THE ZAMBIA COUNTRY CASE STUDY:
Positive Practice Environments

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Zambia Case Study:
Positive Practice Environments: Quality Workplaces for Quality Care

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The
Zambia
Country Case Study
on
Positive Practice Environments (PPE)
Quality Workplaces for Quality Care

Developed by

Thabale Jack Ngulube

for the Positive Practice Environments Campaign

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CBoH	Central Board of Health
HRA	Directorate of Human Resources and Administration
GDP	Gross Domestic Product
GNC	General Nursing Council
HCW	Health Care Worker
HIV	Human Immune-deficiency Virus
HRH	Human Resources for Health
HRHTWG	HRH Technical Working Group
ICN	International Council of Nurses
IMF	International Monetary Fund
MCZ	Medical Council of Zambia
MDG	Millennium Development Goal
MoFNP	Ministry of Finance and National Planning
MoH	Ministry of Health
MTEF	Medium Term Expenditure Framework
MTR	Mid-Term Review
NGO	Non-Governmental Organization
NHSP	National Health Strategic Plan
PE	Personnel Emoluments
PE/GDP	PE/GDP ratio (an expenditure ceiling on personnel emoluments
PEP	Post-Exposure Prophylaxis
PHC	Primary Health Care
PPE	Positive Practice Environments
RBF	Results-Based Financing
RHC	Rural Health Centre
SADC	Southern Africa Development Community
TB	Tuberculosis
TWG	Technical Working Group
UHC	Urban Health Centre
USAID	United States Agency for International Development
USD	United States Dollar
WB	World Bank
WHO	World Health Organization
ZDHS	Zambia Demographic & Health Survey
ZHWRS	Zambia Health Worker Retention Scheme

ABOUT THE AUTHOR

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EXECUTIVE SUMMARY

Zambia is one of 57 countries worldwide suffering from a critical shortage of health care workers, and the issues leading to this situation serve as one example of the global health workforce crisis. Poor pay and poor and unprofessional practice environments are identified as being the three key contributors to the brain drain from the public health system and the high attrition rates experienced by health workers. The advent of HIV and AIDS brought high workloads while also decimating the numbers of health workers through unsafe work environments and related social factors. These push factors are complemented by the pull factors of better wages and better professional practice environments in the global market (South Africa, Europe and elsewhere) or in-country to better paying international NGOs or the private-for-profit health sector.

Initial efforts to address the problems of poor pay for public health workers within the civil service establishment were largely unsuccessful, due to a number of bureaucratic and socioeconomic challenges. The Ministry of Health, as with other line Ministries, generally has little control over the employment conditions of public sector (civil servant) health workers in Zambia. In addition, the failure to implement better wages is further constrained by a poor performing economy that is undergoing a structural adjustment programme as dictated by the International Monetary Fund. The required fiscal discipline to undergo this process means that government has to observe certain indicators of performance, such as the personnel emolument ceilings.

Selective efforts at providing cash incentives have been only partially successful but not sustainable due to their selective application and were not coupled to corresponding non-cash incentives; which include positive practice environments (PPEs). Efforts to tackle the issue of non-cash factors had not received that much attention until now.

Nevertheless, consensus on the need for PPEs has been emerging. In 2004, an institutional and organisational appraisal of the Ministry of Health (MoH) and the Central Board of Health (CBoH) made a pertinent observation that *'increasing salaries of health workers without corresponding improvements in staff performance appraisals and their professional practice environments does little to retain and motivate staff'* (MoH 2004a). In 2006, early experiences with performance based financing mechanisms resulted in a realization that selective incentives that left out some workers merely de-motivated those left out in the health system. Current experience (2008) in Zambia is that higher pay without corresponding complementary actions to improve management and health worker performance does not lead to sustainable gains in terms of overall outcomes and productivity. As a result, a policy environment has now emerged to enable undertaking complementary initiatives aimed at promoting PPEs in Zambia. Legislation, regulatory frameworks and statutory bodies around which such initiatives can be linked also exist.

In 2008, in response to political concerns to the deepening human resources for health crisis and its consequences on the health system, the Zambian government consented to and created a new and more attractive salary structure for health workers within the civil service; along with

clear and matched job descriptions.[1] A performance management tool was also developed to help with better management of health workers.

This desk review has put together a situation analysis of the professional practice environment in Zambia today, bringing out a picture of unhealthy, unproductive work environments. These manifest in the form of occupational hazards, physical and psychological violence, and unreasonable workloads experienced by health workers in the public health sector. This situation is compounded by limited career development opportunities and a general deterioration of working conditions. There is a high turnover of staff at public health facilities in Zambia, especially at the rural health centre levels where there is a net negative migration, despite the annual pool of graduates from training institutions.

While much is known about factors that contribute to positive practice environments in the Zambian context, actions to address these will be highly dependent on how well the country adapts and learns from available experiences and resources. This is by no means a predictable affair. A recent freeze in funding from donors has led to a 25% reduction in Zambia's 2010 health budget. This has led to cancellation in allocations to budget lines for items such as uniform allowances, this being an indicator that allocation for safe work environments tends to be easily sacrificed first when difficulties are encountered.

[1] In 2005, the national President directed the Ministry of Health to come up with a Human Resources for Health Strategic Plan to urgently address the HRH crisis in Zambia. In response to this, the Ministry of Health developed the current National HRH Strategic Plan (2006 – 2010); which is being implemented.

INTRODUCTION

The *World Health Report 2006, Working Together for Health,* (WHO 2006) confirmed that Zambia is one of 57 countries worldwide suffering from a critical shortage of health care workers, and thus serves as one example of the global health workforce crisis.

The reasons for the global crisis are complex and vary from one country to another; but key to this are unhealthy, unproductive work environments which are characterised by: occupational hazards, physical and psychological violence, unreasonable workloads, insufficient remuneration, limited career development opportunities, and a general deterioration of working conditions. Such poor work environments have an equally negative impact on the recruitment and retention of health professionals, the performance and cost-effectiveness of health facilities, and ultimately on patient outcomes.

There are key elements in the workplace that can strengthen and support the workforce and in turn have a positive impact on patient outcomes and organisational cost-effectiveness. These factors, when in place and supported by appropriate resources (both financial and human), go a long way in ensuring the establishment and maintenance of an effective professional health care workforce and ultimately the overall quality of health systems. Collectively they constitute the key elements of positive practice environments (PPEs). PPEs are cost-effective health care settings that support excellence and decent work, have the power to attract and retain staff and to improve patient satisfaction, safety and outcomes (PPE Campaign 2009).

Purpose of the paper

This country case study aims: to explore the current key issues facing Zambia's health human resource climate with particular attention to practice environments and recruitment/retention of its health workforce; to identify the human resources (HR) solutions that are being or have been employed to address these main challenges; to identify knowledge gaps for future in-depth research and recommendations for future strategies. The study will also contribute to the knowledge base being amassed by WHO related to "Increasing access to the health workforce in remote and rural areas through improved retention".

Objectives of the paper

1. To provide a brief profile of the selected country and the human resources for health (HRH) situation including the national HRH strategic plan and health worker data;
2. to review available evidence both published and unpublished at the national and local level on practice environment, motivation and job satisfaction, recruitment, retention and productivity of health workers;
3. to report on good practices/existing interventions in relation to the promotion of positive practice environments, recruitment and retention of health workers;
4. to identify knowledge gaps in the available data; and
5. to offer a set of recommendations related to HR policy, research areas and interventions/strategies to consider in the future.

CHAPTER 1: COUNTRY OVERVIEW

1.1 Socio-economic and political context

Zambia is a land-locked country, with a surface area of 729,000 square kilometres, situated in the Southern part of the African continent. The country is surrounded by eight neighbouring countries (Angola, Botswana, the Democratic Republic of the Congo, Malawi, Mozambique, Namibia, Tanzania and Zimbabwe). Zambia is part of the 14-member socio-economic grouping known as the Southern Africa Development Community (SADC).

Administratively, the country is divided into nine provinces and 72 districts. Zambia has an urban enclave, along what is commonly referred to as 'the line of rail' (see Figure 1 below). Politically, Zambia is a democratic country with a multi-party style of government. Elections are held every five years. Zambia has enjoyed an uninterrupted period of political stability since independence in 1964; without social strife or civil war. National security is always a high priority in Zambia, with the understanding that economic growth and human development is not possible under conditions of strife and civil war.

Figure 1: Map of Zambia showing the urban enclave – 'The line of rail'

There are a total of 72 ethnic groups in Zambia each with its own dialect. Although the official language is English, there are seven other local main languages spoken, namely Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga. Of these languages, Bemba, Nyanja and English are widely spoken throughout the nine provinces (Central Statistics Office 2000).

