

# **Human Resources for the Delivery of Health Services in Zambia: External Influences and Domestic Policies and Practices**



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**A case study of four districts in Zambia**

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## List of abbreviations / acronyms

|         |  |
|---------|--|
| ART     | Anti-Retroviral Therapy                            |
| ARTIS   | ART Information System                             |
| CBoH    | Central Board of Health                            |
| CDE     | Classified daily employee                          |
| CO      | Clinical officer                                   |
| DDH     | District director of health                        |
| DHMT    | District health management team                    |
| EHT     | Environmental health technician                    |
| EM      | Enrolled midwife                                   |
| EN      | Enrolled nurse                                     |
| ENM     | Enrolled nurse-midwife                             |
| FGD     | Focus group discussion                             |
| FTE     | Full-time equivalent                               |
| FY      | Financial Year                                     |
| GDP     | Gross Domestic Product                             |
| GFATM   | Global Fund for Aids, TB and Malaria               |
| GRZ     | Government of the Republic of Zambia               |
| HRD     | Human resource development                         |
| HRH     | Human resources for health                         |
| HRM     | Human resource management                          |
| MoFNP   | Ministry of Finance and National Planning          |
| MoH     | Ministry of Health                                 |
| NHA     | National Health Accounts                           |
| PE      | Personal emoluments                                |
| PEPFAR  | US President's Emergency Plan for AIDS Relief      |
| PETS    | Zambia Public Expenditure Tracking Survey          |
| PHRplus | Partners for Health Reformplus project             |
| PMTCT   | Prevention of Mother to Child Transmission         |
| QSD     | Quality of Service Delivery survey                 |
| RHC     | Rural health centre                                |
| RM      | Registered midwife                                 |
| RN      | Registered nurse                                   |
| RNM     | Registered nurse-midwife                           |
| SWAp    | Sector Wide Approach                               |
| SWEF    | System Wide Effects of the Fund (Research Network) |
| UNZA    | University of Zambia                               |
| VCT     | Voluntary Counselling and Testing                  |
| ZK      | Zambian Kwacha                                     |
| ZPCT    | Zambia Prevention, Care and Treatment project      |

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Fastone Goma

# Abstract

**Background:** Efficient delivery of *quality, cost-effective health services as close to the family as possible [MoH vision]* requires coordination of related health programmes and optimal utilisation of available resources in a deliberate move to strengthen health systems.

Human resources for health (HRH) constitute a key component of the national health system, and Zambia faces a serious HRH crisis. Not only is there an absolute shortage of staff, the available workforce is often ill-distributed and attrition rates are high. There is little systematic insight into the actual human resource constraints at the operational level of hospitals, health centres and other institutions that produce services. Anecdotal evidence suggests that there is severe competition for personnel and staff time between various health programmes and between public and private providers. Such competition is reinforced by the vertical nature of various funding mechanisms supported by external, donor funded programmes. This has intensified the call for increased harmonisation of donor support and its alignment with national policies, so as to take maximum advantage of their potential and minimise any disruptive effects on system-wide planning and management of HRH across the sector. Three main factors are believed to directly influence this problem: inadequacies in staff recruitment, in deployment and in retention.

**Study objective:** To analyse in what way HRH recruitment, deployment and retention at the district level are influenced by external funding; and to what extent this is in line with national and district policies and strategies.

**Methodology:** The study was designed as a multiple case study, with districts serving as cases. Four districts (Chama, Chingola, Choma and Solwezi) were selected for the study to allow for some comparative analysis considering the large socio-economic and other disparities that exist between them. The study involved the use of both quantitative and qualitative data collection techniques and tools which were designed at a one-week workshop in Lusaka, May 2007.

**Results:** This study has shown that the HRH crisis in Zambia's public health sector is characterised by high vacancy rates, high rates of staff turn over (especially in rural areas), skewed staffing patterns (between various cadres) and general dissatisfaction among health workers with their working environment and conditions of service. Recruitment and deployment of health staff is highly centralised (after a brief spell of decentralised authority, in 2003-2004) and this has clearly affected the human resource situation at the district level and below. The HRH situation has not improved over the past five years and remains alarmingly poor, with just 50 to 60% of the established posts filled in districts like Chama and Chingola. While some districts managed to get a few extra staff, some districts turn out to be relying more heavily on untrained casual workers (CDE's) than ever before. This does in no way compensate for the severe staff shortages of higher qualified cadres. Although this cannot be proven, the negative effect that this has on health outcomes, such as maternal and infant morbidity and mortality, is very likely.

