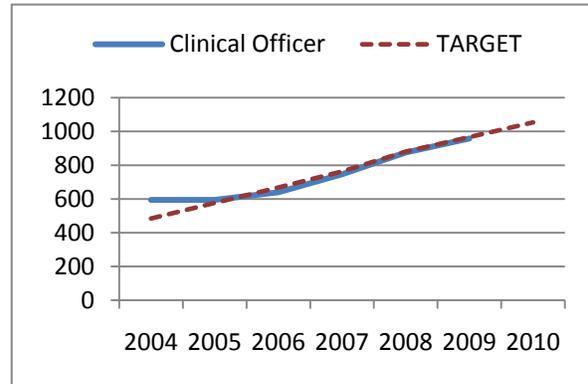


Figure 5: Laboratory Technicians

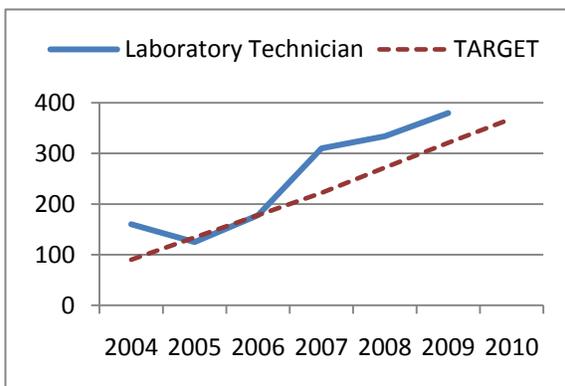
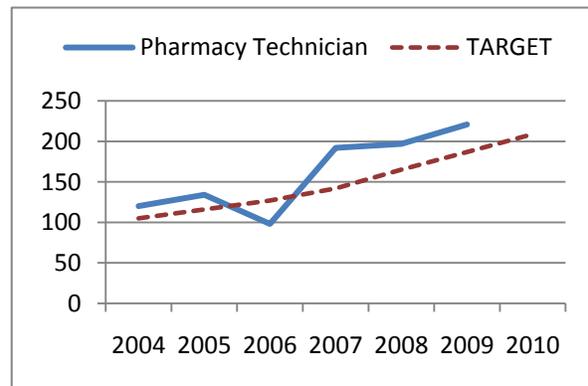


Figure 6: Pharmacy Technician



- Nurses increased from 3,456 in 2004 to 4,812 in 2009; a 39% increase (Figure 7).
- In 2004, there were 4,886 HSAs in established posts. A new cohort of non-established posts was added in 2007, bringing the total number of HSAs to 10,055. This figure gradually increased to 10,507 in 2009 (Figure 8).
- The HSA target has been established as 1 per 1,000 population; this would amount to a target in 2009 of 13,066 HSAs.

**Figures 7 and 8: MOH and CHAM Health Workers by Cadre. Actual and Target.**

Source: Vacancy Analysis provided by HR Departments of MOH and CHAM Secretariat

Figure 7: Nurses

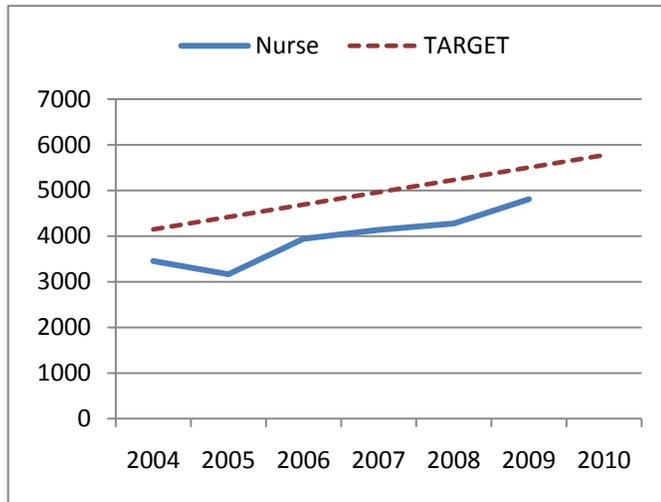
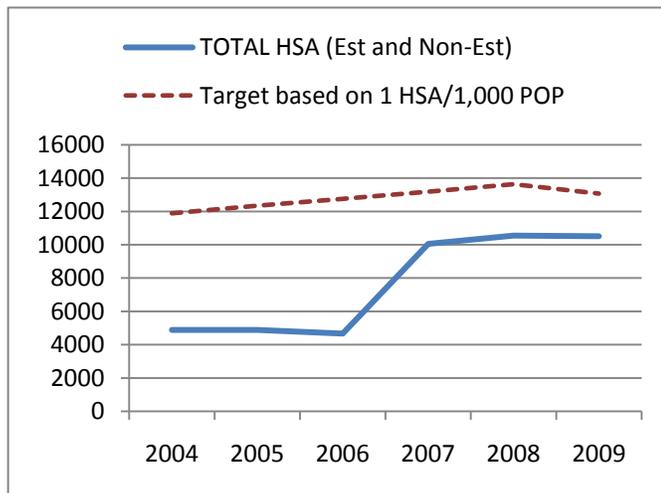


Figure 8 – Health Surveillance Assistants (MOH only)



- The figures below show six cadres in which targets were not met: medical engineers, radiography technicians, environmental health officers, medical assistants, dental therapists, and physiotherapists (Figures 9-14). All of these cadres, excepting medical engineers, showed positive growth over the span of the EHRP.

**Figures 9-14: MOH and CHAM Health Workers by Cadre. Actual and Target.**

Source: Vacancy Analysis provided by HR Departments of MOH and CHAM Secretariat

Figure 9: Medical Engineer

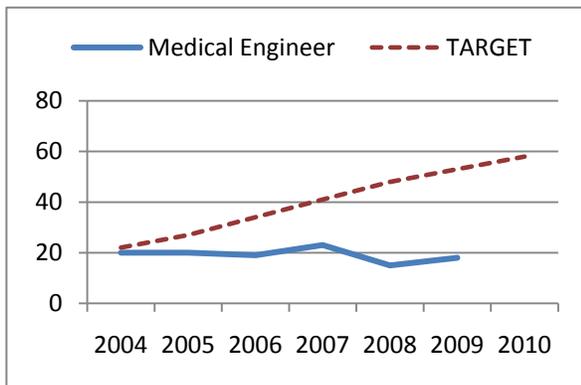


Figure 10: Radiography Tech

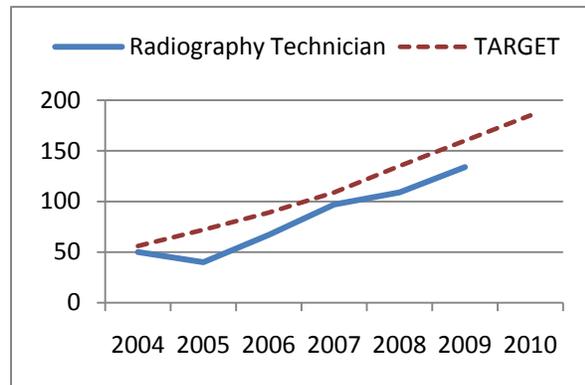


Figure 11: Environmental Health Officer

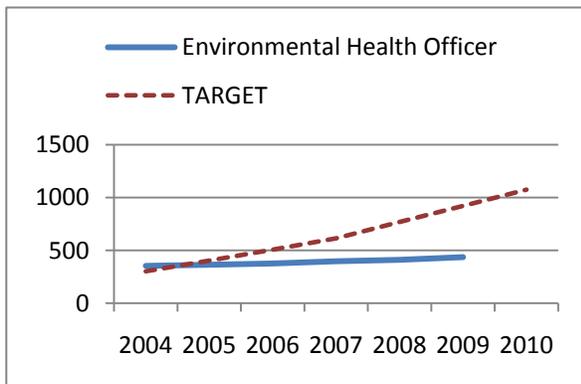


Figure 12: Medical Assistant

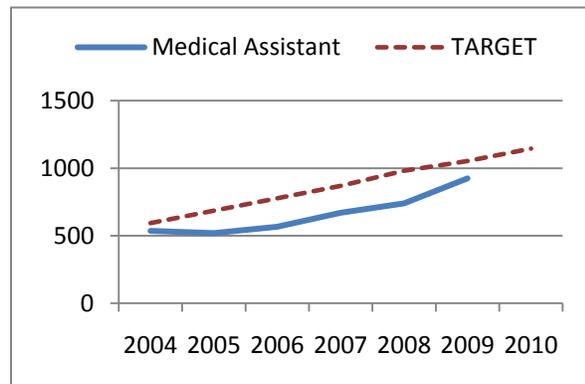


Figure 13: Dental Therapist

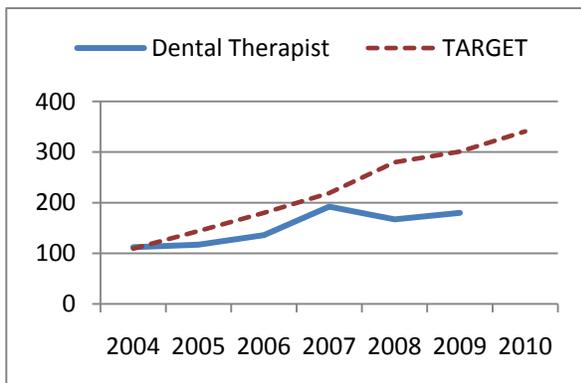
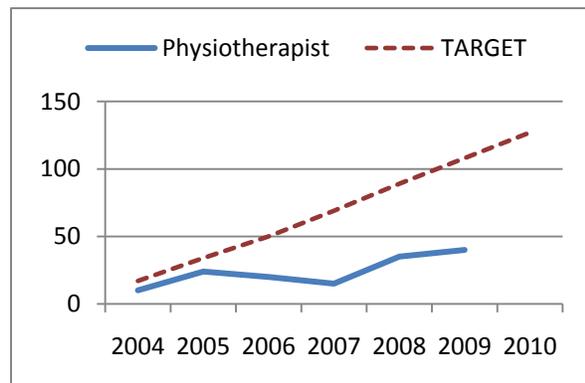


Figure 14: Physiotherapist



- Across the 11 cadres (which exclude HSAs), total MOH and CHAM health workers increased from 5,453 in 2004 to 8,369 in 2009; a 53% increase overall (Table 5).

**Table 5. Comparison of total health workers and ratio to population per 100,000 in 2004 and 2009; % Increase in health workers from 2004 to 2009**

Cadre	2004		2009		2004 - 2009
	Total Staff	Ratio to Pop	Total Staff	Ratio to Pop	% Increase
Clinical Officer	594	5.00	958	7.33	61%
Dental Therapist	112	0.94	180	1.38	61%
Environmental Health Officer	353	2.97	436	3.34	24%
Laboratory Technician	160	1.35	380	2.91	138%
Medical Assistant	535	4.50	925	7.08	73%
Medical Engineer	20	0.17	18	0.14	-10%
Nurse	3456	29.09	4812	36.83	39%
Pharmacy Technician	120	1.01	221	1.69	84%
Physician	43	0.36	265	2.03	516%
Physiotherapist	10	0.08	40	0.31	300%
Radiography Technician	50	0.42	134	1.03	168%
TOTAL - 11 Cadres	5453	45.89	8369	64.05	53%
TOTAL HSA (Est and Non-Est)	4886	41.12	10507	80.41	115%
TOTAL 11 CADRES + HSA	10339	87.01	18876	144.46	83%

*Source: Vacancy Analysis provided by HR Departments of MOH and CHAM Secretariat*

### *Comparing Malawi to Tanzania*

At the outset of the EHRP, one of the overarching goals was to achieve the same ratios of physicians and nurses to population as Tanzania. Whereas Malawi's ratios of nurses and physicians to population have increased, Tanzania's ratios have fallen since 2004 (Table 6).

- A comparison of Malawi's staffing ratios in 2009 with Tanzania's ratios for the same year show that Malawi has caught up in terms of physicians to population (2.0 per 100,000), and exceeded in terms of nurses (36.8 per 100,000).
- A comparison of Malawi's staffing ratios in 2009 with Tanzania's ratios for 2004 shows that the original goal has been met for nurses but not physicians.

**Table 6. Comparison of Ratio of Physicians and Nurses to Population (per 100,000) Malawi/Tanzania**<sup>38,39</sup>

Cadre	Tanzania 2004	Malawi 2004	Tanzania 2009	Malawi 2009 (MOH + CHAM) <sup>40</sup>
Physicians	2.3	1.1	2.0	2.0
Nurses	36.6	25.5	35.0	36.8

- Table 7 shows the ratios of nurses to physicians, and HSAs to nurses from 2004-2009. Calculating the ratio of health worker cadres to one another is important as it provides information on the change in health worker skills mix.

**Table 7. Ratio of Nurses to Physicians and HSAs to Nurses, 2004 – 2009**

	2004	2005	2006	2007	2008	2009
Ratio of Nurses / Physicians	80.37	33.33	27.76	27.97	21.49	18.16
Ratio of HSAs / Nurses	1.41	1.54	1.18	2.43	2.47	2.18

- While the total numbers of both nurses and physicians increased over the span of the EHRP, the number of nurses per physician decreased from 80 in 2004 to 18 in 2009. Although there is no standard nurse to physician ratio, this ratio should be low enough to enable direct supervision of nurses by physicians, and high enough to ensure cost-effective delivery of care.<sup>41</sup>
- The ratio of HSAs to nurses increased from 2004 to 2007 from approximately one and a half to two and a half HSAs per nurse. From 2007 to 2009, the ratio decreased to a little over two HSAs per nurse. This is due to the large increase in HSAs which were recruited in 2007.
- Figure 15 (see following page) displays a comparison of MOH vacancy rates with numbers of established and filled posts for the 11 cadres of staff.<sup>42</sup> The vacancy rate shows a sharp increase from 2007 (48%) to 2008 (81%).
- However, this increase is due to a rise in the number of established posts following a functional review of the system in 2007. The number of established posts rose from 9,568 to 27,599 in the span of a year. All ministries are required to carry out function reviews every five years to assess their staffing needs. The added number

<sup>38</sup> Source: Malawi and Tanzania 2004 figures from WHO World Atlas; Malawi 2009 figures based on primary data from MOH and CHAM vacancy analyses; Tanzania 2009 figures from: The health worker shortage in Africa: are enough physicians and nurses being trained? Yohannes Kinfu, Mario R Dal Poz, Hugo Mercer & David B Evans Volume 87, Number 3, March 2009, 225-230.

<sup>39</sup> 2009 population figures were obtained from the 2009 HMIS Bulletin; however, the 2009 Malawi population figure was less than 2008, suggesting that the figures may be questionable. No corroborating data is available from National Statistics office for 2009 population.

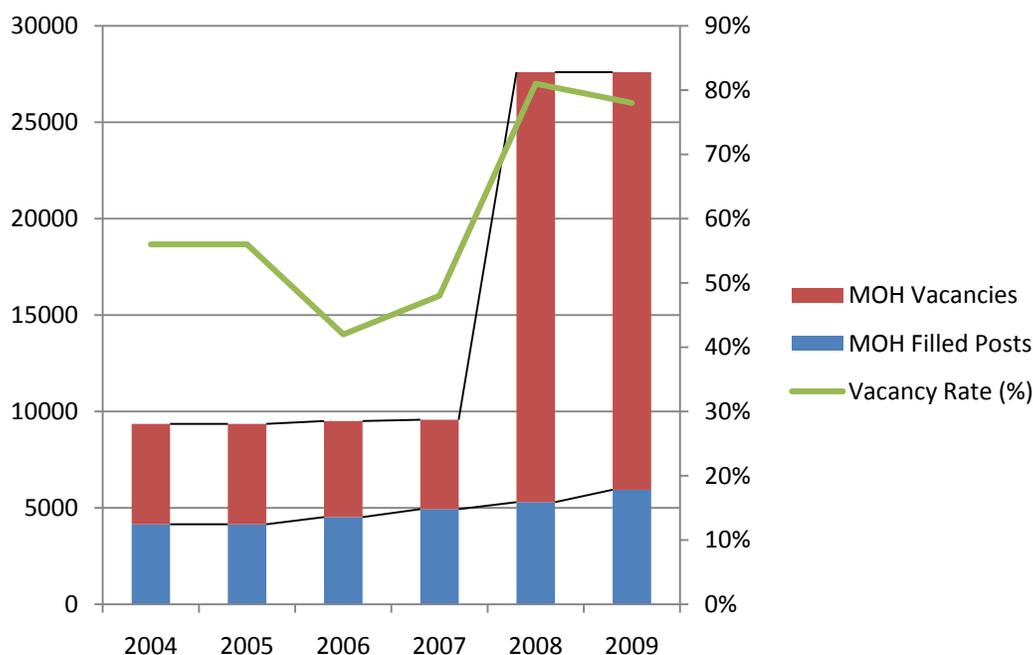
<sup>40</sup> Note that staffing ratios for Malawi in 2009 do not include the private sector, only MOH and CHAM.