1.1.1 Poverty data: Due to a number of reasons, of historical nature, some districts are better off, socio-economically, than others. An inequity gradient exists from the better off districts (category A), through category B (rural-urban mix), category C (largely rural districts) and category D (remote rural districts and most socio-economically deprived). The provinces can also be grouped along this classification, based on the predominant category of districts in the province (see Table 1). In this regard, Lusaka and Copperbelt provinces are urban, industrial and in category A; followed by central and southern provinces in category B, and Eastern, Luapula and Northern provinces as category C. The Western and North-Western provinces are

classified as category D. Category A provinces are also the most densely populated, followed by category B, while category D provinces are most sparsely populated.

Table 1: Political and socioeconomic classification of Zambia (as compiled by the author from CSO 2000 data; MoH 2009a and 2009c)

Province	Population	Area (Square km)	Density (People/Sq Km)	Socio-economic Classification	
Lusaka	1,829,598	21,896	84	Urban	**A**
Copperbelt	1,721,918	31,328	55		
Southern	1,481,293	85,283	17	Semi-urban	**B**
Central	1,267,346	94,394	13		
Eastern	1,623,573	69,106	23	Rural ------ Remote rural	**C**
Luapula	998,655	50,567	20		
Northern	1,609,872	147,826	11		
North Western	735,604	125,826	6		**D**
Western	889,032	126,386	7		
Total (Zambia)	12,156,890	752,612	16	40% urban, 60% rural	

Poverty rates in Zambia are high, with few people being in formal employment (see Table 2). The Zambian economy is still dependent on copper as the main foreign exchange earner. The GDP per capita for 2009 has been estimated at US$962.59 (MoFNP 2009a).

Table 2: Overall poverty situation in Zambia

Poverty in Zambia	**2006**	**2004**	**2006**	
Poverty Head Count	%	%	%	Rural poverty =80%; Urban poverty = 34%
Poor	64	68	64	
Extremely poor	51	53		
Moderately poor	14	15		
Non-poor	36	32	36	
Source: Central statistics office (2009).				
Poverty levels	67% (average); 72% (upper limit)			Source: ZDHS (2007)

1.2 Demographics and major health indicators

1.2.1 Total population and rural-urban population ratios: Based on the 2000 Zambia census data, the total population in 2008 was estimated at 12.2 million, divided approximately as 40% urban and 60% rural. Up to 75% of the 72 districts qualify as rural (category C and D), while the remaining 25% of districts are category 'A' and 'B' (see Table 1).

1.2.2 Life expectancy at birth: The life expectancy of Zambians dropped from 50 years in the 1980s to around 40 years in the 1990s. By the time of the 2000 national census, life expectancy had climbed back to 50 years and has remained stable (Bank of Zambia 2005a).

1.2.3 Major health indicators: The public health system in Zambia is severely weakened; arising from a combination of (i) a severe human resources for health crisis; (ii) a high and increasing burden of disease; and (iii) chronic underfunding of the public health sector. Cumulatively, these factors have negatively affected service delivery of essential health interventions that include reproductive health services; child health services; environmental health services, malaria, TB and HIV/AIDS programme interventions. The performance on these and other indicators, as captured in the Mid-Term Review of the National Health Strategic Plan (NHSP) IV - 2006-2010, is presented in Annex 1 to this report.

CHAPTER 2: HEALTH SYSTEMS OVERVIEW

2.1 National health priority interventions

The health system faces many challenges with a rising burden of disease from socio-economic decline, as well as emerging and re-emerging diseases. The health system is severely resource constrained, making prioritization of interventions a crucial step in order to realise benefits from efforts made. In this regard, the fourth national health strategic plan (NHSP IV 2006-2010) focussed on the following 12 national health priorities, categorized into (i) public health interventions and (ii) systemic interventions (includes support services for health sector management). This prioritization was based on the need to achieve the health related MDGs and other national health priorities (see Table 3).

2.2 Major drivers of the national health policy

The NHSP IV has the following vision, mission, overall goal and key guiding principles for the health system in Zambia.

Vision: Equity of access to assured quality, cost-effective and affordable health services as close to the family as possible.
Mission Statement: To provide cost effective, quality health services as close to the family as possible in order to ensure equity of access in health service delivery and contribute to the human and socio-economic development of the nation.
Overall Goal: To further improve health service delivery in order to significantly contribute to the attainment of the health Millennium Development Goals and national health priorities.
Key Principles: Equity of access; affordability; cost-effectiveness; accountability; partnerships; decentralisation and leadership.

Health is seen as a major social area for investment into the national economy and as an important step towards attaining the national vision of overcoming poverty and becoming a lower middle-income country by 2030 (attaining higher human development status). The NHSP feeds into the overall national development plan. In this regard, the critical role of the health sector is seen as improving the provision of health services so as to raise and sustain the productivity of Zambians (MoFNP 2008 & 2009).

2.3 Financing model for the health system

The Zambian health system is largely financed from public tax funds, supplemented with grants from the donor community to meet budgetary shortfalls. User fees supplement the funding of health service delivery in urban areas. Health insurance schemes form a small part of the revenue for health in the public sector and more so in the private sector. The total health expenditure per capita is around US$ 18, and expected to rise to US$ 21 by the year 2012. The MoH share of the GDP would then fall to under 2% (MoFNP 2009a); and thus would be insufficient to reach the agreed Abuja target of 15% share of the national budget. As of 2008, the Ministry of Health has been exploring the development of a social health insurance scheme as an additional source of financing the public health sector in Zambia.

2.4 Centralisation/decentralisation policy (administrative and financial)

Up until 1992, the Zambian health system operated as a centralised unit under the Ministry of Health, within the civil service structures. Following the adoption of the National Health Policies and Strategies document (MoH 1992, p37), a restructuring of the health sector began as part of a decentralisation programme in which key management responsibilities and resources were devolved to the district level. Between 1992 and 2006, parallel but complementary decentralised organisational structures were introduced to implement the concept of leadership, accountability and partnerships at all levels of the health system, namely (i) popular structures to encourage broader participation in decision making and (ii) technical structures to strengthen management capacity at such decentralised levels. In 2006, the decentralised system of health was dissolved and re-linked to the Ministry of Health due to issues of cost, efficiency, poor performance and duplication of function with MoH. Financial management has remained decentralised.

Table 3: Health priorities of Zambia's NHSP IV (2006 – 2010)

	Priority intervention / system	Objectives/Main Targets	Allocations by 2012
A.	**Human Resource Crisis**		
1.	Human resources:	To provide a well motivated, committed and skilled professional workforce which will deliver cost effective quality health care services as close to the family as possible.	55% of health budget
B.	**Public Health Priorities**		
2.	Integrated child health and nutrition:	To reduce under-5 MR by 20%, from the current level of 168 per 1,000 live births to 134 by 2011, and significantly improve nutrition.	15% of health budget
3.	Integrated reproductive health:	To increase access to integrated reproductive health and family planning services that reduce the maternal mortality ratio (MMR) by one quarter, from 729 per 100,000 live births to 547 by 2011.	
4.	HIV/AIDS, STIs and blood safety:	To halt and begin to reduce the spread of HIV/AIDS and STIs by increasing access to quality HIV/AIDS, STI and blood safety interventions.	
5.	Tuberculosis (TB):	To halt and begin to reduce the spread of TB through effective interventions.	
6.	Malaria:	To halt and reduce the incidence of malaria by 75% and mortality due to malaria in children under five by 20%.	
7.	Epidemics control and public health surveillance	To significantly improve public health surveillance and control of epidemics, so as to reduce morbidity and mortality associated with epidemics.	
8.	Environmental health and food safety:	To promote and improve hygiene and universal access to safe and adequate water, food safety and acceptable sanitation, with the aim of reducing the incidence of water and food borne diseases.	

C	Support Systems Priorities		
9.	Essential drugs and medical supplies:	To ensure availability of adequate, quality, efficacious, safe and affordable essential drugs and medical supplies at all levels, through effective procurement management and cooperation with pharmaceutical companies.	15% of health budget
10.	Infrastructure and equipment: medical (equipment, medical imaging, laboratory support & infrastructure)	To significantly improve on the availability, distribution and condition of essential infrastructure and equipment so as to improve equity of access to essential health services.	medical equipment = 2% of health budget; infrastructure (construction, repairs, etc) = 13% of health budget
11.	Systems strengthening: (M&E, HMIS, FAMS, procurement & R&D)	To strengthen existing operational systems, financing mechanisms and governance arrangements for efficient and effective delivery of health services.	
12.	Health systems governance: (governance & health financing)	To provide a comprehensive policy and legal framework and systems for effective coordination, implementation and monitoring of health services.	

2.5 Policy on public/private health care

In 2008, the Zambian government developed a specific policy position on public/private partnerships in health care, contained in a guideline document called “the Triangle of Hope” (MoH 2008a). The booklet identifies the opportunities for private sector investment in (i) production of human resources for health; (ii) specialized care facilities; and (iii) other support services which the public health system is unable to embark on in the immediate future. The Ministry of Health also outlined the various incentives the government is prepared to give in support of private sector participation in the provision of clinical care.

As of 2009, private not-for-profit health facilities comprise 37% of all hospitals in the public health system and 7% of all public health centre facilities. Overall, the private-not-for-profit comprises 8% of all public health facilities in the country (92% by government). Nearly all of the private-not-for-profit facilities fall under the management of the Christian Health Association of Zambia and are well integrated into the public health system (MoH 2009c).