Examples of projects that are competing for scarce staff time are not abundant. District resources for HRH have in fact declined and are largely limited to HRD (including workshops). This prevents health managers to provide some extra incentives to their staff or to recruit (and remunerate) additional staff. The abolition of user fees in rural health facilities is expected to further affect negatively the income of the DHMT and hence their capacity to support health service delivery in rural areas.

Districts employ a variety of strategies to address the HRH crisis and retain staff, but none of these have a significant impact.

**Conclusion:** While external funding does not seem to directly affect HRH recruitment, deployment and retention at district level, the DHMT's are rendered rather powerless because of a combination of three factors: their restricted mandate (because of centralised authorities), the meagre financial income from districts' own resources and the limited extent to which external funding can be used to strengthen the human resource base.

**Recommendations:** It is recommended that steps be taken to ensure that more external funds reach the district, but in such a way that these funds strengthen the district health system. In particular, the HRH situation needs to be strengthened and for this to happen it is inevitable that: a) districts get a certain mandate to recruit and deploy their own staff, and that (b) they get a certain amount of resources for PE, rather than just for HRD/staff development.

# 1. Introduction

## 1.1. Background, justification and statement of the problem

It is widely recognised that health systems in many low-income countries are not strong enough to enable the efficient delivery of good quality health services that are accessible to the most vulnerable people in society. In view of the huge amount of external resources that are currently being made available for achieving the MDGs, there is a widespread call for sustainable health systems development in addition to the ongoing programmes that focus on specific diseases or vulnerable groups.

Human resources for health (HRH) constitute one of the key components of any national health system, and many developing countries face serious HRH constraints. The overall shortage of health workers in developing countries has several dimensions. Not only is there an absolute shortage of staff, the available workforce is often ill-distributed within the system and attrition rates are high as a result of brain drain and HIV/Aids. Staff motivation and morale is widely reported to be low.

There is little systematic insight into the actual human resource constraints at the operational level of hospitals, health centres and other institutions that produce services. While information on numbers of staff may be available or (relatively) easy to obtain, there is little insight into their actual deployment and the way health staff spend their time on the delivery of services and administrative duties. Anecdotal evidence suggests that there is severe competition for personnel and staff time between various health programmes and between public and private providers. Such competition is reinforced by the vertical nature of various funding mechanisms supported by bilateral donors, international NGOs and global initiatives (GI; or global health partnerships, GHP), such as the Global Fund for Aids, TB and Malaria (GFATM) and others. Private providers funded by global initiatives are able to offer higher salaries and/or better secondary employment conditions. This may undermine government efforts to retain health staff for the public sector. Competition for staff can thus be expected to increase as a result of scaling-up aid flows through global initiatives. This has intensified the call for increased harmonisation of donor support, including the ongoing global initiatives, and its alignment with national policies, so as to take maximum advantage of their potential and minimise any disruptive effects on system-wide planning and management of HRH across the sector.

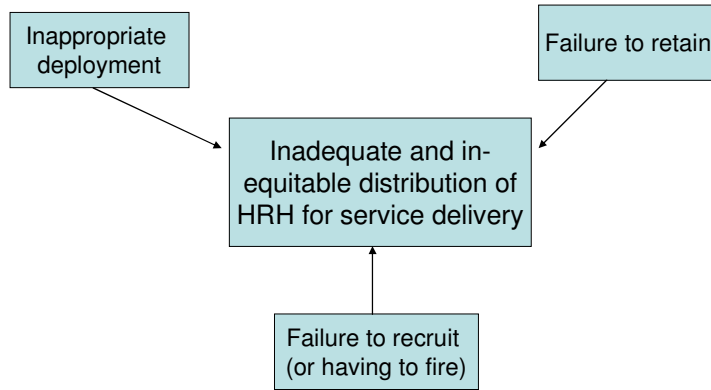
The core problem that is at the heart of the present study is defined as “inadequacy and inequitable distribution of human resources for the delivery of essential health services at the district level”.

Three main factors are believed to directly influence this problem: inadequacies in staff recruitment, in deployment and in retention (see Figure 1.1).



Figure 1.1:

## Problem analysis diagram



The next three diagrams display the various factors that possibly contribute to each of these three types of inadequacies. They display internal influences, such as inadequate human management skills of the DHMT, as well as external influences, such as the presence of externally funded programmes and parallel programmes.