<sup>41</sup> The 1993 World Bank Development Report: Sustainable Development in a Dynamic World suggests 4:1 nurses per physician or higher as a satisfactory ratio for cost-effectiveness and quality of care. However, no upward limit is suggested.

<sup>42</sup> Full details of MOH Established Posts, Filled Posts, and Vacancy Rates can be found in Annex J.

of established posts is based on need, but are not guaranteed funding by the Treasury beyond the posts currently filled or the vacant posts that the ministry indicated will be filled in that particular financial year. As demonstrated previously, and in Figure 5, the number of filled posts increased steadily from 2004 to 2009; thus, simply reporting vacancy rates as a measure of the state of the HRH situation can be misleading.

**Figure 15. Vacancy Rate and Established Posts for MOH, 2004 – 2009**



**Source:** Vacancy Analysis provided by HR Department of MOH

**B. Qualitative Findings**

Focus groups were held with people who had re-entered the government and/or CHAM health services as a result of the galas and recruitment activities of the MOH, as well as with people who decided to remain in service (after retirement) under a three-year contract. The purpose of these focus group discussions was to examine the extent to which salary top-ups and other financial incentives influenced health workers decisions to return to, or remain in the health sector and to determine if other factors may have contributed to their decision, such as the importance of educational opportunities.<sup>43</sup> In this exercise, a combination of focus group discussions and questionnaires were used. The key findings are listed below.

<sup>43</sup> Retention of health workers in Malawi: perspectives of health workers and district management, Ogenna Manafa, Eilish McAuliffe, Fresier Maseko, Cameron Bowie, Malcolm MacLachlan, and Charles Normand

### ***From new and returning staff***

- The majority of new and returning staff surveyed from both MOH and CHAM (57 out of 62) stated that the salary top-ups were a key factor in the decision to join, or return to health service, although an underlying theme was that the tax on the top-up was too high; the increase in take home pay ranged from 25% to 41%.<sup>44</sup>
- Many respondents cited the three-year contract as a strong incentive for re-entering the health service.
- Respondents overwhelmingly recommended that the government continue to recruit new and returning staff through recruitment galas.
- Nearly 75% of new and returning staff surveyed (85 out of 117) indicated their intention to stay in the health sector for 10 years or longer. Most said ‘until retirement’, or ‘as long as able.’ For many, this was a change from their previous expectations.

### ***From current staff***

- 62 out of 90 of current staff surveyed indicated that, as a result of the top-ups, they planned to stay in the government or CHAM health services until retirement or as long as they are able. Nearly half of respondents said that this was a change from previous expectations.
- Other factors that influenced health workers’ decisions to re-commit themselves to the health sector included better working conditions, such as improved promotional opportunities, housing, access to in-service training, workshops, and improved supplies.

### ***From all staff***

- Adequate housing remained a key concern for many staff, especially in the rural areas.
- Suggestions for improvements in non-financial incentives included more educational opportunities, improved conditions of service, and improved management.
- The Locum, a scheme through which medical personnel are paid additional salary to fill work shifts beyond their own when there is no other coverage, was an important financial incentive to many people but there are concerns about the quality of work under this programme, the cost and how it is being used.

### ***Cost***

Expenditure under Element 1 consists of the 52% salary top-ups received by the 11 cadres of staff at MOH and CHAM, 26% top-ups received by the HSAs, and expenditures for two recruitment galas (Table 8).<sup>45</sup> No costs were incurred for these activities in 2004.

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<sup>44</sup> Republic of Malawi, Malawi Health SWAp Donor Group, GTZ/UNDP. Human Resources / Capacity Development within the Health Sector: Needs Assessment Study. April 2007.

<sup>45</sup> All expenditures in Malawi Kwacha (MK) were converted into US Dollars (USD) using an average annual exchange rate for the year in which the costs were incurred (see Annex P). A table of all costs in MK and GBP can be found in Annex Q.

Top-ups for established HSAs began in October of 2008, thus representing only three months of top-ups paid. Top-ups for non-established HSAs began at the start of 2007. MOH top-ups for the 11 cadres saw some fluctuations over the EHRP for two reasons; firstly, due to a Functional Review in 2007, whereby the salary and grade structure was revised, causing a drop in the total salaries and corresponding top-up payments, despite increases in staff numbers. Secondly, a salary revision, in addition to payment of arrears, caused a large increase in top-up payments in September 2008, then again in September 2009.

Total expenditure for Element 1 increased steadily, starting at USD 2.9 million in 2005 and ending at USD 10.6 million in 2009. The total amount expended on Element 1 up to 2009 was USD 34.3 million.

**Table 8. Total Cost of Element 1, 2004-2009 (USD)**

Activity	2004	2005	2006	2007	2008	2009	Total
MOH Top-Ups (11 Cadres)	-	2,424,530	4,832,833	4,377,856	4,273,838	5,817,572	21,726,628
CHAM Top-Ups (11 Cadres)	-	429,393	1,386,515	1,433,845	2,266,615	2,756,918	8,273,286
HSA Top-ups Established	-	-	-	-	252,543	825,478	1,078,021
HSA Top-ups Non-est	-	-	-	886,552	982,098	987,185	2,855,835
Recruitment Galas	-	-	71,644	-	97,425	-	169,069
<b>TOTAL</b>	-	2,853,923	6,290,991	6,698,253	7,872,518	10,552,155	34,267,841

*Source: MOH and CHAM*

### **Discussion**

The evidence points to the success of the salary top-ups, the recruitment strategies, and the three-year contracts to increase the number of health workers in the designated 11 cadres.

Overall, staffing numbers in the 11 targeted cadres have increased (by 53%) in the MOH and CHAM since Element 1 (salary top-ups) began implementation in 2005, although not all of the individual targets per cadre were met. With improved staffing arising from EHRP, overall health centres conforming with staffing norms for Malawi of 2/2/1 (2 nurses/2 clinical officers/1 environmental health officer) have increased from 13% in 2004 to 45% in 2009.<sup>46</sup>

While respondents viewed the galas positively as a means to recruit new and returning staff, anecdotal reports suggest that lack of management efficiency resulted in deployment delays of these new recruits. Reportedly many more prospective candidates showed up for interviews than were actually accepted and deployed. The whole recruitment process was

<sup>46</sup> SWAp Indicator Matrix in SWAp Annual Review Reports, 2004 and 2009.

intended to take 13 weeks, but stretched out over many months. The root cause of the delays is not exactly clear – whether it is paper work, indecision, lack of communication between the MOH and the HSC – but, again, anecdotal evidence suggested that as a result of the delays, some candidates found employment elsewhere, or changed their mind in the period of waiting.

Health Surveillance Assistants (HSAs) were a significant factor in the overall increase in numbers of health workers. HSAs were not part of the 11 cadres receiving the top-up at the beginning of the EHRP. Even now, they work under different conditions of service depending on whether they are supported by the Global Fund or the MOH. Given the important role HSAs play at the community level, maintaining their level of quality and supervision are issues to be addressed. Specifically, there is an urgent need to redefine the role of the HSAs to ensure that there is reasonable task shifting, reduced burden, and appropriate allocation of duties and responsibilities in line with HSA's qualifications, training and experience.

The early assumption was that the top-up were to be maintained by setting up an autonomous Health Service Commission (HSC) that would administer different salaries and conditions of service for health workers. In this way, the pay differential would not become an issue throughout the civil service. At the time of this evaluation, the HSC had not been given the autonomy to do this. While the government recognizes the importance of the health sector, its pay policy is to have uniform salaries throughout the civil service. Part of its vision in creating the HSC was to enhance efficiency in certain personnel functions i.e., recruitment, deployment, promotions, grievance; but to allow the HSC to handle compensation would constitute a major policy change. This issue is seen to have implications for the sustainability of top-ups in the MOH which is, ultimately, the question that needs to be addressed.

## **ELEMENT 2: EXPANDING DOMESTIC TRAINING CAPACITY**

### ***Overview of Implementation***

The initial training plan drafted at the inception of the EHRP focused on the four major training institutions: Malawi College of Health Sciences (MCHS), Kamuzu College of Nursing (KCN), College of Medicine (COM), and the network of CHAM training institutions.<sup>47</sup> Disbursements for payment of student fees began in 2006, and infrastructure payments began at different stages for each training institution. In general, the infrastructure projects got underway at a later stage and there are some which remain under construction.

In addition to supporting training programmes at institutions, Element 2 included a nationwide roll-out of HSA training, a 10-week course provided by the District Health Office in

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<sup>47</sup> The 9 CHAM training institutions are as follows: Malamulo, Mulanje, Nkhoma, Holy Family, St. John, Trinity, Ekwendeni, St. Luke, and St. Joseph

each district. New HSAs were recruited and trained in each district in an effort to reach the targeted ratio of 1 HSA per 1,000 population.

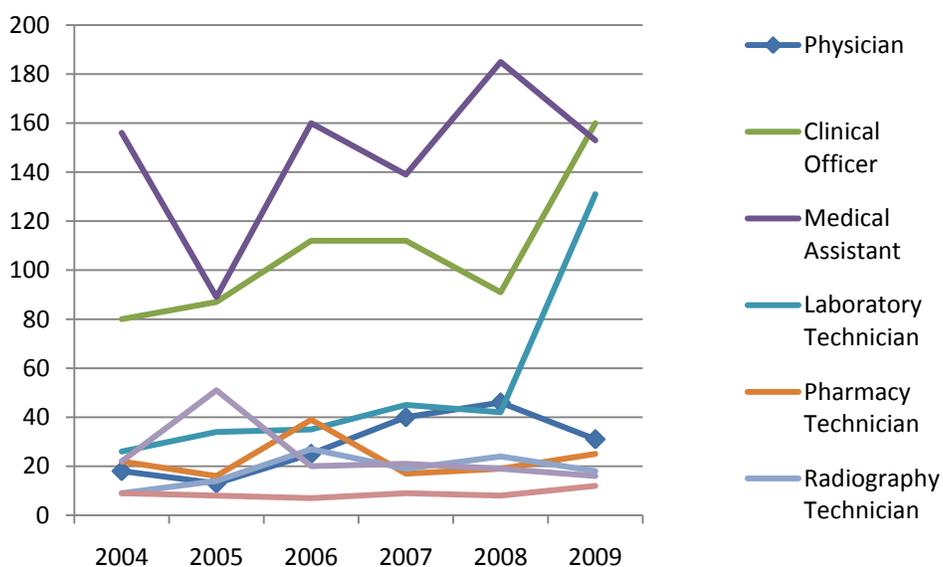
The final component of Element 2 was the funding provided toward Malawi’s regulatory bodies: the Nurses and Midwives Council, Medical Council, and Pharmacy and Poisons Board. All the three regulatory bodies have indicated that their expenditures incurred on EHRP funds were limited to: scaling up inspectorate and certification activities, procurement of capital assets, payment of utilities, student evaluations, evaluation of patient care, and construction (such as the expansion of Medical Council office building). Funding was provided beginning in 2005 and has continued on a yearly basis throughout the EHRP.

**Data and Findings**

*A. Quantitative*

- Total graduates from the four main training institutions (CHAM, MCHS, KCN, and COM) showed an overall increase, from 917 in 2004 to 1,277 in 2009; an increase of 39% (Figures,16 and 17; Table 9).<sup>48</sup>
- Physician graduates from the College of Medicine increased from 18 in 2004 to 31 in 2009; a 72% increase.
- Clinical Officers and Laboratory Technicians saw major gains, with the former almost tripling, and the latter increasing graduates by five times from 2004 to 2009.

**Figure 16. Annual Graduates from Training Institutions by Cadre, 2004-2009 (CHAM, MCHS, KCN, COM)**

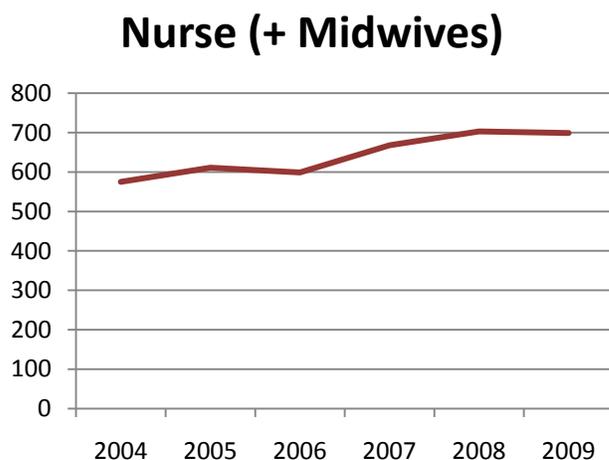


Source: CHAM, MCHS, COM and KCN Training Institutions

<sup>48</sup> See Annexes K and L for detailed annual breakdown of graduates by cadre and institution.

- Nurses increased from 575 graduates in 2004 to 699 graduates in 2009; a 22% increase

**Figure 17: Annual Nursing Graduates from Training Institutions 2004–2009 (CHAM, MCHS, KCN)**



**Table 9. Increase in Annual numbers of Graduates, by Cadre, from 2004 to 2009**

	2004	2009	% Change
Physician	18	31	72%
Nurse (+ Midwives)	575	699	22%
Clinical Officer	80	160	100%
Medical Assistant*	156	185	19%
Laboratory Technician	26	131	404%
Pharmacy Technician	22	25	14%
Radiography Technician	9	18	100%
Dental Therapist	9	12	33%
Environmental Health Officer	22	16	-27%
<b>Total</b>	<b>917</b>	<b>1277</b>	<b>39%</b>

Source: CHAM, MCHS, COM and KCN Training Institutions

\*Due to the graduation cycle of Medical Assistants at CHAM every other year, the graduate figure for 2008 was used in this calculation.

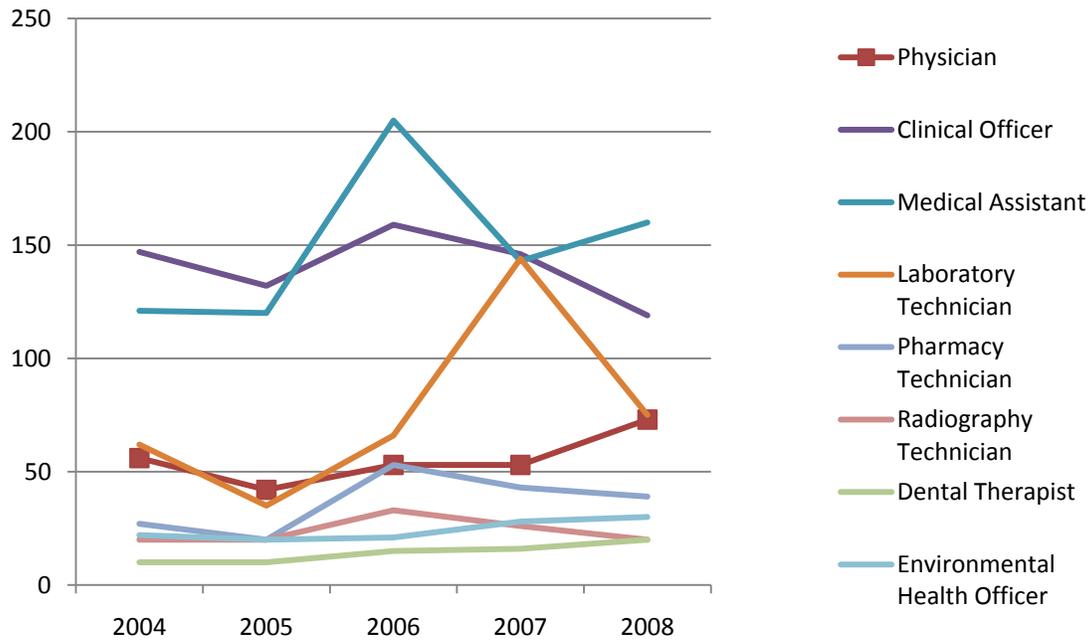
- Total enrolments at the four major training institutions showed increasing trends (Figures 18 and 19);<sup>49</sup> however, the cessation of payment of student fees by the

<sup>49</sup> Annexes M and N have detailed breakdowns on enrolments by training institution and cadre for each year.

Government of Malawi in September 2009 subsequently caused a drop in enrolments in local health training institutions.

- At CHAM institutions, for example, enrolment dropped from 616 in 2008 to 87 in 2009. The September 2009 intake cohort did not begin as planned, and this class was postponed to April 2010.
- In addition, HSAs are trained at the district level. To date, there are 10,311 HSAs either trained, in the process of training, or yet to be trained (Annex O).