CHAPTER 3: HUMAN RESOURCES OVERVIEW

3.1 The National HRH Strategic Plan (2006-2010)

A national HRH Strategic Plan developed in 2006 frames the HRH crisis in Zambia as follows: "*The Zambian health sector faces a major human resource crisis, with shortages of health workers at every level of service delivery. The health sector recognises that human resources are critical in the provision of quality health care and that to address the current crisis it is essential that it ensures an adequate and equitable distribution of appropriately skilled and motivated health workers providing quality services*" (MoH 2005a). Following on a presidential directive, the HRH plan was developed in consultation with identified key stakeholders. The HRH plan recognises and addresses the following as major contributing factors to the HRH crisis faced in Zambia:

- inadequate conditions of service (pay, allowances and incentives);
- poor working conditions (facilities, supplies and equipment);
- weak human resource management systems; and
- inadequate education and training systems.

The strategies and activities outlined in the plan provide a framework to guide and direct interventions, investments and decision making in the planning, monitoring and evaluation, management and development of human resources for health in Zambia. A separate operational training plan was developed in 2008 to address issues of health worker production (MoH 2008b). The National Training Operational Plan 2008 has been costed at US$60,000,000 while the National HRH Strategic Plan (3-year implementation, 2006 - 2008) had been costed at US$311,584,814.54 (inclusive of education/production costs of US$32,064,348.24).

In both cases the plans are applied but they are faced with financial resource challenges which prevent full adherence to implementation plans.

3.2 Situation analysis

3.2.1 Composition of the health workforce: The recent payroll verification exercise confirms that 53% of the facility level workforce in Zambia are health care professionals; of whom 71% are nurses/midwives, 10% are medical assistants and 5% are doctors. The remaining 14% are made up of other health care cadres (MoH 2009a).

A new establishment structure for 51,040 health worker positions has been approved by the Cabinet Office under the Office of the President, but authority for funding has been given for only 30,883 positions (see Table 4). As at September 2008, the number of health workers on the payroll was verified to be 22,686 for all categories, giving a shortfall of 30% overall. Of this, some 9,029 were classified as health care workers; while the balance is composed of administration and support staff. Therefore, in terms of the health care workers, the shortfall from available figures as provided is 50% of the approved staff positions (MoH 2009a).

Table 4: The stock of health workers and scope for attaining full establishment

Zambia HRH	Year 2008	% of required	% of Authorized
Required full staff establishment	51,414	100%	-
Authorized MoH staff establishment	31,048	60%	100%
On Payroll (actual no. employed in 2008)	22,180	43%	71%
New recruited health workers	1,646	3%	5%
To be recruited by Government in order to adhere to agreed PE ceiling of 8.4% down to below 8.0% of PE/GDP ratio over the period 2010-2012 (MoFNP 2009a)			

At least 65% of all health workers in Zambia are female. Female staff make up over 85% of all nurses/ midwives, 32% of doctors and more than 75% of the urban health workforce. The rural health workforce is more evenly distributed across gender (44% male, 56% female) (Herbst & Gijsbrechts 2007).

3.2.2 Imbalances on urban/rural distribution: An estimated 24% of all doctors work in rural areas. The nurses/midwife to doctor ratio is 5:1 in urban areas, and 20:1 in rural areas. The health worker/ population density is also very variable, ranging from 0.14 /1,000 in a small rural district to 2.7/1,000 in Lusaka district. In terms of nurses, two districts in Zambia had less than 10 nurses each, while three of the biggest urban districts in Zambia had on average more than 450 each. Similarly, the nurse to doctor ratio per district ranged from 11 districts with less than 10 nurses per doctor, to four districts with 50 nurses or more nurses per doctor (Herbst & Gijsbrechts 2007).

The private sector in Zambia is largely concentrated in urban areas, further worsening the imbalance in the distribution of the available stock of the health workforce. The country has five tertiary hospitals at which the key specialties in the health sector are concentrated and these are located in the three main urban towns of Lusaka, Kitwe and Ndola.

3.2.3 Health labour market indicators related to retention:

Vacancy rates: Vacancy rates were highest among doctors and at rural health centres, followed by medical licentiates, clinical officers, nurses and midwives and finally among environmental health technicians. Among all categories of health workers, vacancy rates (>50 percent) were lowest at urban health centres. On average, staff vacancy rates were highest among professional care health staff and more so in rural districts (category A 15% to 33%; category B districts 40% to 66%; category C districts 53% to 74% and category D districts 56% to 79%) (MoH 2007).

Attrition rates: There are high levels of mobility of staff to and from facilities. The reasons for these high rates of mobility by staff were given as (i) transfers 68.4%, (ii) resignations 12.1%, (iii) retirements 11.1% and (iv) dismissals /suspensions 8.4%. Transfers away from health facilities were highest at rural health centre level (78%), urban health centres (70%) and lowest at hospitals (40%). At the rural health centre level, some of the transfers are ordered while at other types of facilities this would be at the request of staff

involved. Resignations and dismissals were higher causes of migrations at hospitals and urban health centres. The rate of staff turnover was worrisome at the rural health centre levels (MoH 2007, p.41). In 2004, a report produced by the Ministry of Health put the averaged annual attrition rate of staff at 4.48%, with nearly 60% of these resigning within the first five years of service (see Table 5).

Table 5: Reasons for staff attrition in Zambia between January 2003 and June 2004

Reasons for staff attrition in Zambia between January 2003 and June 2004		
Reason for attrition	**Number (n)**	**Proportion**
Deceased	209	38%
Resigned	181	32%
Dismissed	67	12%
Retired	55	10%
Transferred	28	5%
Contract expired	15	3%
Termination of contract	0	0%
Totals	555	100%

Notes:

- The majority of resignations (voluntary losses) took place in the first 5 years of service – 58% for female and 62% for male health care workers,
- The average annualised attrition rate was estimated at 4.48% for the total workforce (approximately 572 in 2008)
- With such losses in relation to current training capacity it has been estimated that it could take 18.55 years to meet today's need of health workers (based on WHO recommended staff/population ratio of 2.5 HCWs / 1,000 population (Zambia has 0.7 HCWs/1,000)

Source: MoH 2004b

Absenteeism: (7.5% at RHCs, 12.8% at UHCs and 6.7% at hospitals). The reasons for being absent were given as (i) posted in the facility but working elsewhere; (ii) on long or short-term training; (iii) on outreach or supervision; (iv) on sick, annual or vacation leave; (v) absent without leave; or (vi) could not be accounted for. Other reasons given were being sick (40%), tending to sick relatives (18%) and attending to an extra job (9%) (MoH 2007, p.44).

Tardiness: Tardiness was a much bigger problem than absenteeism at health facilities sampled. Overall, 43% of staff interviewed reported tardiness[2] caused by long travel to work (35%), sick relatives (17%), and being "on-call" the previous day (17%) (MoH 2007, p.45).

Staff recruitment: This process can take an estimated 3+ months from final exams to reporting at post and thus being recruited (MoH 2009b). Those recruited go through an induction process to be oriented on the mission and structure of the Ministry of Health, terms and conditions of public service, and training opportunities, career development and professional ethics. On average, around 500 net attendees may be posted annually.

[2] Tardiness refers to "slowness, sluggishness, lethargy, lateness"

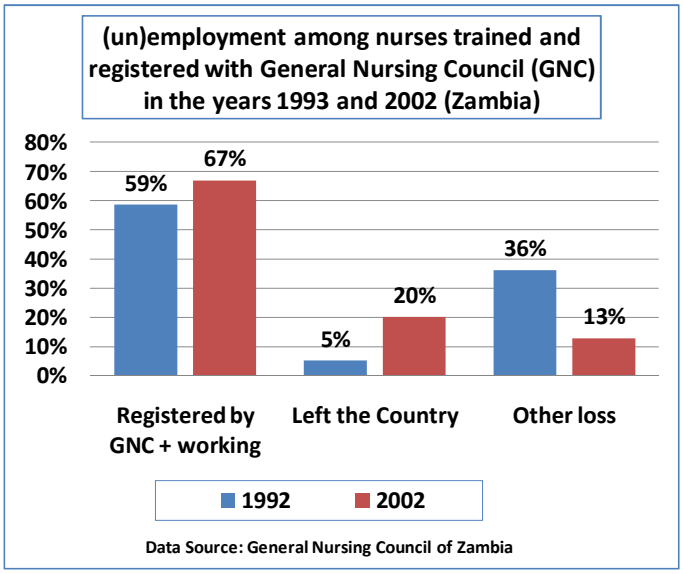
Unemployment rates: According to available data, all graduates from health worker training schools were absorbed into the public health sector (MoH 2008c). Although unemployment trends and figures among health workers are not tracked specifically in the Zambian labour market, a fair impression of the status quo can be gained by examining the 10-year period 1993-2002 during which some numbers were available. Cumulatively, 8,385 nurses were trained and registered by the General Nursing Council over the period 1992-2002. In 1993, 59% of graduates were registered as working in Zambia, 5% as working outside the country and up to 36% were not working. The corresponding figures for 2002 were 67% employed, 20% left the country and 13% not working. Migration of nurses outside the country was a bigger problem in 2002 compared to 1993 (see Figure 2). A proportion of nurses left the profession for a range of other reasons (frustration with management aspects, greener pastures within the country or unknown reasons). Overall, of the nurses registered with the general nursing council over this period, 11% were working outside the country.