Figure 1.2:

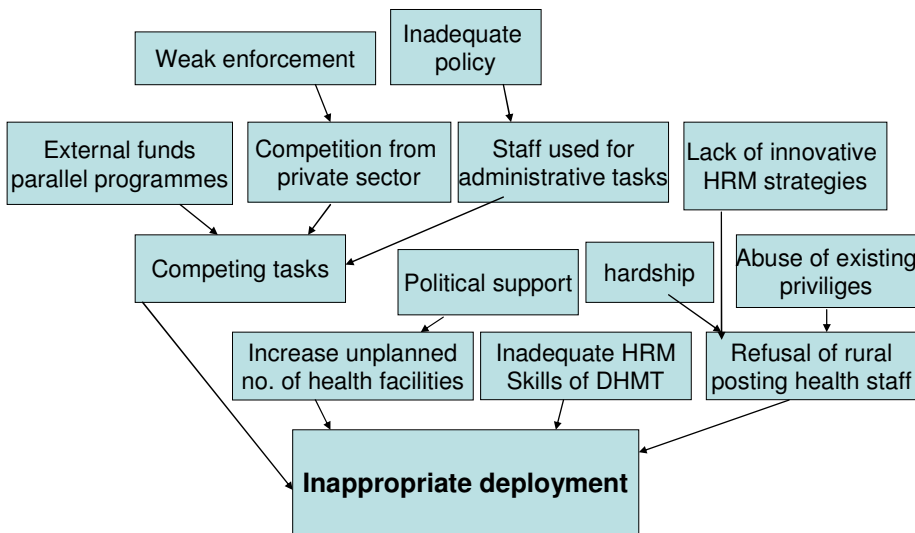


Figure 1.3:

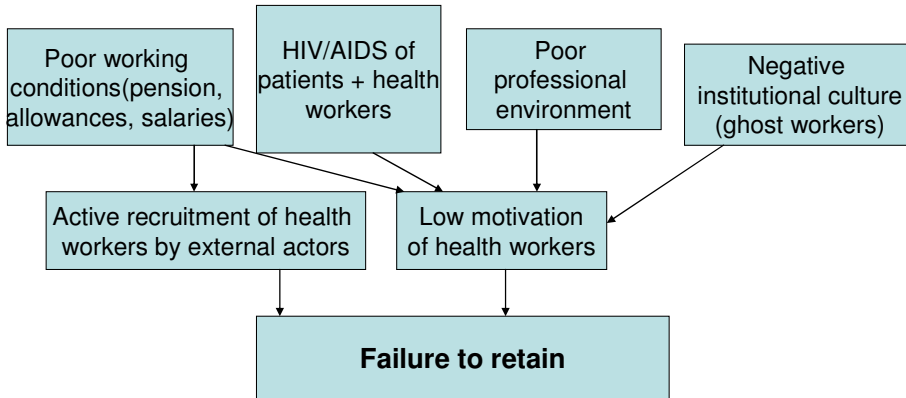
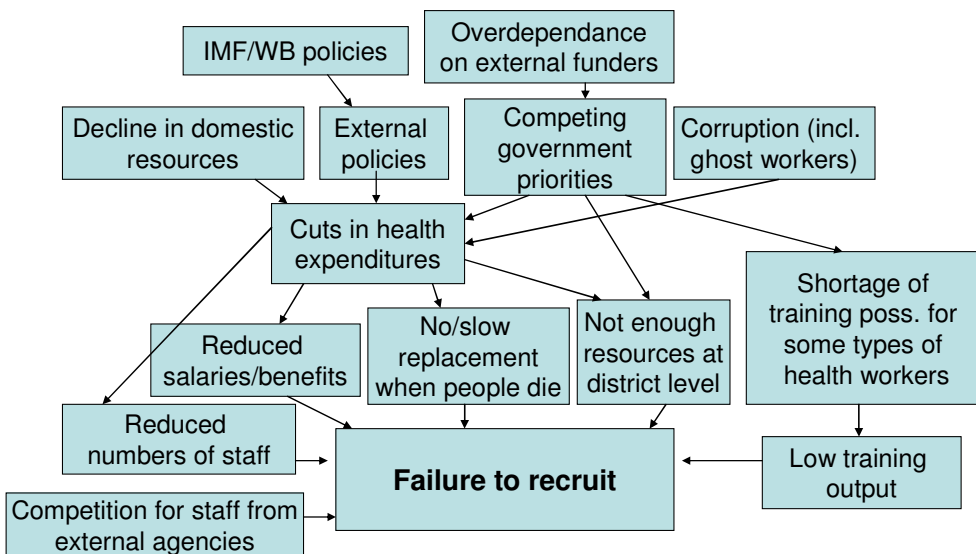