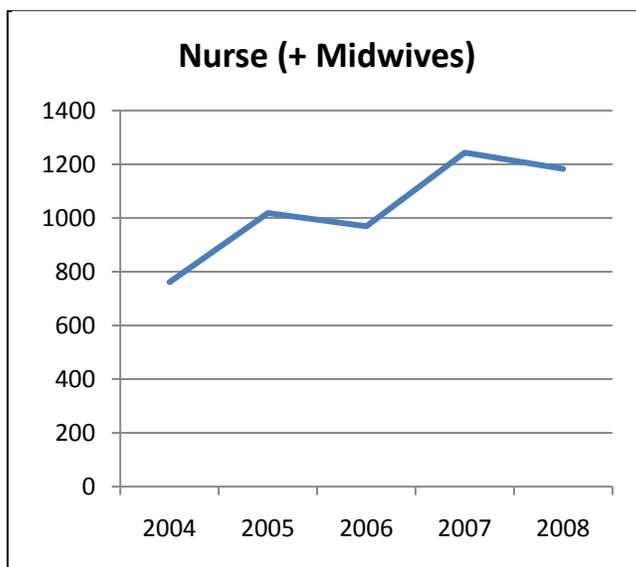
**Figure 18. Enrolments at Training Institutions by Cadre, 2004 – 2008<sup>50</sup>**  
(CHAM, MCHS, KCN)



Source: CHAM, MCHS, COM and KCN Training Institutions

<sup>50</sup> Due to a change in policy, the Fall 2009 cohorts were delayed entry until Spring 2010.

**Figure 19. Enrolments at Training Institutions of Nurses (and Midwives), 2004- 2008 (CHAM, MCHS, KCN)**



### *B. Qualitative Findings*

Focus groups were held with faculty and administrators at health training institutions as well as with students in their final year of training. The purpose of these focus group discussions was to examine to what extent new or innovative programmes have increased the intake and output of students and to determine student views on career plans, commitments to a career in the Malawi health services and how the EHRP may have influenced them.

#### ***From faculty and administrators***

- Respondents reported that they were able to increase the enrolment of students by offering innovative programmes, including use of off-campus accommodation, use of part time tutors, cluster training and converting unused space, rather than by infrastructure improvements, which took time to implement and are still not completed.
- Access to training opportunities through government subsidized fees significantly increased enrolments, which will directly contribute to increased numbers of newly employed health professionals entering service and bonded for a period of five years.
- Respondents reported the following obstacles in expanding training: lack of adequate teaching space, accommodation, and shortage of tutors, which were not adequately addressed in the EHRP.
- Delayed and low disbursement of funding for infrastructure development from MOH and its partners resulted in increased operational costs for the health training

institutions, i.e., rentals for off-campus accommodation, student transport costs to and from campus.

- In regard to tutor shortages, the ministry, as part of the EHRP, trained educators who were seconded to CHAM training institutions and MCHS to assist with the expanded programme. These were trained through a two-year bachelor of nursing education programme that the ministry introduced at KCN. In addition to this training initiative, the ministry of health also seconded some of its experienced health workers to join the training institutions as tutors.
- To successfully implement the expanded programme, some colleges reported that they were able to invest in the recruitment of additional staff and improved retention and development of existing tutors. For example; The College of Medicine was able to fund acceptable salaries for their staff and send some of them for post graduate training up to Masters and PHD levels, using income from research and consultancies. On the other hand, MCHS preferred to train its tutors for higher qualifications instead of hiring additional staff.
- Student/tutor ratios have improved, however and there is some concern that quality could suffer over time if student/tutor ratios are not re-aligned.

#### ***From Students in their Final Year***

- 50 out of 51 students surveyed (98%) felt well prepared for a career in health.
- 43 out of 45 students (95%) reported that they would not have been able to complete training if paying their own fees.
- Students saw both the MOH and CHAM as good employers and see their employment with each institution as a long term commitment. In general, the MOH and CHAM are considered to present more professional challenges for gaining practical experience, further training opportunities /upgrading courses, as well as better promotional opportunities than private sector employers / NGOs.
- The issue of bonding did not present an obstacle for large majority of respondents. Some respondents reported that they see bonding as security.
- Overall deployment preferences leaned toward urban health facilities, which have better social amenities such as schools, transport, recreation, markets, and provide better wage employment opportunities for spouses. However, the rural hospitals also appealed to a sizeable proportion of the graduates due to lower cost of living, excellent on the job training opportunities, and the higher status accorded by the rural communities, even for junior personnel.
- Approximately 75% of graduating students did not see themselves seeking employment outside of Malawi, but noted that attraction to outside opportunities will be influenced by consistency in working conditions in Malawi, including housing, and upgrading opportunities.

#### ***Cost***

There were numerous cost inputs into Element 2 (see Table 10). To increase training capacity, the main training institutions were given funding both to enhance infrastructure and to cover the payment of student fees (only infrastructure costs supported with EHRP funding are included in this analysis). Total student fee costs over the EHRP, for COM, KCN, MCHS, and CHAM, came to USD 29.9 million. Infrastructure costs added up to

USD 16.8 million. In addition, HSA training costs were included under this element, at a total of USD 3.7 million. Finally, the EHRP funding to regulatory bodies, such as the Nurses' and Midwives' Council, were included under Element 2 at a total of USD 3.1 million. The grand total for Element 2 for 2004 – 2009 was USD 53.3 million.

**Table 10. Total Costs of Element 2, 2004-2009 (USD)<sup>51</sup>**

Line Items	'04	2005	2006	2007	2008	2009	Total
<b>Student Fees</b>		-	7,120,390	7,395,525	7,430,823	7,975,821	29,922,560
<b>Infrastructure</b>		1,394,940	1,187,155	3,113,959	3,013,571	7,960,551	16,670,176
<b>Regulatory Bodies</b>		506,165	675,909	580,479	638,190	691,005	3,091,747
<b>HSA Training</b>		-	-	2,364,538	637,283	661,557	3,663,378
<b>TOTAL ELEMENT 2</b>		1,901,105	8,983,453	13,454,501	11,719,868	17,288,934	53,347,861

### *Discussion*

Element 2 of the EHRP has contributed effectively to both meeting the EHRP targets set in the POW for the period 2004–2010, and to the improvement of national health worker/populations ratios. The payment of student fees was the main reason health training institutions were able to achieve these gains. Further, the full gains from the initial Government of Malawi investment in student fees and expanded training capacity has yet to be realized in terms of increased availability of staff, because all of the additional enrolled students have yet to graduate or enter the workforce. In year five (2009/10), the government's announcement that they would no longer pay student fees<sup>52</sup> resulted in severe declines in enrolments. In time, this decision has the potential to wipe out the gains made in staffing numbers to date, as there will be fewer new staff to mitigate normal attrition. At the time of this evaluation, this policy issue is being revisited by key ministries.

The MOH must continue to weigh the importance of the link between increased production of health staff and staffing numbers, along with strengthened management systems to improve the overall performance and retention of the health workforce.

<sup>51</sup> Costs given in MK were converted to USD using the average annual conversion rate (See Annex P). For total costs of EHRP in MK and GBP, see Annex Q. Disbursements for student fees provided by central MOH department. Infrastructure costs provided by individual institutions. HSA training costs provided by MOH, Environmental Health Office. Regulatory Bodies costs provided by regulatory bodies.

<sup>52</sup> Source: "Crisis", written by Vincent Phiri, Malawi News, Vol.55 No. 2911, March 20-26, 2010

The continued production of health staff in all critical cadres is a fundamental component of any HR plan going forward. The infrastructure improvement under the EHRP is necessary to support this expansion, but as these improvements were not always carried out in a timely manner, the health training institutions responded with innovative programmes which will be part of sustainability in the future. Nonetheless, continued attention to the staffing needs, teaching space, and student accommodation will be necessary to support continued production of health staff.

Under the EHRP, most students graduating from government health training institutions, expected to be ‘bonded’ or committed to a government health post for a period of five years and this did not present an obstacle for them. However, the practice of bonding in Malawi is more of an administrative procedure and lacks a legal framework. It is a grey area and one that should be monitored closely in order for the Government of Malawi to fully realize a return on any investment it makes to support student fees.

It is gratifying to note that approximately 75% of the students surveyed do not see themselves seeking employment outside of Malawi, but that is conditioned on the expectation that working conditions and career opportunities in the health sector will continue to improve.

Finally, the continuous and accelerated training of Health Surveillance Assistants through the Global Fund have contributed to primary health care activities and the implementation of the Essential Health Package (EHP).

### **Analysis of Inputs and Outputs into the Public Health System**

- Table 11 below shows the inputs and outputs of the health system, combining the results from Elements 1 and 2. The inputs into the health system considered under this evaluation are two-fold: graduates from training institutions, and recruits from the recruitment galas. In addition to a steady yearly increase of the training institutions outputs, the two galas in 2006 and 2008 added more than 7,000 health workers into the system over the span of the EHRP.
- The increases in the 11 priority cadres of health workers at MOH and CHAM are also shown in Table 9. The changes in the 11 cadre totals from year to year are shown in row C. This number represents the increase (or decrease) in absolute terms for MOH and CHAM staff. Attrition is estimated by taking the difference between total inputs by year, and total absolute change in staff by year (row D). The calculation assumes a one-year lag between leaving training institutions or galas and entering the public system. For example, the 914 outputs in 2004 would be expected to cause an increase of 914 in 2005, assuming both an attrition rate of 0% and an uptake of 100% of all outputs into the public sector. If these assumptions were true, the difference in row D would be zero. However, the actual change in 2005 was a loss of 256 health workers, thus resulting in a difference of 1,173. This suggests a high attrition rate, because even if every single graduate entered the public system (which is unlikely), there was still a net loss of 256 people. The only year to see a decrease in this difference was 2006, in which an additional 987 people entered the public sector from the previous year, even though there were only 923 graduates from training schools. This would suggest additional inputs into the system that are not documented here.
- Row D is used as a proxy in the absence of actual attrition data for 2004-2009. However, as mentioned earlier, this assumes that all outputs are entering the public sector, which is unlikely. The recruitment galas saw serious delays in deployment of candidates (see Discussion, Element 1) and the bonding schemes for students at training institutions were not always upheld (see Discussion, Element 2).

**Table 11. Health Worker Overview, Elements 1 and 2**

	2004	2005	2006	2007	2008	2009
<b>INPUTS</b>						
Training Institution Graduates	917	923	1,024	1,070	1,134	1,245
Recruitment Galas	-	-	443	-	650	-
<b>[A] Total Inputs</b>	917	923	1,467	1,070	1,784	1,245
<b>STAFF</b>						
MOH 11 Cadres	4,151	4,153	4,520	4,939	5,299	5,944
CHAM 11 Cadres	1,302	1,044	1,664	1,990	2,059	2,425
<b>[B] Total Staff 11 Cadres</b>	5,453	5,197	6,184	6,929	7,358	8,369
<b>[C] Change in Total Staff 11 Cadres from previous year</b>		(256)	987	745	429	1,011
<b>% Change in Total Staff 11 Cadres</b>		-5%	19%	12%	6%	14%
<b>[D] Difference Inputs and Total Staff</b>		1,173	(64)	722	641	773

### ELEMENT 3: INTERNATIONAL VOLUNTEERS

#### *Overview of Implementation*

The third element of the EHRP focused on the use of international volunteer health workers as an emergency stop-gap measure. At the time, the crisis was so severe that the Ministry and donors felt that it was important to put in place a short-term mechanism to relieve the immediate need while long-term solutions were being designed and implemented. The majority of these volunteers were specialists providing high-level services such as surgical procedures and ART provision and training. While Malawi has volunteer health workers from several countries, only the UN Volunteers (UNVs) were funded under SWAp. In addition to UNVs, a significant number of volunteers were provided by the Voluntary Service Overseas (VSO) programme. Although the VSOs were technically funded by DFID, and not through the SWAp, the recruitment of these volunteers has been repeatedly cited as a component of the EHRP.<sup>53</sup> In addition, the volume and contribution of these volunteers was significant, so data on these volunteers is presented in this report. The standard duration of volunteer contracts was for two years, with the additional possibility of extending the contract at the end of the period.

<sup>53</sup> See, for example, (1) Presentation by Matt Gordon, “Malawi’s Emergency Human Resources Programme: An Overview” made to DFID, 5 November 2008, Slide 8; and (2) Department For International Development. Improving Health in Malawi: £100 million UK Aid (2005/6–2010/11). Programme Memorandum, November 2004. London, DFID, 2004; Page 25.

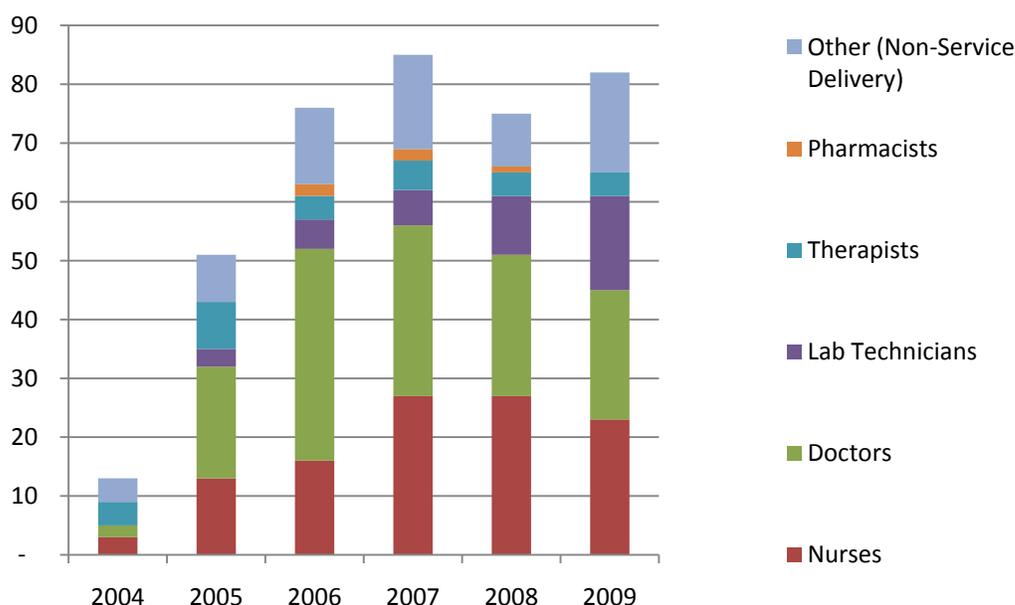
A small number of UNVs were deployed in Malawi at the beginning of the EHRP in 2004. This number increased steadily over the course of the programme. The VSOs were deployed beginning in 2004.

**Data and Findings**

**A. Quantitative**

- Total deployment of UNVs and VSOs began in 2004 with five and 13 volunteers, respectively. From the initial deployment of 18, the total number of UNVs and VSOs rose steadily to 132 in 2009 (Figures 20 and 21).
- The VSOs had a skill mix that included not only health practitioners (physicians, nurses, pharmacists, lab technicians, and therapists), but also other skills (business management, IT, community and social development).<sup>54</sup>

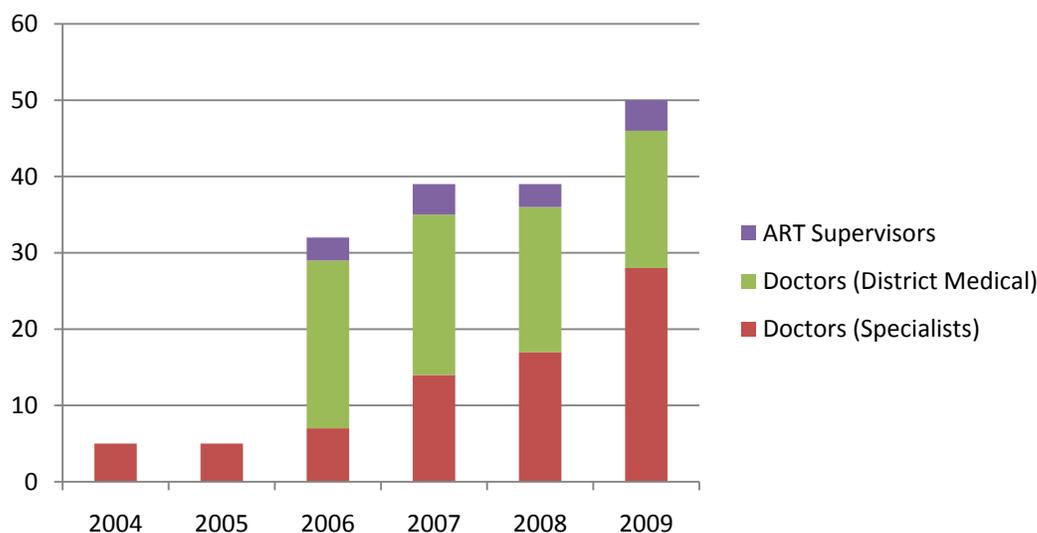
**Figure 20. VSO Deployment, 2005 – 2009**



Source: VSO Malawi Office

- The UNV skill mix included ART supervisors, specialists, and general practitioners. Specialists were deployed to the major hospitals: Kamuzu, Queen Elizabeth, Mzuzu, and Zomba Central Hospitals. General practitioners were mainly deployed to district hospitals around the country. ART supervisors were deployed to the central hospitals and the Lilongwe Lighthouse.

<sup>54</sup> No deployment data available from VSO office.

**Figure 21. UNV Deployment, 2005 – 2009**

Source: UNDP Malawi Office

### B. Qualitative

Focus groups were held with the international volunteer doctors and nurse tutors, supported by UNDP. The purpose of these focus group discussions was to determine the understanding of their role as emergency staff and the level of support they received through the EHRP to ensure success of this role.