However, an internal competitive labour market exists in urban areas between the public and the private-for-profit sector. The private-for-profit sector is small and employs few full time staff; relying on part-time staff from public facilities to beef up its staff. This approach is cheaper for the private-for-profit sector in that they do not have to adhere to all labour laws.[3] Most private facilities benefit from the relatively cheap labour from the public service. However, the need to be customer focused makes private facilities come up with close to ideal professional practice environments in terms of staff attitudes, levels of satisfaction, infrastructure, personnel safety, salaries and equipment.

Due to funding constraints, the private-not-for-profit sector is unable to employ most of the required skilled health workers, relying instead on seconded staff from the Government for 80%-90% of such needed staff. The Government has now developed a policy paper on public-private partnerships (PPPs) with a view to supplement the public health sector and also help to retain some skilled staff through undertaking dual practice opportunities (MoH 2008a).

[3] The private sector part-time employers do not have to pay end of contract gratuities, leave benefits, housing and other cost of living expenses. The money they pay to part-time workers is merely to help top-up on the low pay in the public health sector.

Figure 2: Unemployment among nurses in Zambia (1993 – 2002)



3.3 Major HRH problems

The human resource crisis in Zambia is made up of two components, namely (a) an absolute shortage of required staffing, and (b) absent or inefficient human resource management system (WHO 2006). The HRH shortage is most felt among nurses and midwives, who form the bulk of the required human resources for health in the Zambian public health system. The critical nature of the HRH crisis in Zambia stems from the following distinct but complementary factors.

3.3.1 Difficult macroeconomic context: The public health system (Government and private-not-for-profit facilities) forms the bulk of health service provision in Zambia, with a small contribution from the private-for-profit health sector providers. As such, the conditions of service for the public health sector have to be negotiated within an overall Government policy framework – adhering to employment ceilings set for the civil service.[4] However, despite this wage freeze, an exemption was granted to the employment of core frontline health care workers, thereby allowing more to be employed (1,658 in 2007, 1,970 in 2008 and 1,400 in 2009). The indicative figure for 2010 is less than 700 (MoFNP 2009a).

3.3.2 Poor salaries: Since the 1970s, poor salaries have contributed to the brain drain from the public health sector in Zambia (WHO 1994). A major bottleneck to provision of flexible and improved salaries was that health workers were part of the civil service and thus could not be treated differently. One approach to overcoming this in the initial phases of the health reforms

[4] The employment ceilings set for the civil service are at a PE/GDP ratio of 8% or less, in compliance with agreed PE/GDP wage ceilings by Government, World Bank and IMF

was to de-link health workers from the civil service and pay them better salaries under the semi-autonomous administration of the Central Board of Health (CBoH); thereby halting the brain drain from the public health system. Due to resistance from health workers and demands from labour unions to honour all outstanding financial, legal and social entitlements of health workers before de-linkage, the approach was abandoned due to the high economic cost involved (WHO 2003; Vujicic et al. 2009).

3.3.3 Insufficient production of health workers: Due to problems of chronic underfunding and underinvestment in training institutions, since the early 1970s (WHO 1994) training capacity for health workers has been severely reduced[5] (Nkowane 2007; Kinfu et al. 2009). As of 2008 a four-year national training operational plan was developed with a view to increase the national capacity to train both tutors and frontline health workers (MoH 2008b).

3.3.4 Exodus of health workers: There is continued exodus and attrition of health workers to the local and global market. This problem of exodus is a longstanding one and has been documented in several reports (MoH 2004b). Attrition makes up an estimated 4% of the total workforce, which translates into 570. Due to the opening up of the global market for health workers, Zambia continues to experience an exodus and attrition of health workers from the public health sector to private for-profit institutions, to other countries in Africa and to some Western countries that are actively recruiting in Zambia. It has long been proposed that one answer to this problem is to 'provide conditions of service and create a work environment, which can compete on the global market' (MoH 2004b).

3.3.5 Professionalism: Professionalism of health workers is assumed to be inherent in their qualifications and the government has set up the two professional statutory bodies to oversee this professionalism. However, the situation in Zambia on professionalism is not exactly what it could be (WHO 1999). Professionalism is seen more as being about the qualification one has and the job one is employed in, not about how well one performs assigned tasks. There is thus less emphasis on management performance systems, staff capacities and performance of assigned tasks, and developing a positive work culture. A recent institutional and organisational appraisal of the Ministry of Health and the now defunct Central Board of Health supported this view (see Table 4). Professional skills are seen not so much in terms of process, i.e. how professional knowledge is organised to enable provision of particular services (Taylor 1910); but rather current management styles in the Zambia public health sector stress the output, i.e. how professional knowledge is *used* to provide a professional service (MoH 2004a).

3.3.6 Poor employee satisfaction: Currently there are no systems to regularly assess employee satisfaction with a view to improve outcomes. Up until now, human resources management was the job description for a small core of staff based at the Ministry of Health headquarters. Regular human resources management responsibilities were (assumed) delegated to administrators at the provincial, district and facility levels. At these lower levels, performance assessment and support supervision were lowly funded and rarely undertaken.

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[5] This has variously manifested as problems with accommodation, faculty recruitment and retention, shortages of classrooms, libraries, dining halls and other infrastructure – as well as books, computers and other teaching aids. Some training institutions faced problems with sites for students' practical training.

Where this was done, the assessments were more for how well the health system indicators were being met rather than how these were met and how more could be achieved. Health worker satisfaction surveys are not part of a routine management activity to which there is an associated budget line. The usual budget activities that form part of routine district health office administration include supportive supervision and performance assessment (of the facility and not of individual performance). The more recent (2006) assessment of satisfaction levels among the health workforce in Zambia brought out the following picture (MoH 2007):

> *Staff workload and morale:* An average of 47% of staff surveyed complained of the long hours arising from the high workload they face and the need to augment their meagre incomes by doing extra work. The problem of long working hours affected personnel at health centres (48%) more than at hospitals (41%). Some health workers engaged in income-augmenting activities, such as dual practice inside the health facility, devoting as much as five hours outside official hours (off-duty) each day or they engaged in non-health enterprises within their health facilities each day to earn additional income.
>
> *Staff satisfaction:* Dissatisfaction levels are highest among urban health workers, especially at the hospital level (54%); the lowest dissatisfaction was found at the rural health centre level (35%). The reasons for dissatisfaction centred around heavy workloads and low salary levels (see Table 6).

Table 6: Proportion (%) of health staff who reported being dissatisfied, by reasons for their dissatisfaction (2006).

Level of satisfaction	**RHC**		**UHC**		**Hospital**		**Overall**	
Highly satisfied	7%		2%		2%		4%	
Satisfied	49%		38%		31%		40%	
Indifferent	9%		15%		13%		12%	
Dissatisfied	32%	35%	32%	42%	45%	54%	36%	43%
Highly dissatisfied	3%		10%		9%		7%	
Reason for dissatisfaction	RHC		UHC		Hospital		Overall	
Too much work	47%		39%		38%		42%	
Low salary	24%		38%		37%		34%	
Don't enjoy work	6%		0%		0%		3%	
Bad facility management	8%		2%		10%		7%	
Other reasons	15%		20%		15%		18%	

Source: MoH 2007

3.3.7 Management of HRH: Other HRH management aspects were assessed in the below appraisal (Table 7). A summary overview on human resources management in the Zambian health sector noted that *"the overall picture with respect to management of the human resource in the Zambian public services is reflected in (a) staffing patterns that continue to be perverse, as reflected in the composition of established posts; (b) absenteeism, tardiness and low morale which further reduces the actual availability of staff already in post. Even more worrying is the observation that these problems do not necessarily disappear with increases in salaries; and (c) the highly fragmented multiple cash allowances and in-kind benefits that only cover a minor percentage of MOH staff*", thereby **not** making significant impact to the status quo (MoH 2007, pp74-75). It is now realized that HRH management systems need to exist and appropriately qualified staff should be deployed to serve this important role.