#### Key Findings:

- International volunteers were motivated to help in the HR crisis in Malawi and over 90% reported that they had a clear understanding of their role, which was to provide both clinical services and transfer skills. They felt they had a good orientation to their job
- Due to staffing shortages overall, the emphasis of the volunteers' work was on providing clinical services
- The main obstacles faced by volunteers were increasing workloads and acceptance by local staff. Volunteers suggested that an orientation be provided for local staff so they could better understand the role of the volunteer
- Close to 70% of the volunteers felt they had been effective in transferring skills. However, one obstacle was the frequent transfer of staff with whom they worked.
- Nearly all volunteers indicated that they would agree to extend their contract if this were an option as they had enjoyed their time working in Malawi and learning about treatments for HIV/ADS and tropical diseases, including malaria, measles, etc., from their Malawian counterparts.

## Cost

The total cost of Element 3 (international volunteers) from 2004 to 2009 was USD 11.1 million (Table 12).<sup>55</sup> This included USD 6.4 million for the UNV programme and USD 4.7 million for the VSO programme. Average cost per volunteer was calculated by dividing the total cost of each programme per year by the number of volunteers in deployment that year. The average cost per UNV over the span of the EHRP was USD 37,951 per year, as compared to USD 13,621 per year for a VSO. Although VSO programme costs are not supported by SWAp funds, they are funded by DFID directly and have been reported by key stakeholders as falling under the EHRP programme in general terms. Therefore, this document reports the VSO costs below but excludes them from the total summary costs of EHRP in Part II, as their funding did not come from the SWAp basket funding.

**Table 12. Total Cost of Element 3 (USD<sup>56</sup>)**

	2004	2005	2006	2007	2008	2009	Total
<b>UNV Total Cost</b>	187,954	187,954	1,202,908	1,327,720	1,645,663	1,826,603	6,378,803
<i>Number of UNV</i>	5	5	32	39	39	50	
<i>Avg cost per UNV</i>	37,591	37,591	37,591	34,044	42,196	36,532	
<b>VSO Total Cost</b>	260,384	768,939	685,071	938,689	946,180	1,143,545	4,742,808
<i>Number of VSO</i>	13	51	76	85	75	82	
<i>Avg cost per VSO</i>	20,030	15,077	9,014	11,043	12,616	13,946	
<b>TOTAL</b>	448,339	956,894	1,887,979	2,266,409	2,591,844	2,970,148	11,121,612

## Discussion

As an emergency mechanism, this element was necessary and successful in filling essential gaps in health services throughout the country between 2004 and 2009. At times, the UNV experienced delays in recruitment due to capacity restraints at the UNV headquarters as well as the challenge to find qualified doctors and some volunteers declined the contract even after considerable effort had been made to recruit them. One of

<sup>55</sup> UNV costs were reported in USD and converted to MK using the average exchange rate for the year in which they were incurred (Annex P). Costs for 2004- 2006 were unavailable and therefore estimated by multiplying the number of volunteers by the average cost per volunteer for the remaining three years. The VSO office did not provide actual expenditure data, but rather the unit costs per volunteer for 2005-2009. These unit costs were multiplied by the total number of volunteers or new numbers of volunteers, as appropriate. A table of all costs in MK and GBP can be found in Annex Q.

<sup>56</sup> Source: UNV costs provided by UNDP in Malawi; VSO costs provided by VSO Office, Malawi.

the challenges is maintaining up to date information on the availability of volunteer candidates, especially specialists.<sup>57</sup>

While there was no formal exit strategy, the MOH and the UNDP have agreed that there will be a phase out of the UNV District doctors since the College of Medicine has started graduating new doctors who can fill these posts and develop their skills.<sup>58</sup> Nonetheless, the government acknowledged that it will continue to need the services of volunteers focused in various specialty areas of medicine as Malawi's production of doctors is still primarily for general practitioners.<sup>59</sup> Going forward, the government needs to ensure that the gains made by the College of Medicine are maintained or increased, and that there is no gap in the supply of general practitioners in the country. Assuming the MOH funding stays at current levels, it presents an opportunity for examining strategic options for use of the monies saved by not employing volunteer general practitioners.

#### **ELEMENT 4: INTERNATIONAL TECHNICAL ASSISTANCE**

##### ***Overview of Implementation***

Element 4 of the EHRP focused on providing long term technical assistance to the MOH, specifically in the areas of human resources policy, planning, management and development. A total of 23 consultants were recruited to provide TA to the MOH, of which four were in the area of Human Resources. This evaluation will assess only the four HR TAs. The HR consultants began to provide TA beginning in April 2005 and ended in December 2008. The main objectives of the TA were to support the development, implementation, and monitoring of the HR Management Development systems; facilitate capacity development; and spearhead the revival of the HR Planning Unit of the MOH.

##### ***Data and Findings***

###### ***A. Quantitative Findings***

- Four Long Term Technical Assistance Providers were recruited in Human Resources (Table 13).
- Three consultants were hired beginning in April-May 2005, and when one contract ended in June 2007 the fourth consultant was hired in August 2007.
- The four consultants assisted in the development of policy documents including:
  - National HRH Strategic Plan
  - National Health Sector Deployment Policy
  - HR Development Policy
  - Five-year training and staff development plan for HR officer and administrators

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<sup>57</sup> "Capacity Development for Health" annual report, UNDP, September, 2009

<sup>58</sup> Ibid.

<sup>59</sup> Source: Dr. Chithope Mwale, Director of Clinical Services, UNDP meeting, Mangochi, Malawi, April 12, 2010

- The policies developed by the consultants were not implemented for a variety of reasons (see qualitative findings below).

**Table 13. Summary of Technical Assistance Providers**

Name	Period of Assignment	Job Title
<b>KUCHANDE, Harold</b>	April 05 – June 08	TA, Human Resources Management
<b>CHINGWALU, Ian</b>	April 05 – December 08	TA, Human Resources Development
<b>MATSIKO, Dr Charles</b>	August 07 – December 08	TA, Human Resources Planning
<b>MARSDEN, Paul</b>	May 05 – June 07	Senior TA, Human Resources Planning & Development

*Source: LATH TA Reports*

### *B. Qualitative Findings*

Key informant interviews were held with providers of technical assistance to the HR Department of the MOH as well as with their counterparts in the HRMD department.<sup>60</sup> The purpose of the key informant interviews was to determine the benefits and challenges of having international consultants provide TA in HRM to the MOH. In addition, an HRM Survey, “Competency Gaps in HRM” was conducted with a sampling of HR officers and managers with significant responsibility for HRM at a variety of MOH health facilities as well as with selected DHOs. (Refer to detailed methodology on page 13). Key findings from the informant interviews include:

- Roles and responsibilities for TA performance were not clearly defined in the contract between the MOH and the Contractor.
- There was no baseline data or analysis of the skills gap of the national counterparts in the MOH, which, in fact, lacked adequate numbers of qualified HR staff.
- There were high levels of vacancies in the HR Department, as a result of turnover of staff, making it difficult to transfer skills and build capacity in a sustained manner.
- High levels of vacancies also resulted in the TAs performing operational duties and line management work to fill the backlog of routine work.
- The HR leadership position was vacant between 2004 and 2007, leading to a leadership vacuum.
- The MOH HR Department and the Health Service Commission (HSC) focus mainly on filling vacancies and topping up salaries, and do not focus on improving their interaction with the Department of Human Resource Management and Development, which limits their ability to address systems changes and implement

<sup>60</sup> To avoid a potential conflict of interest in this evaluation, Harold Kuchande, one of the HR TAs and a member of this EHRP Evaluation Team, did not take the lead in investigating this element, nor was he included in the key informant interviews for the Element.

policies developed through the TA. These policies, while valued, were not implemented due to a lack of leadership and internal HR capacity.

- Disparities in earnings between TAs and counterparts were detrimental to the motivation of the local counterparts.

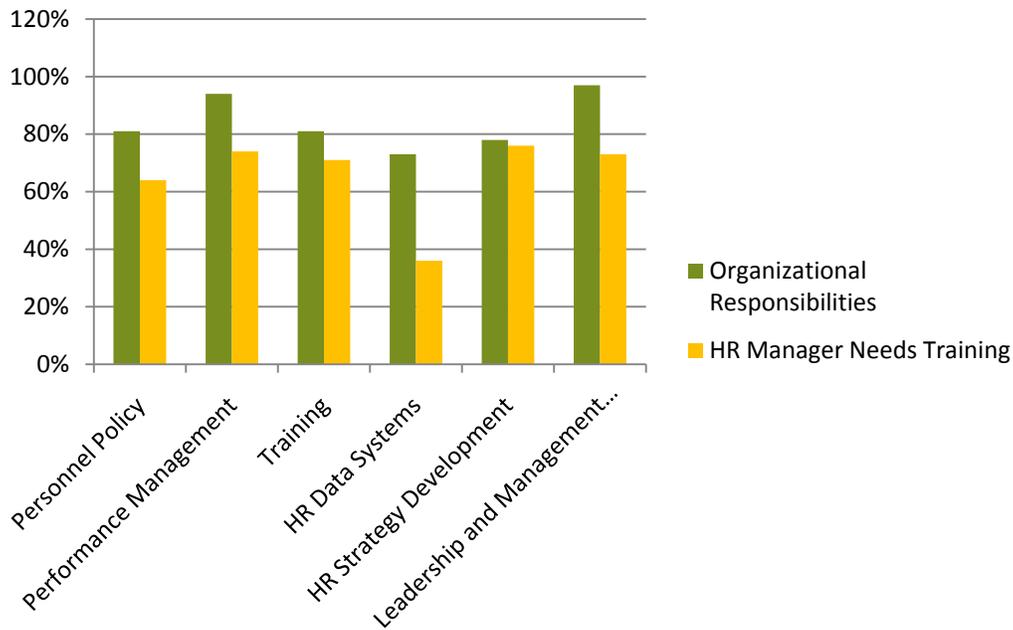
### **HRM Survey: To Assess the Gaps in HRM Competency in the MOH at the District Level**

Findings from the Human Resource Management Survey on “Competency Gaps in HRM,” which was used to determine the extent to which the benefits of TA trickled down to the District level, revealed a significant gap between the organizational functions in HR and the respondents’ capacity to carry out these functions. Because there is no established cadre of HR Officer at the District level, the role of HR is generally assigned to other managers. Thus, the target group for this survey was managers, at the District level, with significant responsibility for HRM. Eighty-one percent of the respondents indicated that they were practicing hands-on medical care in addition to their HR duties. A total of 28 managers, representative of all Districts, completed the survey. When asked about the challenges they face, they identified the following:

- Understaffing
- Lack of staff satisfaction and low morale
- Grievances and poor working conditions
- Lack of skills in HR

Figure 22, on the following page, represents six key HR functions, which are carried out at all organizational levels of the Ministry of Health. Respondents were asked whether or not they had responsibility for a particular function, and then whether or not they felt they had received enough (or any) training in that particular area. The responses are startling as they reveal that the majority of people responsible for HR functions at the district level feel incredibly unprepared to manage these assignments. Overall, there was a significant gap between the six key HR functions and the respondents’ capacity to carry out these functions (Table 14, on the following page).

**Figure 22 - HRM Survey: Gap Analysis of HR functions and Respondent’s need for training in each area of responsibility**



**Table 14: Detailed Findings of HRM Survey**

<b>HR Function with Definition</b>	<b>% of respondents who report needing training</b>
<i>Personnel Policy:</i> The capacity to manage compensation and benefits, HR Planning, recruitment, hiring, deployment, transfer, promotion of staff	62%
<i>Performance Management:</i> the capacity to monitor job descriptions, staff supervision, performance appraisal	76%
<i>Training:</i> the capacity to manage in-service, management and leadership development, career development and link to pre-service training institutions	75%
<i>HR Data Systems:</i> The capacity to manage an employee tracking system and personnel files	38%
<i>HR Strategy Development:</i> The capacity to develop an HR strategy and a retention strategy	78%
<i>Leadership and Management:</i> The capacity to work in teams, communicate effectively and advocate to strengthen the role of HR	75%

**Cost**

Costs for Element 4 are made up of the TA contracts. Specific information in terms of salaries or costs per consultant is confidential in nature and therefore not reported in this

document. An approximation of the total cost for the four HR TAs over the span of the contract (2005-2009) is USD 1.48 million.<sup>61</sup>

### ***Discussion***

Despite the great need for technical assistance in HRM in the health sector, the potential impact of Element 4 was diminished by the lack of stable national counterparts and the need for the TAs to provide an extra ‘pair of hands’ in light of the high turnover of staff and backlogs of routine work. These conditions made it difficult to transfer skills, engage in joint planning and implement new policies. Even with a stable number of counterparts, long term TA provided by international consultants, the disparities in earnings run the risk of de-motivating the counterparts. The results of the HRM survey make it clear that going forward, there is a critical need to build HR management capacity at all levels of the MOH, but a more cost effective plan must be developed in consultation with the key stakeholders within the Ministry, the Department of Human Resource Management and Development (DHRM&D), the Zonal and District management teams and local capacity building organizations. Visionary and effective leadership for HR strengthening at all levels is a critical component of any future HRH strategy.

## **ELEMENT 5: STRENGTHENING M&E CAPACITY**

### ***Overview of Implementation***

Element 5 of the EHRP was intended to establish a robust M&E system for tracking human resources in the health sector. However, as described earlier, there was no clear plan for this element at the outset of the EHRP. As a result, few activities have occurred under Element 5 using EHRP funding. These activities include procurement and distribution of computers to districts around in the country, provision of database management training (i.e. using Excel databases), and a study tour prior to the training, all of which occurred in 2008.

### ***Data and Findings***

#### ***A. Quantitative Findings***

- The Human Resources Management Information System (HRMIS) has not been rolled out using EHRP funding as planned. Instead, only a limited number of activities were carried out to build M&E capacity using EHRP funding, as follows:
  - 40 computers were procured and distributed to District Health Offices and Central Hospitals around the country in 2008.
  - A study tour was undertaken prior to the district-level training in database management.
  - Training in M&E and Database Management was performed at the district level in 2008 using EHRP funds.

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<sup>61</sup> TA costs were reported in GBP and converted to USD using average yearly currency conversion for the period covered. See Annex P for average conversion rates and Annex Q for total costs in GBP and MK.

- However, a new HRMIS system based in MS Access has been developed, ***although not funded under EHRP***:
  - Development of an HRMIS system in MS Access was done by a WHO-funded VSO in 2009.<sup>62</sup>
  - Training on the new MS Access HRMIS system, funded by the GDC, was conducted in all five zones in late 2009/early 2010.
  - Districts have been reporting HR figures into the HRMIS and emailing them to the central MOH beginning in January 2010.
  - The current MS Access HRMIS system will be moved to an online database when a large enough server has been procured.

### *B. Qualitative Findings*

Key informant interviews were held with HMIS staff and the Director of Planning and Policy as well as with HR Data clerks at the District level. The purpose of the key informant interviews was to determine the functionality of the Human Resource Management Information System (HRMIS) for the MOH which was to be developed under the EHRP.

- Currently, there is no single method for collecting human resource data. The HRMIS is still being phased in, and various department/offices use different methods, some paper based and some computerized. For example, the regulatory bodies (Nurses and Midwives Council and Medical Council of Malawi) are collecting data through registration. The HMIS gathers data on few selected indicators. The HR census is another way of collecting HR data, although surveys are a detailed and time-consuming method and has only occurred once over the period of the past six years.
- An HRH Framework and indicator matrix has been developed, but not operationalized into an HRMIS system.
- The development of a comprehensive HRMIS system for the MOH was not addressed until the fifth year of the EHRP when a volunteer supported by WHO created a system.

### *Cost*

As described in the data and findings, there were limited expenditures made using SWAp funding on this Element, which came to a total of USD 112,529 (Table 15).

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<sup>62</sup> Personal communication with Josephine Logronio, VSO Volunteer and developer of HRMIS database, in Lilongwe 24 March 2010.

**Table 15. Total Costs for Element 5, 2004 - 2009<sup>63</sup>**

	2004	2005	2006	2007	2008	2009
<b>Computers</b>					72,446	
<b>Study Tour</b>					1,748	
<b>Database Management Training</b>					38,335	
<b>TOTAL</b>					112,529	

### *Discussion*

At the outset of the EHRP, there was no specific implementation plan for Element 5. Without a plan of activities that would strengthen M&E capacity for human resources, there was little against which to measure the progress of this element. Lack of human resource data also imposed a limitation on tracking other elements of the EHRP. The general scope of Element 5 was met to a very limited degree by the EHRP. The main interventions were procurement of computers for each District Health Office and Central Hospital, and training in managing databases using Excel.

In the last year, however, progress has been made toward achieving the goal of Element 5 using other funding. This includes the development and roll-out of an HRMIS, which has been done by a VSO located in the central MOH. Training in the new HRMIS system, based in MS Access, has already been launched in all zones, and districts began reporting using the HRMIS database starting January 2010.