Table 7: HRH-related findings from an institutional appraisal about the MoH (using the IOM model)

Systems	Few systems in place; ad-hoc management seems to be predominant. No systematic follow-up on own action plan. Rudimentary or no internal quality mechanisms in place. No performance management system formulated or in place, no internal priority setting, no quality assurance, and not operating like a business organisation, often relying on a bureaucratic approach. Quality assurance was absent, or rudimentary.
Staff	In many positions staff have little experience in work, or little experience in working in a reformed ministry. Many see themselves as administrators, not as policy makers or leaders. Some staff are motivated, but not always competent for allocated functions. Not focused on teamwork, but concentrating on individual activities. Not always aware of external factors; struggling with PE issues. Insufficient in numbers, demoralised, expectations not fulfilled, limited possibilities to achieve personal ambitions. Some in dual employment – which is a problematic issue.
Management	Mainly characterised by reactive style, which in general tends to be a response to external pressure. Coherence between directorates and systems is missing; planning and reporting is fragmented, and based on verticalised (command and control) systems. Often not undertaken by management professionals, but technicians in charge. Often there is ad-hoc management of problems and not running the organisation like a business.
Culture	Negative attitudes, without a sense of ownership ('just another job'); personnel tend to 'isolate' themselves from their institutions. Not much self-refection, with little understanding how external observers judge their performance in relation to costs. Team work is limited. Confidence in chances for improvement of working conditions is generally low. A feeling of being sidelined.

As compiled by author from MoH 2004a

The cumulative effect from the above factors has negatively impacted on the provision of public health services, in the following ways:

- interfered with effective functioning of the health systems;
- compromised the national effort to attain the health MDGs.

The above problems were further compounded by negative impact from newly emerging and re-emerging diseases such as HIV and Tuberculosis (TB); in terms of high volumes of work, higher workloads encountered (also contributing to poor working environments) and the lack of protection at work. This exacerbated a high rate of attrition among health workers (Ngulube 2005; MoH 2004b).

CHAPTER 4: POSITIVE PRACTICE ENVIRONMENTS

An institutional and organisational appraisal of the Ministry of Health and the Central Board of Health in 2004 made a pertinent observation that *'increasing salaries of health workers without corresponding improvements in staff performance appraisals and their professional practice environments does little to retain and motivate staff'* (MoH 2004a).

4.1 Available research information on practice environments

4.1.1 The Impact of HIV/AIDS on HRH: In 2005, the Zambian government in collaboration with WHO carried out an assessment of the impact of HIV/AIDS on the human resources for health in Zambia which helps to provide a glimpse of the current professional practice environment (Ngulube 2005). The key findings from this study were that HIV/AIDS had badly affected the health workforce in Zambia. HCWs were working longer hours and had more responsibilities than before the onset of HIV/AIDS. New skills were needed and new approaches to issues of safety in the workplace were required but the response from Government was slow. The result was that many health workers were fearful of contracting HIV and many reported having been injured with potentially infected materials (see Annex 2).

Health workers interviewed reported witnessing colleagues who suffered from illness and death from HIV and AIDS, across professional categories as well as by type of institutions. The burden of disease from HIV was highest at the lower level facilities, especially rural facilities (RHCs and health posts) (see Table 8).

Table 8: Estimated proportion of illness and deaths from HIV/AIDS among health workers in Zambia

Type of Institution		Proportion (%) HIV deaths among health workers in past 5 years	Proportion (%) of staff sick with HIV at the time of this study
General Hospital		1.4	0.6
District Hospital		2.7	3.8
UHC		17.4	16.6
RHC		31.5	23.7
Health Post		62.5	12.5
Other		18.2	9.1
Total	**(%)**	**23.9**	**18.8**
	(n)	92	92

4.1.2 Infection risk and injury prevention - an assessment of injuries experienced on duty: A recent study on health and safety among health workers at the workplace showed that only a quarter of health workers interviewed felt that they had adequate protection from workplace injuries. Gloves were generally always available (68%) while this was not the case with other protective materials (32%). Most health workers felt insecure and rated their risk to infection from the work place as very high (94%). An average of 37% of respondents reported having injuries at work, especially in rural settings. Most of the injured health workers (74%) did not take time off work, while 26% of injured health workers fell sick and took a day off work. (Ngulube 2005).

4.1.3 Dangerous attitudes towards risk taking by health workers: There is a prevailing attitude among health managers and the public that the safety of health workers is of secondary importance (Kiragu et al. 2007). They are expected to work and take risks when protective equipment is not available; or they are censured or subjected to physical abuse by patients or their tending relatives. It is for this reason that when funding to health is cut, protective equipment and the safety of health workers are first to be compromised. The removal of funding for protective clothing in the 2010 health budget highlights this (MoFNP 2009b).

4.1.4 Responsiveness to the safety of health workers: A recent study undertaken by Horizons / USAID concerning availability of post-exposure prophylaxis (PEP) services since the onset of HIV/AIDS revealed that 74% of sampled were "very concerned" about acquiring HIV at work, with nurses being the most likely to express this fear (92%). Half of all the respondents had experienced a situation where they feared they could have been infected with HIV (e.g. needle prick, of which 80% were nurses and 70% of medical doctors). Only 31% of those who reported that they had experienced potential HIV exposure said they knew what PEP was, and less than 20% of these had ever sought it (Nyumbu et al. 2006).

4.1.5 Negative perceptions of health care as a career option by graduating students: The plight of health workers has been noticed by school pupils about to leave the educational system. While about two-thirds expressed the wish to work for the health system, this wish was underpinned with a lot of fear and anxiety about becoming a health worker. School pupils observed that health worker conditions of service were poor and that there was a greater risk of getting infected by working in the health system. The high death rate among health workers had also been noted by school leavers and was a cause of concern (see Annex 2).

Up to 202 high school leavers were asked for their opinion on why it was not interesting to work in the public health system in Zambia, using an open-ended questionnaire. All pupils were asked to name up to 10 reasons why it may not be interesting for them to work in the health services. A number of issues were mentioned that generally discouraged school leavers from considering a career in the health services (Ngulube 2005; see Annex 2 Tables A2.1-A2.4). Top on this list was the perception of poor working conditions among health workers, which made the profession unattractive to high school leavers (97%). This was followed by perception of risk to be infected by diseases (78%), fear to see dead people (47%) and a perception that working in the health services was a dirty job (46%). Other factors that discouraged pupils from considering a career in the health services were the long working hours (25%), the bad smell around a hospital environment (19%), lack of interest to work for the health system (18%) and the sometimes unpleasant procedures involved when giving medication to patients (15%). Health work was also faulted for leaving staff with less time to attend to the needs of their families (16%). Health workers were not envied on account that they were the ones blamed for deaths at health institutions (11%), and as such, they were labelled as Satanists and linked to cult beliefs of blood-letting and/or deaths (9%). In addition health workers were thought to be of 'low socioeconomic status just like other poor people' (8%). There were also feelings that health work was associated with poor supplies and equipment, poor salaries that made it impossible for them to buy and drive own cars, poor housing conditions, lack of compensation when injured on duty and that there were too many strikes in the health system. Some 2% of

respondents were discouraged into becoming health workers by their parents, guardians and friends.

4.2 Professional practice environment issues in Zambia

Unhealthy, unproductive work environments contribute to the reasons for the HRH crisis in Zambia. These are characterised by:

4.2.1 Occupational hazards: As demonstrated by the three studies so far undertaken (Kiragu et al. 2007; MoH 2007; Ngulube 2005), being employed as a health worker in Zambia brings with it obvious occupational hazards which are not matched by the attitudes towards ensuring a protective and safe work environment. Safety in the workplace is not highly placed in the allocation of resources for health care delivery. It is therefore not surprising that a proportion of school leavers had observed this and cited it as one of the reasons they will not consider joining the medical profession.

4.2.2 Physical and psychological violence: Due to a chronic shortage of resources to provide for much of the required medicines and other supplies, stock-outs of supplies are a common feature in the Zambian health services. When medicines are in short supply or absent, deaths of patients may be blamed on health workers who are accused either of stealing medicines or of doing shoddy work. In some cases, health workers have suffered physical abuse from grieving relatives because of these perceptions in the community.

4.2.3 Unreasonable workloads: A combination of factors that include an absolute shortage of skilled staff (low staff/population ratios), high and increasing burden of disease, and low pay (and hence the need for dual practice) have left the available few health workers facing long working hours and increased volumes of patients on a daily basis. This has led to low levels of satisfaction with work, tardiness and increasing levels of absenteeism.

4.2.4 Insufficient remuneration: It has been estimated that health workers in the private-for-profit sector can earn up to three times more than their colleagues in the public sector. Attempts to compensate for this through allowances and incentives are piece-meal and merely cover a few workers, leaving many not covered unhappy. Current experience in Zambia is that higher pay without corresponding complementary actions to improve management and health worker performance does not lead to sustainable gains in terms of overall outcomes and productivity (Vujicic et al. 2009) and that selective incentives merely de-motivate others in the health system (GRZ 2006). This is also the experience in other parts of the world (Wilson et al. 2009; Henderson and Tulloch 2008).

4.2.5 Limited career development opportunities: Although in theory, opportunities exist for career advancement within the ranks of the public health sector; this is not so in practice due to limited financial allocations. Competition is stiff and few workers are eligible at any one time. The usual career path is for one to undergo some form of post-basic training before getting a promotion. The procedure for promotion is lengthy and cumbersome. An efficient management

system to identify and reward good performance does not yet exist; although efforts are being made towards this end.

4.2.6 General deterioration of working conditions: There is a general perception of deteriorating working conditions in the public health sector. The failure to increase the number of health workers over the last three years (see Tables 10 and 11), when reports indicate that all graduates from training schools were employed by the MoH, is a sign that many leave the system for other jobs with better employment conditions. The situation in Zambia is no different than that found in other African countries (Vujicic et al. 2004).

In technical terms, the situation prevailing concerning professional practice environments can be summarised along a framework provided in Table 9. (WHO 1999).

Table 9: Professional practice environments in Zambia - Factors influencing personal and professional performance

Subsystems for effective caring	Factors with influence on personal & professional performance	The situation in Zambia	Intervention undertaken	By which year
"*Personal accountability*." [The workers]	The commitment of employees to be ethical, equitable, diligent, honest and free from corruption (= good practices)	• Low salaries, wages; • Poor motivation; • Focus on disease/ disability – not whole person; • Not free from corruption, • Inadequate supervision from GNC, MCZ (poorly resourced to perform)	• Appointed and trained personnel officers at provincial and district level • Governance action plan in the health sector for better accountability + transparency, • Medical Council of Zambia legislation updated & its powers extended to enforce PPE provisions at government facilities.	2010 2009 2010

"*Professional accountability*." This is made up of the *skills, attitudes and understandings* that form the knowledge base of health-care services. [The work performed]	• Workers being responsible for both knowing and using those good practices • good practices which are the product of research and the state of the art, • Workers take part in the setting of those standards, • Workers submit to the measurement of his or her performance according to those standards, • Workers strive to meet those standards where results show deficiencies.	• Poor capacity of training institutions; • Limited national health research capacity; • Low capacity for knowledge management (the "know-do gap") – work objectives not usually specified. • Standards of practice set and regulated by experts or statutory bodies – MCZ & GNC; • Performance not always gauged and/or linked to salaries / incentives (rewards) • Policy on Public-Private Partnerships (PPPs) developed (Triangle of Hope) to attract private investment in the health sector	• Increasing engagement with and support to the MCZ and the GNC • Operational training plan to increase student outputs launched; • Matching of staff to post; Job descriptions for staff positions completed and staff appointed to positions • Ministry of Health now working more closely with Ministry of Education and private sector in the training of Doctors, nurses and Paramedics (Pharmacists, technicians and physiotherapists) • Recognition of the value of Performance Based Financing approaches in the public health care system	On going 2009 2008 2009
"*System accountability*." The factors affecting personal and professional performance. How human, material and organizational components relate to achieve the purpose of health care. [the work settings]	• the work setting -- the materials, equipment, facilities • the organisational structure, its policies, its norms and standards, and its incentives; • Supervisory systems and insistence upon quality control and measurements of results, using quantifiable data and *methods of controlling many by the few* • Assessments of performance to provide the basis for system reformation or "re-engineering." • Functional linkages between managers, supervisors, educators, planners, and evaluators	• Shortages of supplies/ materials, equipment and facilities (numbers & quality) • Weak supervisory systems; • Bureaucracy & limited autonomy; • Poor policies & weak implementation; • Lack of /or poor incentive structures • Input-based rather than result-based financing of the health system; • Brain drain / migration from the health system	• HRH now even more prominent in the 5th National Health Strategic Plan (NHSP – 2011 to 2015) • Incorporating Performance Based Financing (PBF) approaches • The CHW strategy is being piloted for better coverage with PHC services • Zambia Health Worker Retention Scheme (ZHWRS)	2011 2009 2010 2004

4.3 Positive Practice Environment strategies/initiatives

4.3.1 Improved performance management: The public health system in Zambia does not have an effective management system to ensure that health workers perform their jobs satisfactorily in safe and healthy work environments. This infringes on rights set out in SADC's Charter of Fundamental Social Rights which stipulates that "every worker in the Region has the right to health and safety at work and to a healthy and safe environment that sustains human development" (WAHSA 2008). In an effort to move towards this necessary goal, a new management system is being put in place by the Ministry of Health to enable tracking of performance and productivity of health workers. Revised job descriptions for health workers have been developed, circulated and appointments made. A revised Performance Management Package assessment tool has been developed and will soon be implemented at all levels together with the revised job descriptions.

4.3.2 More effective leadership: Overall leadership and oversight of health programmes is coordinated through six directorates at the Ministry of Health. Issues pertaining to HRH are dealt with by the Directorate of Human Resources and Administration (DHRA). Like other directorates and from inception, the work of the DHRA is guided by a multi-stakeholder Technical Working Group (HRHTWG), which regularly reviews and provides guidance on policies and implementation issues relating to human resources for health. The HRHTWG meets monthly to review and make recommendations on issues of policy and implementation. Outputs from the HRHTWG feed into the Human Resources Directorate and through this to higher structures in the Ministry and Government. The HRHTWG is further sub-divided into seven task groups that focus on specific issues concerning: health worker retention, training, HRH information system, Community Health Workers, recruitment and other areas of focus. The task groups meet either monthly or as the need arises and they report to the full HRHTWG at its quarterly meetings.

4.3.3 The Zambia Health Worker Retention Scheme (ZHWRS): In an effort to halt the brain drain and fairly redistribute health workers between rural and urban areas, the Zambian MoH has embarked since 2003 on a twin-pronged strategy to attract and retain health workers to disadvantaged health facilities by improving their cash income with a salary top-up. In addition to this, the ZHWRS also carries with it non-cash incentives which have the aim to improve professional practice environments. Such incentives have included solar lighting at health facilities, improved supply of clean water and sanitation, provision of good and improved pit latrines and transport for health workers (usually motor bikes and bicycles). The Ministry of Health has also paid attention to the disposal of sharps by focusing on improved incineration services even in remote areas. At national level, the subject of injection safety is being undertaken by a USAID-funded international NGO, JHPIEGO. In addition to these measures, a results-based financing (RBF) initiative is now underway with a view to improve both health worker incomes (through bonus payments) as well as to help increase professional autonomy and to promote innovation in service delivery.

The ZHWRS attempts to address a particular aspect of the labour market in Zambia. The focus is to try to encourage the scarce medical doctors to the rural areas (district categories C and D), as well as offering incentives to get medical specialists from urban areas in category A to the

secondary level hospitals located in districts in category B. For other categories of health care workers, the retention scheme aims to encourage nurses/midwives, clinical officers and environmental health technicians to work in category C and D districts at remote and hard-to-reach facilities (65 km or more from the district health office (MoH 2009a).

The ZHWRS was first introduced in 2003 for medical doctors, and funded by the Royal Netherlands Embassy in Lusaka. The retention scheme was successful in attracting and retaining this cadre in rural and remote facilities; 88 doctors were retained for the first three-year contract period and 65% renewed for a second three-year term. This scheme has now been expanded to include tutors, lecturers, enrolled nurses, enrolled midwives, environmental health technologists and clinical officers.

Due to an increased number of health professionals on ZHWRS, a ZHWRS database has been created in order to improve communication between the HQ and local health management teams (provincial and district health offices); thereby helping to facilitate the recruitment and retention of more health workers on the scheme. The use of the electronic database has helped to increase efficiency in tracking and managing personnel changes on the ZHWRS as well as increasing transparency in the number, cadre types and locations of health workers on ZHWRS.

The operation of the ZHWRS is now supported by more donors and by Government through a special HR basket funding. As earlier mentioned, the introduction of the ZHWRS was an interim measure to ensure recruiting and retaining skilled health workers to rural areas pending implementation of efforts aimed at the production of more graduates from training institutions and agreement on better pay structure for skilled health workers. New and separate pay structures have now been established in the civil service for skilled health workers in the restructured Ministry of Health. A four-year operational training plan was developed in 2008 and implementation was set to start in 2009 with financial support from The Global Fund, bilateral donors and the Zambian Government. The implementation of this plan is now threatened by the freeze in aid by donors and The Global Fund.

Implementation and results of the ZHWRS: The ZHWRS has the aim to attract and retain up to 10% of frontline health care workers in rural and hard-to-reach districts of the country. The scheme has succeeded in attracting and retaining 73% of the targeted number of doctors, 100% of targeted tutors at health worker training schools and 62% of the targeted nurses and midwives (see Table 10). However, there is still more room to attract and retain medical licentiates and clinical officers. Some 37% of targeted environmental health technicians have been reached by this intervention. Altogether, the ZHWRS has recruited and retained 31% of targeted cadres.

Table 10: Targets and employment figures for the retention scheme, July 2009

Eligible cadre for the ZHWRS	Targets for 2008	Employed July 2009	Approved Establishment	Approved positions	% of approved positions now on ZHWRS	% of targeted on ZHWRS
Doctors	150	109	1,778	1,290	12%	73%
Medical Licentiate	150	31	4,284	2,736	20%	12%
Clinical Officers	400	36				
Nurse and other health tutors	200	201	422	237	84%	101%
Nurses &	400	249	14,053	8,165	4%	62%
Midwives			4,751	2,775		
Environmental Health Technicians	250	92	2,555	1,276	20%	37%
Total	**1,650**	**718**	**27,843**	**16,479**	**10%**	**31%**

Source: Compiled by the author from MoH 2009a and 2009c

Evaluation of ZHWRS: No formal evaluation of the ZHWRS has taken place, other than tracking the numbers of cadres retained through the payroll system of the now operational ZHWRS database. An external, independent evaluation of the retention scheme is planned for February 2010.