### *Cross Cutting Issues: Qualitative Input from Key Informant Interviews*

Key informant interviews were held with a variety of senior leaders in the MOH to get their input on the overall performance of the EHRP; what was missing and recommendations for the next phase. Among the key points from these interviews:

#### *Overall Performance*

- Remarkable improvement in the numbers and production of staff has had a visible impact on the ground, even though the health/population ratios are still low against regional comparators.
- Improved workloads, housing, infrastructure, drugs and equipment
- Training institutions excelled at increasing capacity despite the lag in infrastructure development.
- International volunteers played a vital, emergency role, but the salary differential was a problem.

<sup>63</sup> Source: Personal communication from MOH, and receipt for computers from MOH. All costs given in MK and converted to USD using average exchange rate for the year in which they were incurred.

- Weak link in HR process between the MOH and the HSC and also in the lack of leadership, joint planning and effective coordination among the different players in HRM.
- The issue of school fees needs to be effectively managed because of its key impact on increasing staffing levels.
- Government support was strong, but now needs to move toward long-term sustainable strategies.

*Elements that were not implemented or should have had more priority*

- The Hardship Allowance to support staff in rural and remote areas, which was not implemented under the EHRP, is critical for the future.

*Additional elements that should have been included in the EHRP*

- Strategic planning around a vision, around which all stakeholders can be aligned
- Quality and sustainability
- Capacity building for the implementation of HR programmes
- Staffing norms tied to pharmacy, lab, clerical and management positions
- Training of specialists

*Recommendations for the next phase, Key Informant Perspectives:*

- Consolidate gains of the first EHRP by shifting from an emergency mind-set to a long term perspective.
- Strategic planning for a long-term and affordable solution to the public health sector's problems.
- Focus more on health systems strengthening.
- Implementation of a hardship allowance should be a priority of the next phase
- Continue to increase training outputs with wider focus than just on doctors, nurses and midwives. Include pharmacists, lab technicians and managers.
- Review staffing levels and identify cadres that provide the most benefit to the most pressing health problems and support these.

## Part II: Evaluation of Cost, Sustainability, Impact and Cost Effectiveness

### COST

#### *Total EHRP Cost*

As described in the introduction, the five elements of the EHRP were costed using a bottom-up approach. The individual components of each element are described in detail in Part I of this evaluation. The total costs of the five elements are summarized in Table 16 below. For the purposes of this evaluation, direct costs are defined as those directly relating to the implementation of Elements 1-5 of the EHRP. This comes to a total of USD 95,587,010 for the period covering the calendar years 2004-2009.

**Table 16. Total Costs of the Five EHRP Elements 2004-2009 using SWAp Funding (USD)<sup>64</sup>**

	2004	2005	2006	2007	2008	2009	Total
<b>ELEMENT 1</b>	-	2,853,923	6,290,991	6,698,253	7,872,518	10,552,155	34,267,841
<b>ELEMENT 2</b>	-	1,901,105	8,983,453	13,454,501	11,719,868	17,288,934	53,347,861
<b>ELEMENT 3</b>	187,954	187,954	1,202,908	1,327,720	1,645,663	1,826,603	6,378,803
<b>ELEMENT 4</b>	-	1,479,977	-	-	-	-	1,479,977
<b>ELEMENT 5</b>	-	-	-	-	112,529	-	112,529
<b>GRAND TOTAL</b>	187,954	6,422,959	16,477,353	21,480,474	21,350,578	29,667,692	95,587,010

#### *Other cost implications*

Our discussion of other cost implications of the EHRP relates to any unintended consequences of the program that could have a monetary impact. In particular, the provision of salary top-ups has the potential to have a broader impact on the labour market. Within the public sector, all salaries are established at the central level by the Treasury, and only the health sector received the salary top-ups. Initially, other sectors in the civil service raised concerns about not receiving top-ups; however, the health worker shortage was so severe that the rest of the public sector accepted the situation.

However, the top-ups reportedly had a direct impact on health worker salaries within the NGOs and the private sector as they attempted to remain competitive with the new

<sup>64</sup> All costs given in MK or GBP were converted to USD using average annual conversion rate for the year in which they were incurred. (See Annex P for conversion and Annex Q for EHRP costs in GBP and MK). Note that total cost of five elements does not cover all costs under EHRP as some have been implemented using funding outside SWAp (e.g. VSO Programme, HRMIS system). Also, salary and allowances are not part of total cost, only the expenditure on top-up.

government salaries for nurses, clinicians and others.<sup>65</sup> The increases in the private sector wages were reportedly not significant enough, however, to attract government health workers, since the MOH remains the preferred choice for health workers thanks to both the financial and non-financial incentives such as access to training, professional development, and career satisfaction.<sup>66</sup>

### ***Salaries and top-ups***

Since the beginning of the EHRP, there have been several revisions to the civil service salary structure.<sup>67</sup> The 2006 revision of salaries, as circulated by DHRMD, consolidated top-ups for health workers into the base salary, resulting in a large increase from the previous structure. However, this policy was revised in 2007, under which health workers were reverted to the same new salary as the main civil service, with the SWAp top-ups over and above. Salary increases were not uniform across all grades. For example, grades L-R (Technical Assistants, Subordinate Class, and Industrial Class) increased 13%, 37%, 23%, and 15% between 2004 and 2009, compared with grade C (Heads of Ministry) which increased 70%, 8%, 14%, 15% over the same time. From 2009, salaries for civil servants have increased uniformly, by an average of 15% against inflation of around 8%, resulting in a real increase of about 7%.<sup>68</sup>

Taxation in Malawi is governed under the Taxation Act of the Laws of Malawi, Chapter 41:01. The tax structure for Malawi is applied to salaried personnel in both the public and private sectors, as follows: the first MK10,000 is untaxed; next MK 3,000 is taxed 15%; and the balance is taxed 30%. The GOM tax formula is applicable equally to all levels of civil servants, inclusive of all salaried health personnel in the MOH. Tax is levied on gross pay; in the case of health workers, this refers to both basic pay and top-up allowance. The top-up allowance, as long as it is not integrated into the basic salary, will not account for terminal benefits for health workers at all levels, though it is taxed. Opportunity is still available for the MOH to negotiate with the Ministry of Finance in advance to sensitize the Malawi Revenue Authority (MRA) on the principle behind the top-up allowance and to request for exemption from tax during the next programme of work.

Due to the taxation, the income from SWAp top-ups does not represent a true 52% increase in take-home pay but rather ranges from 25% to 41%.<sup>69</sup>

## **SUSTAINABILITY**

The sustainability of these efforts – to have sufficient health providers to deliver the health services needed in Malawi – depends on two main factors: the ability to train enough providers and the ability to attract them into and retain them in the Malawian health care

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<sup>65</sup> Key informant interview with Mr. Simwaka, former Acting Director of Budgets, Ministry of Finance

<sup>66</sup> Key informant interview with Dr. Maureen Chirwa of the College of Medicine.

<sup>67</sup> Source: DHRMD Revision of Salaries in the Civil Service; years 2004 – 2009.

<sup>68</sup> 2010/11 Budget Analysis Report. Malawi Economic Justice Network. June 2010

<sup>69</sup> Republic of Malawi, Malawi Health SWAp Donor Group, GTZ/UNDP. Human Resources / Capacity Development within the Health Sector: Needs Assessment Study. April 2007.

system. The issue of sustainability can be examined by posing questions from two main perspectives<sup>70</sup>.

*First, have the numbers of health providers continued to increase during the time of the project and are the numbers of providers being trained sufficient to contribute to further increases over the next few years?*

In terms of numbers of health providers, the staffing levels have continuously increased from 2005 to 2009, as demonstrated throughout this evaluation. However, these increases have been in absolute terms, and we currently do not have information on the actual numbers of people entering and leaving the service each year. Without attrition data, the yearly increases in absolute numbers of health workers can be explained in two different ways. In the first scenario, high attrition rates are being counteracted by the expanded training capacity which produces a large number of graduates that enter the public sector. These graduates not only fill the places of those health staff who have left, but are also enough to create a net increase in staff. In the second scenario, there would be a lower attrition rate, which would result in less people leaving the public sector. This would mean that a large portion of graduates from the training institutions are not working at MOH or CHAM facilities after graduation – otherwise, the absolute increase in staff would be much larger.

Changes in the policy regarding student fee subsidies have a potential impact on the sustainability of the increased numbers in the health workforce. The student fee subsidies were discontinued beginning with the Fall 2009 cohort, resulting in a ‘missing’ cohort of graduates. However, based on the recent 2010/11 budget, the GOM will be allocating resources back to providing scholarships at training institutions. In addition, significant infrastructure improvements that were undertaken under the EHRP will ensure that training capacity remains at its current elevated level.

*Second, is it likely that sufficient Government of Malawi and donor funding will continue in the medium term future, and that the Government will become completely responsible for funding in the long term?*

Since this project has a medium-term timeline, the best way to measure the above is to ask if there is sufficient funding to cover the ongoing costs of the project and if the Government is picking up an increasing share of those costs. In terms of donor funding, specific commitments have yet to be made, although development partners are likely to support the next programme of work (2011-2016).<sup>71</sup>

In terms of GOM funding, analyses of health expenditures and budgets from 2002/03 through 2009/10 show that total health expenditure has increased over the period of the

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<sup>70</sup>Sustainability can also be measured in different ways (e.g., financial, technical capacity and management capacity) but from this perspective the simplest and most relevant one is probably financial.

<sup>71</sup> Personal communication from Dr. Jason Lane, DFID Malawi, received 06/09/2010.

EHRP so far and that expenditure targets are being met.<sup>72</sup> Further analysis indicates that national health spending has increased in real per capita terms from \$7.32 in 2005/06 to a projected \$9.23 in 2009/10.<sup>73</sup> However, the 2009/10 approved budget was less than the revised budget for 2008/09 and this represents a reduced allocation to health which has been criticized by civil society. Even though actual expenditure may be higher than budget, this is cause for concern.

Government funding has shown an increasing trend towards the health sector, which is likely to continue over the next five years, given Presidential support for the EHP and SWAp. In the 2010/11 budget, as analyzed by the Malawi Economic Justice Network (MEJN), health has been allocated MK45 billion representing 15.5% of total budget.<sup>74</sup> The 15.5% appears to represent an increase over the figures in previous years and indicates that the Abuja target for health spending of 15% may be met.<sup>75</sup>

For 2010/11, donor contributions represent 30% of the total budget; this represents a reduction from the two preceding years (33% and 35%, respectively), due to increased domestic resource contribution.<sup>76</sup> Furthermore, the GOM has allocated resources for scholarship of students in CHAM training institutions. This amount, targeting 1,200 students and translating into MK329,166 per student, should present a sufficient allocation with fees ranging from MK330,000 to MK350,000 per student per year. The MEJN report commends the GoM for sourcing the money within the domestic budget as a sustainable, predictable solution compared to donor reliance.

## IMPACT

### *Impact on Health Service Provider Density*

As described in Part I, this evaluation found a 53% overall increase in the number of MOH and CHAM health workers from 2004 to 2009. Physicians, in particular, saw a large increase, from 43 in 2004 to 241 in 2009, which represents a 460% increase. Nurses – a cadre that has historically experienced the greatest losses due to migration – also increased by 36% between 2004 and 2009. The original goal of meeting the level of physicians and nurses to population in Tanzania has been met, although this is also partly due to decreasing ratios in Tanzania over the last six years.<sup>77</sup> When compared with African countries, Malawi in 2009 remains low in terms of physicians to population at 0.02 per 1,000; Zambia, Kenya, Uganda, and Rwanda have ratios of 0.14, 0.14, 0.08, and 0.05 per

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<sup>72</sup> See: Common Approach to Budget Support (CABS) Development Partners. Joint Analysis of the Government of Malawi's 2009/10 National Budget. October 2009. See also Health Portfolio Review for Malawi. Full report. Initially prepared by Cameron Bowie and Takondwa Mwase for DFID and the Malawi Health Sector July 2009.

<sup>73</sup> Ibid.

<sup>74</sup> 2010/11 Budget Analysis Report. Malawi Economic Justice Network. June 2010

<sup>75</sup> Abuja Declaration on HIV/AIDS, Tuberculosis, and Other Related Infectious Diseases. Abuja, Nigeria; 24-27 April 2001.

<sup>76</sup> 2010/11 Budget Analysis Report. Malawi Economic Justice Network. June 2010

<sup>77</sup> Please note that staff to population ratios are used as rough illustrative comparisons and may be subject to variations in numerators and denominators (i.e., the definition of what cadres comprise a nurse).

1,000, respectively. Nurse to population ratios compare similarly – 0.37 per 1,000 in Malawi versus 2.01, 1.14, 0.72, and 0.43, respectively, to the same countries.<sup>78</sup>

At the outset of the EHRP in 2004, the total health service provider density<sup>79</sup> was 0.87 per 1,000 population in the public sector (MOH and CHAM). This figure rose to 1.44 by 2009, representing a 66% increase. (Removing HSAs from the health provider density results in ratios of 0.46 per 1,000 in 2004 increasing to 0.64 in 2009.) Over the same period of time, the total population of Malawi increased by 10%. Thus, health provider density outpaced the population increase.<sup>80</sup> Despite these increases, Malawi's health service provider density is still below the average for the African region (1.91 per 1,000) and further still below the world average (6.23 per 1,000).<sup>81</sup>

In addition to calculating health service provider density for Malawi overall, the density by district was examined to determine whether there was an even distribution of staff by the end of the EHRP. The total density in 2009 of the MOH and CHAM 11 priority cadres of staff, in addition to community-based HSAs, is mapped by district in Figure 23 on the following page.<sup>82</sup> Staffing densities could not be calculated for 2004 due to a lack of available data for health provider deployment by district from the MOH and CHAM. The original design of the EHRP did not include specific goals in relation to health worker distribution, but rather provided target staffing goals for the country overall. Only the HSA cadre has been targeted to achieve a specific population ratio of 1 HSA per 1,000 population. Furthermore, while the issue of rural employment and retention was raised with the proposed hardship incentive package, this was never implemented.

As of 2009, the majority of districts had a health worker density between 1.0 and 1.5 per 1,000 population. There was a wide range of health worker density per 1,000 population, from 0.86 in Kasungu to 3.61 in Mwanza. Interestingly, the two most urban districts, Lilongwe and Blantyre, had the highest number of staff in absolute terms, yet due to high populations rank low on the distribution of health providers (Lilongwe at 1.07 and Blantyre at 1.23 per 1,000 population, respectively).

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<sup>78</sup> Yohannes Kinfu, Mario R Dal Poz, Hugo Mercer & David B Evans. The health worker shortage in Africa: are enough physicians and nurses being trained? *Bulletin of the World Health Organization* 2009;87:225-230. doi: 10.2471/BLT.08.051599

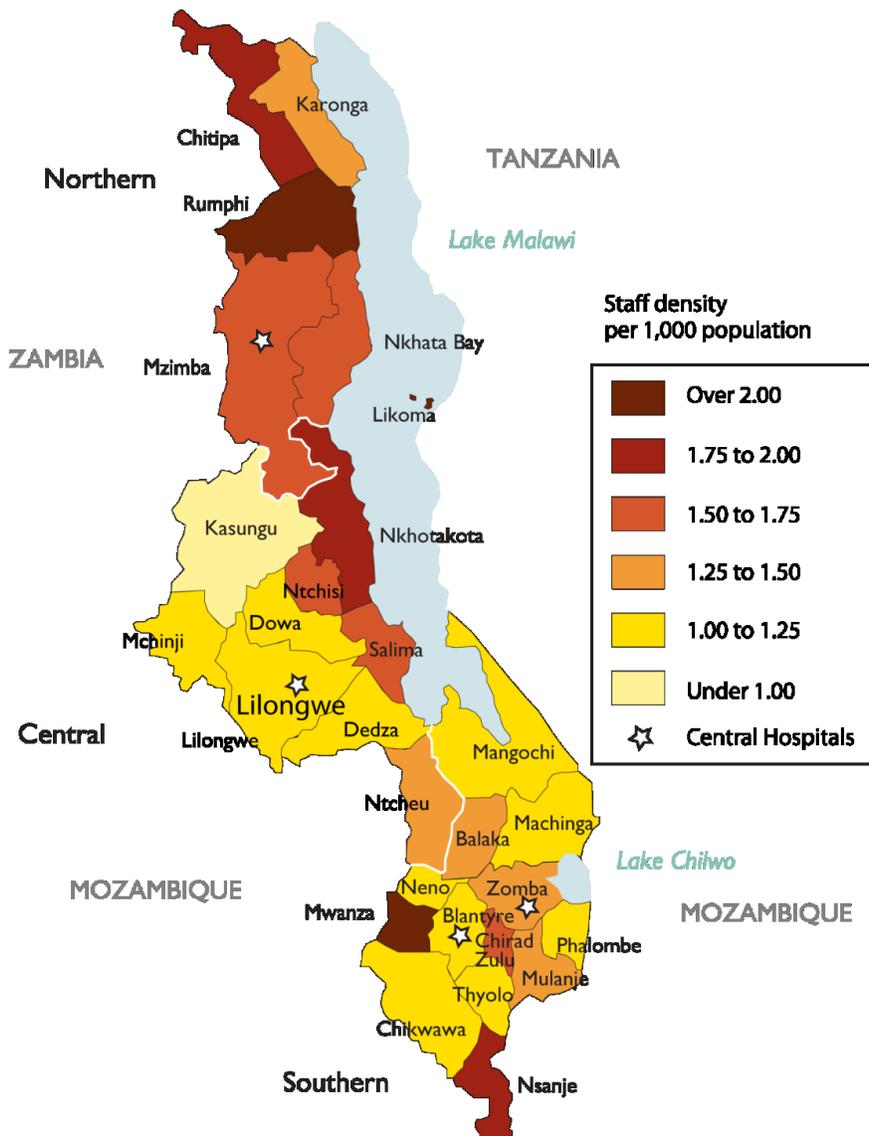
<sup>79</sup> In this analysis, total health service provider density is comprised of the 11 priority cadres of staff and community-based HSAs.

<sup>80</sup> Health worker density is based on the ratio of staff to population; as population grows, the number of staff must increase proportionally to maintain the same density. If the density in Malawi were the same in 2004 and 2009 this would still represent an increase in the absolute number of health workers, because population increased by 10%. Thus, the 66% increase in health worker density represents a true increase above maintaining the same ratio of staff to population.

<sup>81</sup> World Health Organization, *The World Health Report, 2006: Working together for health*.

<sup>82</sup> Health workers at central hospitals are included within the staff densities for the district in which the hospitals are located. The central hospitals are denoted with a star in Figure 22 and are as follows: Kamuzu Central Hospital, Lilongwe; Queen Elizabeth Central Hospital, Blantyre; Mzuzu Central Hospital, Mzimba; and Zomba Central and Mental Hospitals, Zomba.

**Figure 23. MOH and CHAM Total Health Worker Density per 1,000 population in 2009<sup>83</sup>**



Source: MOH Monthly Top-Up Reports and CHAM Deployment Figures; map by authors.

### Migration

The migration of health workers out of the country had a significant impact on Malawi’s health workforce. In 2002, out of a total number of 493 doctors born and trained in Malawi, 293 (59%) were working out of the country and out of a total number of 2,248 nurses born and trained in Malawi, 377 (16%) were working out of the country.<sup>84</sup> In the

<sup>83</sup> Note that this does not include HSAs. Staff in referral hospitals included with figures for district in which hospital is located. CHAM figures to be added.

<sup>84</sup> “A Review of Codes and Protocols for the Migration of Health Workers, Catherine Pagett and Ashnie Padarath; Paper # 50, Regional Network for Equity in Health in East and Southern Africa,” Sept., 2007

year 2002 alone, 103 nurses migrated out of the country, the vast majority of which moved to the UK (83).<sup>85</sup>

Recognizing the cost of outward migration to poor countries, a variety of policy statements, codes of practice and bi-lateral agreements have been developed in the last decade to ensure that the social and economic costs and benefits of migration are more fairly distributed between source countries and receiving countries. These include the “Commonwealth Code of Practice” issued in 2003; the British “National Health Service Code of Practice, issued in 2001 and revised in 2004; and the Eastern, Central and Southern Africa (ECSA) Resolution issued in 2004. Most recently, in May 2010, the World Health Assembly adopted an accord on migration supported by all member states of WHO. Research conducted on this code of practice does show a reduction in the inflow of health workers to the UK, but is not conclusive as to whether the code is the primary reason for this change as other factors, such as declining demand in the UK, also contribute.<sup>86</sup> The study recommends that to see more value from this code, wider dissemination is necessary in low-income countries.

Available data on migration trends in Malawi since the EHRP was implemented show that migration has slowed. For example, 108 nurses migrated out of the country in 2003 versus only 16 in 2009.<sup>87</sup> While improved salaries and working conditions under the EHRP contributed to this decline, it is also important to recognize that the failing global economy is limiting opportunity to migrate.

### ***Impact on Health Services***

The positive correlation between health workers and service delivery has been well established and is described by WHO thusly: “At the heart of each and every health system, the workforce is central to advancing health. There is ample evidence that worker numbers and quality are positively associated with immunization coverage, outreach of primary care, and infant, child and maternal survival.”<sup>88</sup>

In the case of Malawi, facilities that are staffed according to minimum EHP requirements are more capable than understaffed facilities of meeting the service delivery needs of their catchment populations. However, in addition to staff, several other factors, such as the availability of drugs, equipment, and infrastructure have an impact on the level of service utilization. These elements are addressed by the five other pillars of the POW. The following analysis of service utilization should, therefore, be interpreted in the context of the entire six-pillar POW.

To demonstrate the change in health service utilization over the span of the EHRP, five HMIS indicators were selected: antenatal care, deliveries by trained staff, fully immunized

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<sup>85</sup> Migration data as received from Nurses and Midwives Council of Malawi.

<sup>86</sup> Buchan, J. et al. *Does a code make a difference – assessing the English code of practice on international recruitment*. HRH 2009, 7:33. April 9, 2009.

<sup>87</sup> Source: Nurses and Midwives Council of Malawi

<sup>88</sup> World Health Organization, *The World Health Report, 2006: Working together for health*.

children, administration of Nevirapine for PMTCT, and total outpatient attendances (OPD) (see Annex R for indicator definitions and detailed coverage figures). These were chosen on the assumption that scaling up of these services would be at least in part reliant on having the appropriate number of staff to provide services – for example, a facility lacking trained midwives would not have the capacity to perform deliveries. Overall, national aggregates for all five indicators saw an increase in coverage from 2004 to 2009 for Malawi, although there was some variety between districts. OPD attendance showed the greatest increase, 49%; with PMTCT up 18%, deliveries up 15%, immunizations up 10%, and antenatal coverage up 7% (Figure 24).<sup>89</sup>

Although there is a clear link between the increase in certain indicators and specific cadres, this correlation cannot be quantified with available data.<sup>90</sup> For example, antenatal care services and facility-based deliveries are provided by nurses and midwives; therefore, there is a logical association between increases in this cadre of staff and increased antenatal coverage and facility-based deliveries. Increased utilization can also be tied to the growth of the Health Surveillance Assistant (HSA) cadre. A broad array of services are provided by HSAs, including immunizations, well-child visits, disease surveillance, and vitamin A distribution. According to the HMIS department at the MOH, the services provided by HSAs are captured by the HMIS. However, the services provided by HSAs are not distinguished from those provided at the facility level in the HMIS. The impact of HSAs on increased level of service utilization, therefore, cannot be measured. In sum, increasing the number of health workers and improving staffing levels “was instrumental in the increase in utilization through the production of extra staff that allowed public hospitals to scale-up. Prior to EHRP, programme scale-up would have been unthinkable. EHRP support for the recruitment of additional HSAs also played a critical role in programme scale-up.”<sup>91</sup>

Malawi’s population has increased steadily by approximately 3% per year over the span of the EHRP. The increase in population would be expected to result in higher levels of service utilization. However, since these indicators all represent percentage coverage of health services, the increase in population is factored into the denominator of the coverage calculations, so the utilization of these services experienced true growth over the past six years.

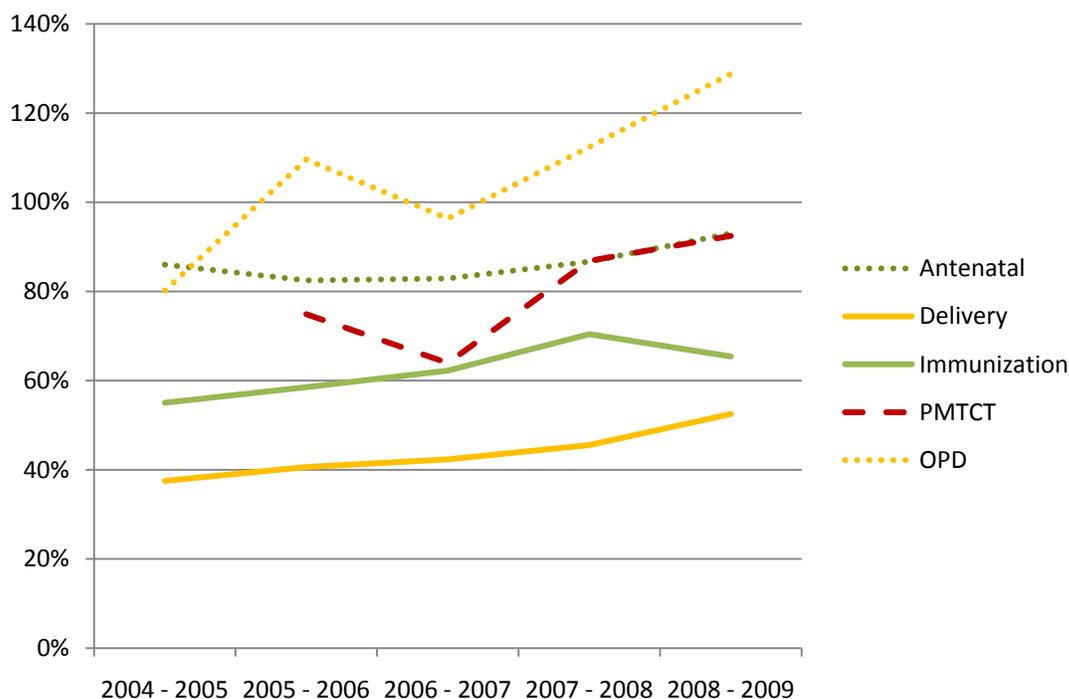
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<sup>89</sup> Note that the coverage indicator for OPD attendance exceeds 100% at several points, which is due to the fact that more OPD visits were made during the course of the year than the total population.

<sup>90</sup> To perform this analysis, the services delivered by each cadre of staff would need to be tracked by the HMIS; this data is not available.

<sup>91</sup> Key Informant Interview, Dr. Maureen Chirwa, College of Medicine.

**Figure 24. Selected HMIS Indicators for Malawi, 2004-2009**

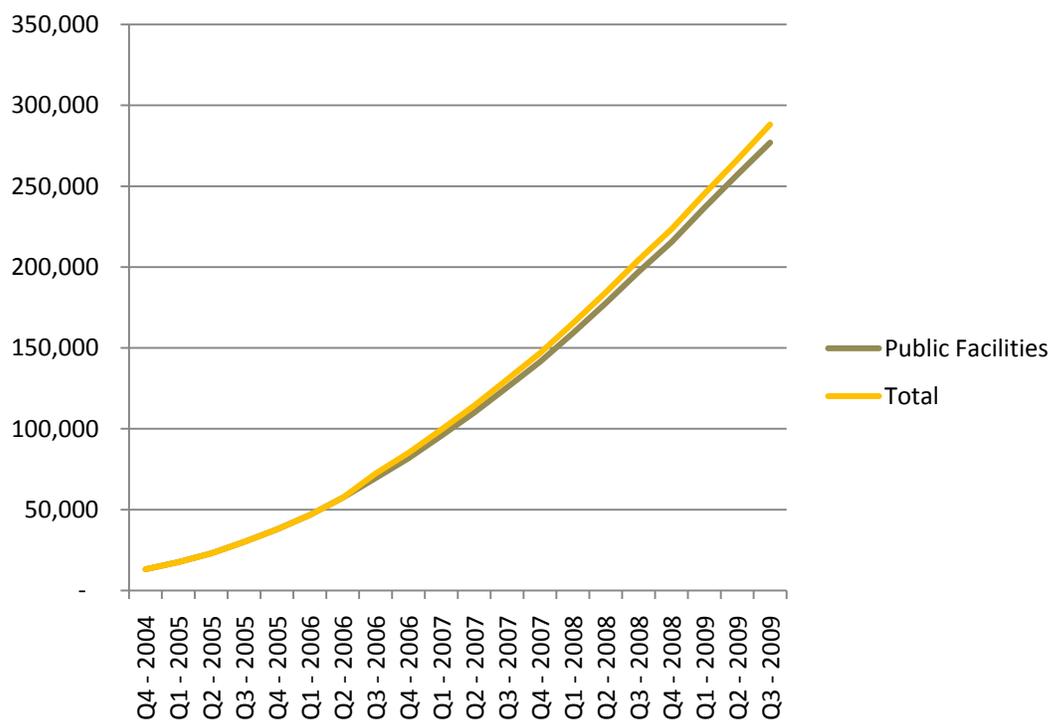


Source: HMIS Annual Bulletin Reports (all indicators)

A particular case for demonstrating the impact of EHRP is that of ART scale-up. HIV/AIDS services, including provision of ART, PMTCT, and VCT, are all part of Malawi’s Essential Health Package and these were to be made available to the entire population at all health facilities. This goal was particularly ambitious for Malawi since training and sourcing medical staff is a major constraint on the pace of scaling up HIV/AIDS services.<sup>92</sup> At the beginning of ART scale-up in Malawi in 2004, there were 24 health facilities providing ART to 13,183 patients. By 2009, this figure had increased to 339 ART service delivery points across the country providing services to 266,325 patients. Facilities were selected to be ART service delivery points only if they had the necessary number of staff that could be trained to provide ART. Thus, the scale-up of ART was dependent on both an increased number of health workers (including HSAs), achieved through Elements 1 and 2 of the EHRP; and the availability of ART trainers and supervisors, many of whom were UN Volunteers, provided through Element 3 of the EHRP. Figure 25 on the following page shows the cumulative ART registrations by quarter, in both public and private facilities, from 2004 to 2009. The vast majority of ART services are provided through the public sector.<sup>93</sup>

<sup>92</sup> Palmer, Debbie. Tackling Malawi's Human Resources Crisis. *Reproductive Health Matters*, Vol. 14, No. 27, 2006.

<sup>93</sup> Source: Quarterly Reports on Antiretroviral Treatment in Malawi.

**Figure 25. Cumulative ART Registrations by Quarter, 2004-2009**

Source: *Quarterly Reports on Antiretroviral Treatment in Malawi*

In addition to the scale-up of health services, the number of facilities capable of providing the Essential Health Package (EHP) on-site has increased dramatically. A 2003 assessment conducted jointly by the Japan International Cooperation Agency (JICA) and the MOH determined that only 54 of 585 (9%) of MOH and CHAM facilities were capable of providing the EHP.<sup>94</sup> By 2009, this figure had increased to 74%.<sup>95</sup>

One important factor that can also have an impact on service utilization is the signing of Service Level Agreements (SLAs) between the MOH and CHAM. The purpose of the SLAs is to provide free access for the public to services in the Essential Health Package at CHAM facilities, thus removing user fees for the public and increasing demand for services. Initially begun in 2002, the SLAs now cover 68 of the 173 CHAM facilities in the country. The majority of SLAs were signed in 2006 and 2007, with contracts renewed at regular intervals to account for increasing costs of service delivery. A report undertaken by the CHAM Secretariat showed that utilization increased dramatically after the introduction of SLAs.<sup>96</sup> Although waiving user fees increase demand, the supply side of

<sup>94</sup> Hozumi D. 2003. Status of Health Services Facilities in Malawi: Findings from Preliminary Analysis of the Malawi Health Facility Survey 2002. Ministry of Health and Population, Malawi, (April).

<sup>95</sup> Malawi Health Sector-Wide Approach (SWAp) Programme of Work (PoW) Framework. Indicator Matrix for Financial Year 2008-2009). 8 October 2009.

<sup>96</sup> Monitoring Report on the Implementation of Service Level Agreements in Selected CHAM Units. Christian Health Association of Malawi (CHAM), December 2008.

the equation is equally important. Without the capacity to deliver services—including adequate staff—facilities will be unable to meet the rising demand.

### ***Impact on Health Outcomes***

The ultimate goal of increasing the health workforce is to improve a country's health status. Several studies have been undertaken in other countries linking health worker density to health outcomes. For example, there is a strong association between health worker density and maternal mortality<sup>97</sup> as well as increased levels of vaccination coverage.<sup>98</sup> In another study, a dynamic regression model was developed to evaluate the short and long term impact of changes in number of physicians per capita.<sup>99</sup> Using a data set of 99 countries, the regression model showed that increasing the number of physicians by one per 1,000 population resulted in a decrease in infant mortality of 15% within five years, and by 45% in the long run (half of which would be achieved in fifteen years).

Impact on health outcomes is analysed in this evaluation by assessing the changes in service delivery, and thereby health outcomes, from the baseline year of the EHRP to 2009, with the assumption that the increased staff played a significant role in these health outcomes.

The impact on health outcomes is measured by approximating the number of lives saved and morbidity averted as a result of the increased service utilization described in the section above. At the completion of the upcoming DHS for Malawi in 2011, outcomes in terms of maternal, infant, neonatal, and child mortality rates can also be measured.