Summary findings on the ZHWRS: The ZHWRS has succeeded to attract and retain doctors in the public health system since its inception in 2003. The number of doctors joining the public service has steadily increased and stabilized in comparison to the numbers of other cadres (see Table 11).

Table 11: Staffing levels for selected health cadres 2006 – 2008

Cadre	**2006**	**2007**		**2008**	
Medical Doctor	646	720	(up 11%)	861	(up 20%)
Clinical Officer	1,161	1,213	(up 4%)	1,161	(down 4%)
RM / ZEM	2,273	2,255	(down 1%)	2,400	(up 6%)
RN / ZEN	6,096	6,534	(up 7%)	6,691	(up 2%)
Other medical staff	2,581	2,334	(down 10%)	1,175	(down 50%)
Tutors & Lecturers	157	163	(up 4%)	201	(up 23%)
Paramedics	-	-	-	3,090	-
Laboratory Technologist	417	-	-	412	-

Source: Compiled by the author from MoH 2009a and 2009c

CONCLUSIONS AND RECOMMENDATIONS

The World Health Report 2006, *Working together for health,* confirms that Zambia is one of 57 countries worldwide suffering from a critical shortage of health care workers, indicative of the global health workforce crisis. Contributing to this situation is a brain drain (internal and external) as well as high attrition rates among health workers. The possible reasons been cited as contributing to these outcomes are largely two-fold, poor pay and poor professional work environments (Ngulube 2005).

Experiences in Zambia and elsewhere demonstrate that poor health worker conditions push them to migrate, leave the health sector, or use various coping strategies in response to difficult circumstances such as poor or intermittent remuneration, inadequate working conditions, limited training opportunities or weak supervision. Findings from the literature reviewed for this report highlight the importance of combining salary and cash incentives with actions to address issues in working conditions, supervision and management, as well as education and training opportunities. However, it is important that before embarking on any course of action, a good understanding of the country situation is grasped. This review study on available literature makes the following recommendations in the case for Zambia.

While much is known about factors that contribute to positive practice environments, in the Zambian context, actions to address these will be highly dependent on how well the country adapts and learns from available experiences and resources (see Annex 3). This is by no means a predictable affair. A recent freeze in funding from donors has led to a 25% reduction in Zambia's 2010 health budget. This has led to cancellation in allocations to budget lines for items such as uniform allowances, an indicator that funding for safer work environments tends to be easily sacrificed first when difficulties are encountered.

There are some issues highlighted in this report, on which more immediate actions can be undertaken. For example the high rates of transfers among health workers can be addressed by Government through administrative actions; and it is within their power to do so. Under the circumstances, it is vital that Government undertakes corrective administrative actions to reduce the high rates of dismissals and suspensions. There is still a large number of trained graduates not taking up work in the public health sector. Opportunities can be created to encourage these people return to practice programmes. Effective implementation of the Governance Action Plan to stem and/or stop corruption in the health sector will attract and improve donor flow of funds; thereby enabling full implementation of the Operational Training Plan to increase the output of new graduates from training institutions. Otherwise the improved staffing situation of tutors and lecturers (up 23%) would not necessarily translate into increased outputs of graduates.

Future areas of in-depth research on specific aspects required

Attitudes towards issues of health and safety at the workplace in Zambia are generally weak, whether in the medical profession or industry (Michelo et al. 2009). In a particular reference to health, the Caring for Caregivers Study by Horizons/USAID in Zambia demonstrated that health workers felt that their personal safety was secondary to the need to serve a patient's life,

despite risks involved – even in this era of HIV and AIDS. In the same vein, management did not feel it was important to ensure that protective equipment (such as gloves, safe disposal of sharps) were important considerations to be factored in their work and procurement of supplies. In a similar manner one would have expected that health managers would have taken the initiative to ensure employees were aware of measures such as post-exposure prophylaxis (PEP) when working in an environment with considerable risks to exposure to HIV infected materials. These attitudes among both health workers and their managers lead to weakened demand for maximum attention to issues of health and safety at the work place. It will be important to create this demand for sustainable approaches to ensure positive practice environments in Zambia's public health system.

In addition to these weak attitudes among health workers and their managers, there is also a general feeling in the community that because of their knowledge and proximity to health care inputs, health workers have a low risk of infection from clients and the hospital environment. As such, people do not take kindly to health workers that fail to do their work when faced with lack of protection from risk of acquiring infection. Such workers suffer either physical or psychological abuse from their clients. In addition, these prevailing attitudes in the community tend to make health workers take considerable risks to try perform work at all costs. Health workers need the support and understanding of their communities in making a case for PPEs.

Thus a study to better understand these issues and how they could be overcome would go a long way towards realizing and respecting the right of health workers to a safe and health work environment.

Future practice environment strategies to be maintained or introduced

There is now a better understanding of the factors that influence health worker productivity and performance in the Zambian health sector. These include conditions of service, working and living conditions, human resource management systems, as well as education and training systems. These need to be addressed and used as a platform for developing strategies to tackle poor professional practice environments. The Zambia Health Worker Retention Scheme is helping to tackle some of these, e.g. improving infrastructure, provision of equipment, staff accommodation, electricity/solar power, water, etc. The MoH has developed and implemented an HIV/AIDS workplace policy to help address the needs of the significant numbers of health workers who are affected by the HIV/AIDS pandemic.

While these efforts may not be on the scale required, they nevertheless represent steps in the right direction. Thus partners may wish to come on board and complement efforts that will help bring about positive practice environments in Zambia by identifying gaps and undertaking some piloting work to help develop appropriate policies and guidelines that can be used in the scaling up efforts. The door is open but there is insufficient capacity for Ministry of Health to do everything. The Horizons / USAID project on Caring for Caregivers has contributed to these efforts by initially identifying how and why caregivers were neglected. Later an intervention phase was planned and activities implemented to show that something can be done to overcome the problem. The findings were persuasively disseminated to all stakeholders at

national and sub-national level, including the MoH. As a result, workplace HIV/AIDS programmes in hospital settings were stimulated and the experiences gained were used in the development of an HIV/AIDS workplace policy for the Ministry of Health.

Another worthwhile strategic approach would be to undertake a community (public) sensitization campaign, stressing risks and vulnerability to ill-health of both health workers and patients; and demonstrating how a poor professional environment compromises the quality of patient care that health workers can provide. This would assist by creating demand for better PPEs from the public as well as changing some negative attitudes towards health workers. Since future policy makers come from this wider pool of citizens, such awareness campaigns could translate into better resource allocations in support of PPEs in the public health sector. This would need to be a sustained (and possibly low key) campaign.

Annex 1: Table A1: Mid-Term Review of NHSP IV 2006-2010 Health Indicators (2008)

INDICATOR (Source MTR 2008)	**BASELINE** (2005/06)	**Mid Term Review** Sept 2008	**Target NHSP IV** 2010	**COMMENTS** Period 2005/07
Population (Million)	11.1 million (2005)	12.2 million (2007)	NA	Pop growth 1.9% (WB 2006); Life expectancy at birth 42 yrs (WB 2006)
Impact Indicators				
Infant Mortality Rate / 1000	95 (2002)	70 (2007)	NS	MDG target: 36
Under Five Mortality Rate / 1000	168 (2002)	119 (2007)	134	MDG target: 63
Maternal Mortality Ratio / 100,000*	729 (2002)	449 (2007)	547	MDG target: 162
New Malaria cases / 1000 (incidence)	373 (2005)	358 (2007)	94/1000	MDG target: <121/1000, 412
HIV Prevalence Rate in 15-49 yrs %	16 (2002)	14 (2007)	NS	Urban 20% / Rural 10%
TB Incidence Rate / 100,000	3.2 (2005)	1.8 (2007)		Access up
Outcome Indicators				
% Births attended by skilled health workers	43 (2005)	47 (2007)	50	doctors, clinical officer, nurse/ midwife
% Pregnant Women (PW) receiving at least 1 ANC visit	97 (2004)	94 (2007)	NS	Average Antenatal Care visits = 3 to 4
Maternal Case Fatality Rate %	2.4 (2005)	1.9 (2007)	NS	WHO recommend <1%
% children fully immunized (MDG indicator)	82 (2004)	85 (2007) 68 (2007)	90	Discrepancy DHS/HMIS DHS 07
% children < 5 yrs / PW sleeping under a net	16/17 (2002)	34/39 (2007)	75	HH/ITN: 14% (02), 53% (2007)
Hosp. Malaria Case Fatality Rate / 1000 admissions	49 (2005)	40 (2007)	38	
Malaria Case Fatality Rate (< 5 yrs/ 1000 admissions)	33/1000 (2004)	41/1000 (2007)	15/1000	
% TB Cure Rate	74 (2005)	77 (2007)	85	(WHO: 85%)
HIV positive Clients on ART	51,764 (2005)	156,299 (2007)	250,000a	
% Population living within 5 km of Health Facility	50	50	85	Within 8 km 69%
Output Indicators				
Average OPD first attendance/pp/yr	0.78 (2005)	1.22 (2007)	3	
Hosp. Bed Occupancy Rate (%)	56 (2005)	50 (2007)	NS	Average length stay: 5 days
% SM+ TB Case Detection Rate / DOTS	50 (2006)	52 (2007)	NS	WHO target 70%
Process Indicators				
% Drugs in stock (HC / Hospitals)	74 / 82 (2005)	70 / 84 (2007)	100/100	
Drugs Kit opened / 1000 patients	1.08 (2005)	0.75 (2007)	NS	MDG 8
% Districts provide complete HMIS quarterly data	90 (2005)	91 (2007)	100	
Workload HC staff (contacts/staff)	17.4 (2005)	17.8 (2007)	15	