The estimation of morbidity and mortality averted by increased service utilization was made using the Lives Saved Tool (LiST) from the Spectrum suite of tools.<sup>100</sup> The changes in coverage for the HMIS indicators discussed in the previous section (antenatal care, trained deliveries, PMTCT, and immunization) were input into the LiST tool for the span of the EHRP (2004 to 2009). Table 17 on the following page shows the interventions, percentage coverage in 2004 and 2009, and the resulting lives saved or infections averted based on the modelling (for complete results, see Annex S).<sup>101</sup> Note that OPD attendance is not included in this analysis because this is not a specific intervention and therefore cannot be used to calculate lives saved using LiST.

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<sup>97</sup> Lincoln Chen et al. Human Resources for Health: Overcoming the Crisis. The Lancet, Vol 364, November 27, 2004. pp. 1984 – 1990.

<sup>98</sup> Sudhir Anand, Till Barnighausen; Health Workers and Vaccination Coverage in Developing Countries: An Econometric Analysis. The Lancet. Vol 369, April 14, 2007. pp. 1277 – 1284.

<sup>99</sup> Mansour Farahani et al. The Effect of Changes in Health Sector Resources on Infant Mortality in the Short-Run and Long Run; a longitudinal Econometric Analysis. Social Science and Medicine, No. 68, 2009; pp 1918-1925.

<sup>100</sup> The Spectrum suite of tools, developed by Futures Institute, is accessible online at <http://www.futuresinstitute.org/Pages/Spectrum.aspx>.

<sup>101</sup> Note that impact presented in Table 17 represents an approximation based on pre-determined effectiveness coefficients for each intervention and using all default parameters for Malawi that are pre-loaded in the LiST tool and assuming 12% HIV prevalence for adults. An outcome assessment should be performed when information from upcoming DHS 2011 is made available.

**Table 17. Interventions and Total Lives Saved**

Intervention (HMIS Indicator)	Starting Coverage 2004	Ending Coverage 2009	Impact (Additional Lives Saved)
% Antenatal first visit during any trimester	86%	93%	265
% Delivery by trained personnel	38%	52%	6,433
% Fully immunized child <1	55%	65%	2,842
% HIV-positive pregnant women administered NVP	75% (in 2005)	92%	3,647

Note that the demonstrated impact in Table 17 is expressed in terms of additional lives saved; that is, the marginal increase in lives saved due to the increases in coverage, and not the cumulative number of lives saved by each intervention. For these four selected indicators evaluated above, the result is 13,187 additional lives saved.

### COST-EFFECTIVENESS

Cost-effectiveness analysis (CEA) compares the relative costs and outcomes of two or more interventions. The two main uses of CEA, as outlined by the WHO, are “to inform a specific decision-maker facing a known budget, a set of options for using the budget, and a series of other (resource, ethical or political) constraints; and to provide general information on the relative costs and health benefits of different technologies or strategies that are meant to contribute through multiple channels to a more informed debate on resource allocation priorities.”<sup>102</sup>

There are levels of potential CEA:

- The cost-effectiveness of one element versus another within the EHRP;
- The cost-effectiveness of the EHRP versus another pillar of the POW;
- The cost-effectiveness of the EHRP versus another similar program in a different country.

Comparing the cost-effectiveness of the individual elements of the EHRP is limited, since most of these comparisons are either not applicable or not possible with available data. Elements 4 and 5 did not produce quantifiable outputs in terms of numbers of health workers. For Elements 1 and 2, without attrition data, the number of health workers leaving the system each year cannot be determined, nor can whether the increases in staff are due to most of the training graduates joining the public sector. Comparing the cost-effectiveness of the top-ups would require the existence of a comparison group in Malawi which did not receive the top-ups; however, they were implemented on a national scale in 2005, so there is no control group. A comparison can be made between volunteer doctor costs under Element 3: the average cost per UNV was approximately USD 37,600

<sup>102</sup> Christopher J.L. Murray, David B. Evans, Arnab Acharya and Rob M.P.M. Baltussen. Development of WHO Guidelines on Generalized Cost-Effectiveness Analysis. *Health Econ.* 9: 235–251 (2000)

compared with VSOs at an average of USD 13,600. The costs per UNV are significantly higher due to larger stipends and allowances (resettlement, security, settling-in grant, etc.) than those provided VSOs. There is no data currently available to provide a comparison of outputs between the two types of volunteers.

The second level of analysis would require a comparison group within Malawi, in which some parts of the POW were implemented and others were not. Malawi's six-year POW, implemented through the Health SWAp, was a multi-pronged strategy that launched numerous interventions aimed at improving health outcomes for the population. Determining cost-effectiveness of a single component of the POW (such as the EHRP/Pillar 1) would require a comparison group which did not receive the same intervention, as noted in the definition of cost-effectiveness above. In addition, the pillars are all interdependent, and the specific impact of one pillar cannot be isolated. For example, staffing is clearly a major component of service delivery, but availability of drugs also plays a key role. The desired outcomes are produced by a mix of interventions and therefore cannot be solely attributed to just one.

Finally, the third approach would be to compare the effectiveness of the EHRP in Malawi with interventions to increase staff retention in another country. To date, there have been no comparable wide-scale approaches to increasing staff in a country similar to Malawi, as discussed in the background. The comprehensive and innovative nature of the EHRP, and in particular the donor-funded salary top-ups, make Malawi a unique case.

To give an idea of cost-effectiveness, the overall inputs, outputs, outcomes and impact of the EHRP are summarized in Table 18 below. As stated previously, increases in utilization cannot be attributed to a single intervention in the EHRP; however, the strong correlation between health workers and greater utilization and impact has been demonstrated in the literature. The interventions in the POW have resulted in gains in utilization and coverage of services for Malawi's population. The final step will be an assessment of the health status of the country, to be undertaken when data from the upcoming DHS are made available to further assess outcome in terms of morbidity and mortality.

**Table 18. Summary of Inputs, Outputs, Outcomes, and Impact of EHRP**

ELEMENTS	INPUTS (USD)	OUTPUTS	OUTCOMES	IMPACT	LIVES SAVED
1a. Incentive payments	34.1 million	8,369 health workers at MOH and CHAM facilities by 2009  10,507 HSAs in community by 2009	1.44 Health Workers per 1,000 population:  0.02 Physicians,	49% increase in OPD services  15% increase in safe deliveries  7% increase in ANC	6,433  265
1b. Recruitment	169,069	1,093 staff recruited	0.37 Nurses,		
2a. Training - Student Fees	29.9 million	6,316 health workers trained	0.8 HSAs	10% increase in immunization	2,842
2b. Training - Infrastructure	16.7 million		per 1,000 population	18% increase in PMTCT	3,647
3. International volunteers	6.4 million	552 person-years			
4. Technical assistance	1.5 million	HR Policies			
5. M&E system	112,529	N/A			

In summary, the five elements of the EHRP have contributed to a significant number of additional lives saved. Additional service utilization statistics, not assessed in this evaluation, will cause the number of lives saved to increase further. Using a standard monitoring and evaluation framework, the cost-effectiveness of the EHRP is demonstrated in terms of the inputs (amount of money spent) which resulted in direct outputs (numbers of health workers at facilities and in communities; numbers of people trained). These outputs are positively associated with the outcomes and impacts in the table above, which translate to lives saved, and, ultimately, morbidity and mortality decreases.

### SCENARIOS BASED ON COST AND STAFFING PROJECTION TOOL

In addition to evaluating the EHRP, the authors have developed a cost and staffing projection tool to inform future decision and policy-making. The goal of the tool is to provide a comprehensive model of the health workforce inputs and outflows in the public sector. This will include calculating the number of inputs required to meet staffing targets over a specified number of years and the subsequent costs of salaries and top-ups. The inputs into the public sector from training institutions will be modelled in addition to other inputs identified by the user (recruitment galas, etc.) and the associated student fees and other costs calculated.

The following demonstrates sample scenarios that estimate the costs of achieving various staffing levels. Many assumptions were made by the authors, including attrition rate, since

no accurate figures are available.<sup>103</sup> The following is an example of what the tool can produce; the authors will work with the MOH to define parameters of possible scenarios of interest.<sup>104</sup> Three illustrative scenarios are discussed briefly below.

1) *Scenario*: Maintaining the same number of staff as present (2009 figures) with 0% growth by year, and maintaining the same salary level as present. *Results*: No changes, so the number of MOH Staff would remain at 5,171 and CHAM staff at 2,382 for a total of 7,553 health staff receiving top-ups. Over a five-year period, the top-ups would amount to MK 6.3 billion (approximately USD 43.5 million).

2) *Scenario*: Increasing the number of staff at a similar rate to previous growth (13% per year for CHAM and 9% per year for MOH), and maintaining the same salary level as present. *Results*: Number of MOH staff would rise each year to come to 8,003 and number of CHAM staff would be at 4,371 at the end of the five-year period, for a total of 12,373 health staff receiving top-ups. Over a five year period, the top-ups would amount to MK 8.6 billion (approximately USD 59.4 million).

3) *Scenario*: Decreasing the number of staff due to the reduced outputs from student training facilities. Assuming a 60% drop in the current levels of graduates, and maintaining that level of outputs, there would be approximately -2% change in staffing levels the first three years and then -1% during the next two years of the five-year program. *Results*: Number of MOH and CHAM staff would remain the same during the first year.<sup>105</sup> MOH and CHAM staff would decrease steadily by year to drop to 2,242 for CHAM and 4,917 for MOH, for a total of 7,159 health staff receiving top-ups. Over a five-year period, the top-ups would amount to MK 6.1 billion (approximately USD 42.1 million).

Table 19 provides a summary of the projections created by the cost and staffing tool. Total projected staff and costs for the three scenarios described above are presented.

**Table 19. Summary of Projected Tool Scenarios**

Scenario	Total Projected Staff	Total Projected Cost
1 – Maintaining	7,553	43.5 USD million
2 – Increasing	12,373	59.4 USD million
3 – Decrease in Staff	7,159	42.1 USD million

<sup>103</sup> The scenarios presented in this section assume an 8% rate of attrition per year, and 0% additional recruitment per year (i.e. no new staff entering system other than through training institutions). The scenarios would begin at the end of EHRP in 2011 and continue for a five-year period.

<sup>104</sup> Note that figures and costs presented in these scenarios are rough estimates and should not be cited or used for planning or budgeting purposes. MSH/MSH will work with the MOH to develop realistic scenarios for planning the future SWAp.

<sup>105</sup> Assume most programs are a minimum of two years, so the effect would be apparent in Year 2.

**Part III: Recommendations**

In considering recommendations for this evaluation, the MSH/MSH team analyzed the data, both quantitative and qualitative, in light of the original goals of the EHRP to determine if an ‘emergency’ response is still needed, or if Malawi has progressed beyond this state. The team examined the outputs of each Element to identify which ones should be carried forward and/or if there are adjustments to be made six years later to ensure long term sustainability. The team looked at overarching issues such as the service utilization, policy, finance and sustainability. The team developed a costing tool in order to present various scenarios for the Government to consider as they move to the next stage of the EHRP. Finally, the team examined the EHRP in light of the HRH Action Framework to identify elements that were missing. In conclusion, the evidence is clear that Malawi has moved out of the crisis that precipitated the EHRP, but there is much to do to consolidate these gains in order to achieve an adequate and sustainable health workforce.

It is important to note that Malawi’s achievements have been cadre-specific. For example, though the country has been able to produce more doctors (which has ultimately influenced the government to dispense with the continued recruitment of international volunteer general practitioners), there continues to be shortages amongst nurses and midwives. This shortage in such a critical cadre was one of the primary causes of the original crisis. Furthermore, other professional cadres such as dental therapists, physiotherapists and radiography technicians did not reach the original targets set out in the beginning of the EHRP.

**Emergency or Beyond?**

The evidence presented in this evaluation shows that Malawi has moved beyond the emergency stage with regards to staffing levels and the production of health workers. Sizeable gains have been made in the number of health workers in the public sector (over a 50% increase) and the number of enrolled students in the health training colleges. This is to be highly commended. Malawi is currently at the level of Tanzania in terms of staffing ratios of physicians and nurses to population, thus achieving one of the original goals of the EHRP.<sup>106</sup> However, of the 11 priority cadres, only 4 met or exceeded the yearly staffing targets outlined in the original EHRP design document. These four cadres were physicians, clinical officers, lab technicians, and pharmacy technicians.

Nonetheless, the gains realized are fragile for several reasons. The overall Malawi health provider density of 1.44 per 1,000 population is still well below the African average of 1.91 per 1,000<sup>107</sup>. Nurses, a particularly critical cadre, remain below the targeted level. Despite early assumptions, there is not a clearly developed government plan to assume responsibility for the

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<sup>106</sup> Source: WHO World Health Atlas; Malawi 2009 figures based on primary data from MOH and CHAM vacancy analyses; Tanzania 2009 figures from: The health worker shortage in Africa: are enough physicians and nurses being trained? Yohannes Kinfu, Mario R Dal Poz, Hugo Mercer & David B Evans Volume 87, Number 3, March 2009, 225-230. Note Tanzania figures decreased from 2004 to 2009.

<sup>107</sup> World Health Organization, The World Health Report, 2006: Working together for health.

salary top-ups. In addition, the enhanced health workforce needs to be supported by stronger health systems in order to achieve maximum performance, and the increased production demonstrated by health training institutions under the EHRP needs additional resources to sustain this higher level of training.

At the same time, Malawi is also vulnerable due to high population growth (averaging 3% increase per year) and a continuing high burden of disease. For these reasons, the next Programme of Work should be considered a transition phase, moving from emergency to a fully staffed health system through a development phase that emphasizes strategic planning, systems strengthening, performance management and sustainable funding for financial incentives.

A first step in planning for the next Programme of Work should be an analysis of the cadres most needed to positively impact the MDGs as well as the Malawi Essential Health Package, and set targets for increases in these cadres over the next five years. The scenarios outlined earlier present various options for setting targets and the Costing and Staffing Projection Tool that accompanies this report can be used by the Government to create and analyze other additional options, or scenarios based in their specific goals.

## **RECOMMENDATIONS FOR ELEMENTS 1 -5**

The recommendations below are provided in relationship to each of the five elements. They are followed by an analysis of what was missing and what is being recommended to be part of Phase 2 of the Programme of Work. This section concludes with a consolidated list of all recommendations resulting from this evaluation.

### ***Element 1: Incentives for recruitment and retention of staff***

*Top-Ups:* At the beginning of the EHRP, it was assumed that the HSC would establish a separate health service with more competitive salaries that would replace the top-ups by 2009. As this has not happened, there is a need for a government plan to sustain the improved salaries.

*Recruitment Galas and 3-Year Contracts:* Although the galas/3-year contracts as a recruitment strategy suffered from the bureaucracy and lack of communication, they were seen as being valuable by prospective health staff.

*Hardship Incentives:* There was consensus among key informants and focus group participants that the provision of a hardship incentive package for rural areas should have received more attention under the EHRP, but no budgetary allocation or policy guidance was issued. As the majority of Malawian people live in rural areas, incentives (both financial and non-financial) are necessary to attract health workers to these areas. Implementation of a hardship incentive package should become a top priority under the next programme of work. In doing so, Malawi would be in step with various global calls to action that underscore the importance of this issue, such as The Kampala Declaration (2008) and the Task Force on Innovative International

Financing for Health (2009). WHO's new global recommendations "Increasing Access to Health Workers in Remote and Rural Areas through Improved Retention" provides practical guidance to policy and decision makers on this issue.

### ***Recommendations***

1. Revisit the Health Service Commission Act as one option to establish a mechanism to champion and institutionalize a new pay structure for health workers that would lead to sustaining pay increases resulting from the 52% top-ups.
2. In collaboration with SWAp partners, establish staffing norms for each facility type / level of the health system based on standard catchment population size and burden of disease. In addition to physicians, nurses, midwives, and other service providers, these staffing norms should be expanded to include pharmacy technicians, lab technicians, and health statistical clerks.
3. Based on the above staffing norms, establish specific targets for staffing increases in cadres that will best effect the EHP and MDGs for the next Programme of Work.
4. In addition to establishing staffing targets, ensure that the performance appraisal system evaluates the performance of staff on a regular basis in order to ensure that quality services are being offered.
5. Expedite implementation of a hardship incentive package to attract health workers to hardship areas. This package should include both financial and nonfinancial incentives, but it must be tailored to the needs of Malawi.
6. Support increased investment in the Umuyo housing scheme in order to ensure adequate staff housing is available, especially for staff in rural locations.
7. Continue to organize recruitment galas and offer three-year contracts with a concentrated effort on tracking deployment and performance of those recruited back.

### ***Element 2: Pre-Service Training***

At the moment, there are several challenges to the MOE and CHAM's ability to maintain the momentum of training seen under the EHRP: (1) the Government is reviewing its commitment to pay student fees; (2) the fees for training have increased dramatically, for example, key informants reported that certain nursing programme fees have increased from MK25,000 in 2004 to MK335, 000 currently; (3) even with the top-ups, the salary for a nurse is not high enough for prospective students to justify paying the higher fee, which most of them cannot afford; (4) without the Government providing support for training, the option to require up to five years of bonding, a distinct advantage for the Government, is lost; (5) the increased production of health training institutions under the EHRP cannot be sustained without additional investment in teaching staff.

### ***Recommendations***

1. Convene a high level committee of MOH, MOE, Finance, Pre-Service Training Institutions and donors to deliberate on the challenges outlined above and consider the recommendations outlined below in order to create a way forward that will work to sustain and add to the gains of the last five years in relation to pre-service education. Strategic options for financing pre-service education could include:
  - a. paying student fees in the short term, so as not to lose the gains already made, while a sustainable long term strategy is designed, communicated and implemented
  - b. introduction of fee-sharing/student contribution scheme in line with what students can expect to earn in salary
  - c. providing student loans in line with what students can reasonably pay back based on health sector salaries
  - d. establishing a ceiling on how much student fees are increased at specified intervals
2. To maintain quality, ensure that tutors that are allowed to teach in diploma programmes, have the following minimum qualifications, i.e., first degrees and/or post graduate qualifications
3. Implement a more robust training programme for beneficiary training institution staff with increased focus on professional development and management in order to meet or exceed these minimum requirements.
4. Recruit a new cadre of clinical instructors to be attached to Central hospitals and large DHOs to increase the quality of clinical practice and student supervision.
5. Create a legal framework, formal policy and a tracking mechanism on the bonding of students whose training is supported by the government.

### ***Element 3: International Volunteers***

UNDP international volunteers played a vital role in the EHRP as an emergency stop gap measure to provide doctors, nurses and high level services such as surgical procedures and ART provision and training. Based on the increase in the number of doctors trained under the EHRP, there is a decreased demand for volunteer doctors, but specialist volunteers in the areas of obstetrics and gynaecology, pathology and surgery will still be needed in the next phase of the programme.

### ***Recommendations***

1. Review the need for medical specialists, set new targets and focus recruitment efforts of the UNV programme in this area
2. UNDP should increase its logistical support for UNV, especially in the area of transport and monitoring and evaluation in order to better track skills transfer from volunteers to Malawian health workers.

3. As much as possible, influence the type of health workers sent by other volunteer programmes, (i.e., VSO, CIM, etc) so that all volunteer programs are contributing to the most critical needs.
4. In collaboration with SWAp partners, establish a central system to monitor volunteer activities and contributions to the Malawian health system

#### ***Element 4: International TA in HRM***

##### ***HRM Systems***

From the beginning of the EHRP it has been acknowledged that, out of necessity, the programme would focus initially “on the most essential of training needs and leave issues of retention for a later date.”<sup>108</sup> Another report noted that ‘in order to make the best use of the additional staff, the Ministry will need to improve its human resource management substantially.’<sup>109</sup>

Although this was acknowledged to be essential at the beginning of the EHRP, personnel systems (workforce planning, recruitment, hiring and deployment) remain fragile. As we have seen from the HRM study conducted as part of this evaluation, there is a need to develop HRM competency at all levels of the MOH. Further input from this evaluation also indicates a need to streamline the HR roles of the MOH, the HSC, the Treasury, and the DHRMD.

Sound HR policy is essential to support an effective HRM system. While national policies have been developed under the EHRP – the National HRH Strategic Plan, the National Health Sector Deployment Policy, the HR development policy – these have not been implemented. Each of these policies can have a direct impact on the Government of Malawi’s ability to achieve its goal of expanding access to health for all. Input from this evaluation also indicates that a review of policy governing the practice of Locums and the HSAs is also needed.

##### ***Recommendations***

1. Streamline the functioning of the whole personnel process from entry to exit to maximize the efficiency of the HRM&D Department, MOH; the HSC; the DHRM&D, OPC; the Treasury, and the MOF in that process.
2. Elevate the position of controller of HRM&D to the senior grade of director and elevate the section into a full-fledged department in order to retain a core of experienced HR personnel who can champion HR systems strengthening at all levels of the health sector.
3. Build the capacity of the national HR department in key HR functions such as planning, policy development and strategic planning, and develop a cadre of professional HR managers with the ultimate goal of deploying at least one trained manager to each Zonal and District office and each hospital.

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<sup>108</sup> Human Resource in the Health Sector: Toward a Solution, MOH, April 2004.

<sup>109</sup> SWAp Design Team, “SWAps: Today, Tomorrow, Together”, Final Report, Government of Malawi, Ministry of Health, November, 2002.

4. In the short term, provide in-service orientation on effective HRM practices to all health managers with current responsibility for human resources at all levels of the health system.
5. In lieu of long term technical assistance in HR, consider the use of short term HR consultants (regional or international) to assist HR staff in addressing specific issues, such as the development of a hardship allowance.
6. Expedite the launch and the implementation of the HRH Strategic Plan, the National Health Sector Deployment Policy and the HR Development Policy.
7. Review and standardize policy on Locums and HSAs to ensure equity and effectiveness.

### ***Element 5: HRMIS systems***

Element 5 was intended to establish a robust M&E system for tracking human resources in the health sector. Accurate and timely information on the numbers, cadres, qualifications, deployment, transfer and attrition of health staff is essential to effectively plan and manage the workforce. While this system was not rolled out as planned under EHRP, it was supported through WHO consultants and the first phase has been created as a standalone with the longer term goal of integration into HMIS.

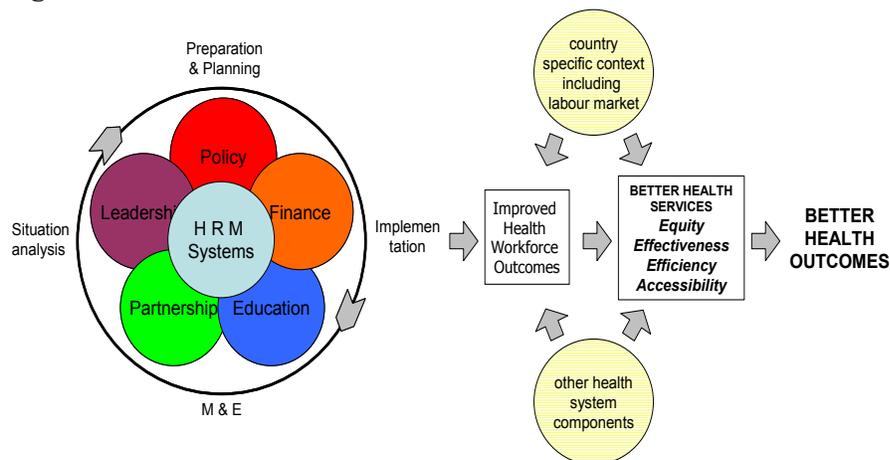
### ***Recommendations***

1. Finalize implementation of the HRMIS system and train people who are responsible for using it.
2. Strengthen the HRMIS system that has recently been put in place, ensuring that data on age, gender, deployment, attrition, transfers, absenteeism, training, etc. are collected and validated at regular intervals.
3. Integrate the system with the HMIS and monitor it for accuracy and timeliness.
4. Use the system to establish a baseline on which to more accurately measure the progress of the next HR Programme of Work.
5. HMIS services offered at the community level by Health Surveillance Assistants (HSAs) should be tracked in order to assess the contribution of this cadre.

### **Examining the EHRP in light of the HRH Action Framework: What was missing?**

At the time the EHRP was designed, it was innovative in its intention to develop a cohesive, multi-pronged strategy. No low-income country had yet committed itself to such a broad-based, long term strategy. Since then, the global HR Community has developed the HRH Action Framework which has now been accepted by the WHO, the Global Health Workforce Alliance, and multiple stakeholders as the basis for designing future HRH strategies. It is useful to look at the next five years of EHRP in light of the HAF (Figure 26).

**Figure 26: HRH Action Framework**



The six components of the HRH Action Framework are HRM Systems, Leadership, Policy, Finance, Education, and Partnership. In reviewing the five Elements of the EHRP against the six Components of the HRH Action Framework, there was one component, Leadership, which was missing from the design of the EHRP. While not called for specifically in this evaluation, we strongly recommend that the MOH take a bold step to strengthen leadership at all levels of the health system.

Now, more than ever, effective leadership with good management is critical for health organizations. Medical education teaches people how to diagnose and treat illness, but it does not prepare them to lead people and organizations. The HRH Action Framework defines leadership as “the capacity to provide direction, mobilize resources and align people around the goals of the MOH.”<sup>110</sup> Developing leadership skills enables people to work together in teams to solve problems and achieve results in complex conditions and, as such, it helps to improve work climate and performance. Leadership capacity leads to a more effective and efficient use of resources and helps people feel more invested when they have a role in making the system work better. Stronger leadership and HR management capacity, together, can improve retention and productivity. Even a productivity increase of 3% a year over the next five years would lower the number of needed health workers by about 19%.<sup>111</sup>

<sup>110</sup> Human Resources for Health Action Framework, Global Health Workforce Alliance

<sup>111</sup> Estimates of Health Care Professional Shortages in Sub-Saharan Africa by 2015; Scheffler, R. et al. Health Affairs, 06 August 2009.

## Recommendations

1. In collaboration with local partners, training institutions, and, as needed, regional or international expertise, initiate an in-service programme to strengthen leadership at all levels of the public health sector, including the MOH and CHAM, and local health training institutions.
2. In order to change the practice of assigning management and leadership positions to staff who are trained in other disciplines, i.e., clinical; begin to develop a merit based process that results in people with management training and/or experience being selected for these positions.

## SUMMARY OF RECOMMENDATIONS

The following table is a summary of the recommendations resulting from this report on Malawi's Emergency Human Resource Programme, July 2010.

**Table 20: Summary of Recommendations**

Area	Recommendations
<b><i>Element 1: Incentives for recruitment and retention of staff</i></b>	<ol style="list-style-type: none"> <li>1. Design and implement strategy to develop a new pay structure for the MOH that will sustain top-ups.</li> <li>2. Establish staffing norms for each facility type / level of the health system.</li> <li>3. Establish specific targets for staffing increases that will best affect the EHP and MDGs.</li> <li>4. Ensure staff appraisal system effectively monitors staff performance</li> <li>5. Expedite implementation of a hardship incentive package and support increased investment in the Umuyo housing scheme.</li> <li>6. Continue to organize recruitment galas and offer three-year contracts to new and returning staff.</li> </ol>
<b><i>Element 2: Pre-Service Training</i></b>	<ol style="list-style-type: none"> <li>1. Convene a high level committee to create a way forward to sustain and add to the gains of the last five years in pre-service training including options for financing.</li> <li>2. Ensure tutors have required qualifications.</li> <li>3. Implement training program for staff of beneficiary training institutions on professional development and management.</li> <li>4. Recruit a new cadre of Clinical Instructors to increase the quality of clinical practice and student supervision.</li> <li>5. Create a legal framework and a tracking mechanism on the bonding of students.</li> </ol>
<b><i>Element 3: International Volunteers</i></b>	<ol style="list-style-type: none"> <li>1. Review the need for medical specialists.</li> <li>2. UNDP should increase its logistical support for UNV.</li> <li>3. As much as possible, influence the type of health workers sent by other volunteer programmes.</li> </ol>

<b>Area</b>	<b>Recommendations</b>
	<ol style="list-style-type: none"> <li>4. Establish a central system to monitor volunteer activities and contributions to the Malawian health system.</li> </ol>
<b><i>Element 4: International TA in HRM</i></b>	<ol style="list-style-type: none"> <li>1. Streamline the functioning of the whole personnel process to maximize efficiency.</li> <li>2. Elevate the position of controller of HRM&amp;D to the senior grade of director and elevate the section into a full-fledged department in order to retain a core of experienced HR personnel who can champion HR systems strengthening at all levels of the health sector.</li> <li>3. Build the capacity of the national HR department in key HR functions.</li> <li>4. In the short term, provide in-service orientation on effective HRM practices to all health managers with current responsibility for human resources at all levels of the health system.</li> <li>5. Consider the use of short term HR consultants (regional or international) to assist HR staff address specific issues.</li> <li>6. Expedite the launch and the implementation of the HRH Strategic Plan, the National Health Sector Deployment Policy and the HR Development Policy.</li> <li>7. Review and standardize policy on Locums and HSAs to ensure equity and effectiveness.</li> </ol>
<b><i>Element 5: HRMIS systems</i></b>	<ol style="list-style-type: none"> <li>1. Finalize implementation of the HRMIS system and train people who are responsible for using it.</li> <li>2. Ensure that the new HRMIS system will track all relevant personnel data.</li> <li>3. Integrate the system with the HMIS and monitor it for accuracy and timeliness.</li> <li>4. Use the system to establish a baseline on which to more accurately measure the progress of the next HR Programme of Work.</li> <li>6. Track services offered by HSAs through HMIS system</li> </ol>
<b><i>New Element: Leadership</i></b>	<ol style="list-style-type: none"> <li>1. Initiate an in-service programme to strengthen leadership at all levels of the public health sector.</li> <li>2. In order to change the practice of assigning management and leadership positions to staff who are trained in other disciplines, i.e., clinical; begin to develop a merit based process that results in people with management training and/or experience being selected for these positions.</li> </ol>

## Part IV: Lessons Learned

### Leadership

1. The successful implementation of a comprehensive HR plan needs the collaboration and commitment of a multi-sector group that includes the MOH, MOE, MOF, donors, and NGOs. In the case of Malawi, the SWAp has effectively served as the mechanism for this collaboration.
2. Government commitment and leadership to taking direct action in regards to the health workforce crisis, as was evidenced in Malawi, is essential.
3. Donor willingness to support salary increases, through the top-ups, and the Government's willingness to allow different pay scales was a key factor that led to improvements in Malawi.
4. Clear and regular communication to all stakeholders, including students in pre-service training and people already employed in the health workforce, about the goals and expectations of the HRH plan is critical in order to avoid confusion and/or backsliding that could result from any changes in policy, especially those involving compensation or the payment of student fees.
5. A long time horizon is necessary to see improvements as the production and retention of health workers is a lengthy process. Short term interventions will not produce any lasting impact.
6. In the face of severe staffing shortages, a combination of short-term, emergency interventions (UN volunteers) and longer term interventions, (investment in training infrastructure) combine for success.

### Planning and Monitoring

1. When faced with an emergency situation, as Malawi was in 2004, it was necessary to make haste in responding to the crisis. In the case of Malawi the most appropriate intervention was to increase salaries, but there was no clear plan to sustain these salaries at the end of the program.
2. The early assumption to maintain the top-up salary increase by creating a separate division of the Health Service Commission that was solely dedicated to restructuring the pay levels for health care workers and focused on conditions of service specific to the health care field, proved difficult because of the different goals and competing priorities of the various players in HRH.
3. A detailed plan of the specific interventions to be implemented is critical at the design phase of a Human Resources strategy. The EHRP, for example, did not have a single finalized design document but rather was drafted at several stages in 2004. In addition, Element 5 (improving M&E capacity) as well as the implementation of a hardship incentive package (under Element 1) did not have clearly laid out plans for implementation.
4. Even in an emergency, it is worthwhile to take time and put a monitoring and evaluation system in place in order to track results that can inform the next phase.

### **Pre-Service Training**

1. In the case of Malawi, the expansion of pre-service training was, and is, a cornerstone of the EHRP, yet the MOH does not have direct control over the costs involved. Since well trained health workers are essential to the Ministry achieving its goal of providing health services, this poses a dilemma that must be addressed.
2. Accelerating the production of traditional cadres (such as physicians and nurses) may not meet all the needs of the Government's health plan or be the most cost effective. In the case of Malawi, the focus on implementing the Essential Health Plan calls for skills of other cadres, including HSAs, pharmacists, and lab technicians.

### **Human Resource Strategy**

1. Increase in staffing numbers must be accompanied by improvements in Human Resource Management (workforce analysis, recruitment, deployment, supervision and staff development).
2. A well functioning Human Resource Management system is the foundation on which to base implementation of an HR strategy. In the case of Malawi, there were delays in deployment, continued high numbers of staff transfers, etc., that created obstacles to the effectiveness of the EHRP implementation.
3. As part of any effort to build capacity in HRM, it is critical to establish the importance of this role in the Ministry at a high level so that it is respected as a key contributor to the decision making process around HRH.
4. In order to move from an 'emergency' phase to a more sustained strategy, a strong emphasis on systems strengthening and leadership development is called for in order to ground the gains made during the emergency in the ongoing business of HRH.

### **TA and Volunteers**

1. When planning to use international volunteers as a stop gap measure, it is important to realize that this process takes time, for example, more than a year before volunteers are actually in place and working.
2. International volunteers should be selected based on an analysis of where the most critical gaps are, not only in terms of staff, but in terms of speciality. Their role should include skills transfer as much as possible.
3. With all international consultants, including the volunteers, differential can cause demotivation of national staff.
4. Long term technical assistance with a focus on capacity building, i.e., HRM, is only effective if there is a stable team of counterparts who participate in deciding how the TA can contribute to their challenges.

### **Conclusion**

There was significant progress made under SWAp 1 in addressing the HRH crisis and, as evidenced by this evaluation, the investments made by the Government have resulted in tangible increases in access to health services and lives saved for the people of Malawi. At this point, the Government is in a strong position to build on the experience of the last 5 years and continue to expand health services for the benefit of the country as a whole.