Input Indicators				
Per capita GDP (USD)	654.9 (2005)	917.6 (2007)	NS	
% of Government budget allocated to health	10.7	11.5	15%	Abuja and SADC target
Per capita GRZ+CP budget for health (US$)	19 (2006)	23 (2007)	16	10.5 USD (00)
Per Capita annual Gov't expenditure on health (US$)	7.5	12	NS	15 USD (Abuja)
% MOH expenditure to PE	66	NA	60	
(MoH) PE / GDP Ratio	< 1%	NA	2.20%	
Doctor / Pop Ratio	1:18,100 (2005)	1:14,423 (2008)	NS	WHO > 2,5/1,000 Pop
Nurse / Pop Ratio	1:1,918 (2005)	1:1,957 (2008)	NS	
Midwives / Pop Ratio	1:5,144 (2005)	1:5,189 (2008)	NS	
Qualified HW / 1,000 Pop	0,77 (2005)	0,77 (2008)		
Sources: Report of the Mid-Term Review of the NHSP IV and references therein				

Annex 2: Health worker professional practice environment since advent of HIV/AIDS

Table A2.1: Situation on availability of means to prevent injuries on duty and protection from risk

	Type of Institution (Hosp, UHC, RHC, etc)						Overall
	General Hospital	District Hospital	UHC	RHC	Health Post	Other	
Had injury prevention guidelines	87.5%	53.3%	76.3%	61.3%	50.0%	80.0%	69.2%
Gloves available ALWAYS (100%)	75%	20%	72.34%	73.68%	100%	40%	68.50%
Other protection ALWAYS available	12.50%	20%	45.16%	19.74%	50%	40%	32.16%
There is high infection risk at work	100%	100%	94.68%	92.11%	100%	100%	94.50%
Felt had adequate injury protection at work	25.0%	13.3%	32.6%	17.3%	0.0%	0.0%	24.0%
Had injury from handling used needles or infected materials last year	25.0	20.0	31.6	50.7	100.0	20.0	37.5
Had received adequate supportive supervision	37.5%	33.3%	57.1%	46.1%	50.0%	40.0%	49.7%
Had been provided adequate skills for HIV care	37.5%	86.7%	68.4%	59.2%	0.0%	20.0%	63.2%
Have heavy workloads since onset of HIV/ AIDS	87.5%	86.7%	76.3%	88.0%	100.0%	100.0%	82.8%
Total (n)	8	15	95	78	2	5	203
Source: Ngulube (2005)							

Table A2.2: Negative perceptions about working in the health system by high school leavers

Reasons why school leavers were not interested to work in the Zambian health services	**Girls**	**Boys**	**Average**
Poor conditions of service	97.0%	97.1%	97.0%
Risks of getting diseases	74.7%	80.6%	77.7%
Fear to see dead people	49.5%	44.7%	47.0%
Nature of work is bad – it's a dirty job	50.5%	42.7%	46.5%
Fear of sight of sick people (blood, sores, deformed bodies)	46.5%	36.9%	38.6%
Long working hours	25.3%	25.2%	25.2%
I'm too emotional to handle patients	26.3%	13.6%	19.8%
Bad smell of the environment/drugs	23.2%	22.3%	18.8%
Lack of interest	20.2%	15.5%	17.8%
Don't like the process of giving medication to patients	24.2%	6.8%	15.3%
No time to be with your family	16.2%	15.5%	15.8%
Total (n)	99	103	202
Source: Ngulube (2005)			

Table A2.3: Negative perceptions about getting a job in the health system

Reasons why it was not thought interesting to work for the health services	Girls	Boys	Average
In relation to work environment and conditions of service			
Most Health workers are sent to rural areas	23.2%	20.4%	21.8%
Don't like working at night	12.1%	14.6%	13.4%
Because of air borne diseases	13.1%	11.7%	12.4%
I can easily lose appetite	12.1%	12.6%	12.4%
Lack of equipment/medicines	13.1%	8.7%	10.9%
You cannot drive your own car when working for health	11.1%	8.7%	9.9%
Afraid to be carrying out operations on patients	12.1%	3.9%	7.9%
Poor housing at hospitals	8.1%	5.8%	6.9%
Delay by Government to employ graduates	9.1%	3.9%	5.0%
High death rates among health workers	4.0%	0.0%	2.0%
Compensation fees are too low when injured on duty	0.0%	3.9%	2.0%
Too many strikes	0.0%	1.0%	0.5%
Lack of transport	0.0%	1.0%	0.5%
Total (n)	**99**	**103**	**202**
Source: Ngulube (2005)			

Table A2.4: Negative socio-economic and socio-cultural perceptions about getting a job in the health system

Reasons why it was not thought interesting to work for the health services	Girls	Boys	Average
Community socio-cultural and socio-economic perceptions about health workers			
Health workers are blamed for patients' death	10.1%	14.6%	10.9%
Health workers are labelled as Satanists	13.1%	5.8%	9.4%
They are (just like) poor people	7.1%	9.7%	8.4%
Health workers are very unfriendly people	9.1%	8.7%	8.4%
Patients are too irritating (to deal with)	8.1%	7.8%	6.9%
Total (n)	**99**	**103**	**202**
Source: Ngulube (2005)			

Annex 3: Table A3: How Zambia fares in relation to the 9 critical success factors that underlie national proposals on HRH, as per GHWA.

Identified success factor	Comment	Situation for Zambia
Political commitment and good governance		
1. Political commitment, including sustained government involvement and support	MTEF frameworks and Trends; Abuja (15%) commitments to funding the health sector	The country's President urged the MoH to develop an HRH strategy in 2005. The authorised staff establishment increased from 30,883 in 2007 to 31,048 in 2008, bringing it to 60% of the total staffing needs, which are estimated at 51,414. Further, during 2008, a total of 1,646 new health workers were recruited. HRH funding projected to increase to 55% of MoH budget by 2012 MTEF proposed funding. However, this increased funding won't meet the 15% Abuja target by 2012.
2. Collaboration around a country-led health plan	2006 MoU of the Zambian SWAp	HR funding basket created by government and donors /(Retention schemes, Results-Based Financing approaches being piloted, and Training plan developed to support the above initiatives), but there is currently a donor freeze to funding the health sector.
3. Significant financial investment	HR funding basket established	
Workforce planning		
4. Commitment to short-term and long-term health workforce planning	National commitment	National HRH database developed and functional; HRH management capacity, tracking pre-service training and bonding schemes are being strengthened.
	International commitments	IHP+ initiative is not yet signed, but there is an existing MoU for donor long-term funding commitments; recent events leading to donor freeze of funding show these as unstable and unreliable commitments.
5. Commitment to produce appropriately trained health workers to meet health needs	National Operational plan for Training Institutions developed	The freeze in donor funding to the health sector has negatively affected implementation of the operational training plan, with training institutions either scaling down intake of closing down.
6. Significant expansion of pre-service education programmes	National Operational plan for Training Institutions developed	The operational plan for Training Institutions was developed (2008) to address this.
Enabling environment		
7. Good information systems for health workforce and education, with monitoring and evaluation	National level	National HRH database now developed and functional.
	District level	HRH managers recruited and posted to provincial and district levels.
	Facility level	The District Health Offices now positioned to capture HRH information regularly for updates.
8. Effective management and leadership	National level	There is a multi-stakeholder HRH Technical Working Group along with Task Groups for specific topical issues.
	District level	There are human resource officers at the District Health Office level.
	Facility level	There are no designated human resource officers at this level of the health system.
9. Labour market capacity and policy to absorb and sustain an increase in health workers	National level	Doctors in the private sector can earn 3x more than in the public sector, Nurses can earn 1.3X more in private sector; The ZHWRS helps to stabilize numbers; The HR Strategic Plan not fully funded and recommended actions not fully implemented; There is still migration and active recruitment of health workers by external agencies; The PE/GDP ceiling commitments (with WB and IMF) restrict some responses to address the labour market. New pay scales for health workers.
	District level	
	Facility level	

Source: WHO and GHWA (2008)

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