Figure 1.4:



## 1.2. Policy context and literature review

### 1.2.1. Zambia health sector reform and HRH

Zambia was one of the first African countries to engage with the process of decentralisation of authority to (health) districts as part of its health reforms (Bossert et al., 2003; Koot & Martineau, 2005). The Zambian Government opted for the de-concentration approach with the establishment of District Health and Hospital Boards. Bossert et al. (2003) describe the decentralisation model the Ministry of Health (MoH) opted for as resulting in health districts being given “..... a moderate choice over expenditures, user fees, contracting, targeting and governance“ and delegation of authority from the MoH to an autonomous Central Board of Health (CBoH).

One of the main features of the 1995 National Health Services Act was the delegation of authority for “hiring and firing” personnel to the district health boards and hospital boards. This de-linkage from the Public Service, however, largely failed because of pressure of the health workers unions who insisted that the Zambian Government pay all outstanding staff entitlements, which it was unable to do. Only Central Board of Health (CBoH) posts, i.e. posts at central and provincial level and some at district level, were transferred from the Public Service to the boards. The majority of staff members, who should have been hired by the district health and hospital boards, remained on the government payroll.

The 2003 National Decentralisation Policy was launched in September 2004. The policy aims to gradually decentralise authority to the districts, to be completed by 2013. Once the policy is fully implemented, i.e. when full authority is devolved to elected district councils, will this probably be felt in the health sector. At present, the health sector is considered “advanced” in comparison to other sectors and it is sometimes used as an example to implement the decentralisation policy in other sectors. However, it is expected that the “hiring & firing” of health workers will remain centrally controlled for the next few years.

### 1.2.2. Public Services Reform Programme (PSRP)

The PSRP 2004 – 2008, a comprehensive government strategy for management and capacity building of the Public Service, was launched in 2003. The main areas of the PSRP are: rightsizing and pay reforms; enhancing performance management; strengthening policy management; enhancing public expenditure management and financial accountability; enhancing governance and justice for all; and decentralisation and strengthening of the local government system. Huddart & Picazo (2003) show that the results of the PSRP implemented during previous years (i.e. before 2004) have, overall, been negative for the health workforce:

*The Zambian public sector reform programme reduced the public service salary expenditures. In the wake of agreements with the International Monetary Fund, the government announced a voluntary separation package for civil servants and all sectors were eligible to apply. More than 1,400 professional health workers (11% of the total number on the payroll) were granted separation rights and received generous separation packages funded under the reform programme. In hindsight, Zambian*

*observers have noted that the Ministry of Finance worked against what the MOH was trying to achieve, which was to stabilize the supply of health staff. (Huddart & Picazo, 2003)*

The PSRP has resulted in changes in the MoH structure. The repeal of the 1995 National Health Services Act in 2006 resulted in the dissolution of all Boards, including the CBoH. However, already when the restructuring of the MoH was announced (mid - 2004), a significant number of senior CBoH staff left their central or provincial posts because of (perceived) job insecurity and because of the many job vacancies in recently started HIV / AIDS programmes, mostly funded by PEPFAR / USAID. It is expected that more staff members of the CBoH will leave at the end of their three year contracts, most of which will expire in 2007, as personnel aged 45 and above cannot be put on the government payroll and, possibly more importantly, because they would have to accept a reduction in their remuneration package.

### 1.2.3. The HIPC completion point and the recruitment ban

Zambia applied for debt relief and reached the HIPC completion point in 2005. However, despite the MDG and Abuja commitments, the Government was forced to accept the Personal Emoluments (PE) ceiling set by the International Financial Institutions. This resulted in a reduction of the public service workforce, as the wage bill cannot exceed the maximum of 8.1% of GDP, and in a recruitment ban which included the health sector.

The government lifted the health sector recruitment ban, only partially, in 2006. Nationwide, a total of 2,000 health workers and health sector support staff were added to the payroll. Whilst this number appears to be significant (approximately 10% of the MoH staff complement at the current staff establishment), most staff had already been recruited and deployed by District Health Management and Hospital Management Teams (DHMTs & HMTs) to address existing shortages. Because of the ban, the newly recruited staff members were initially put on contracts with a limited duration rather than on the regular payroll. The financial implications of the recruitment ban have been important for spending at district level as salary advances and housing of staff not on payroll were paid from basket funds, leaving less financial resources for district health and hospital activities.

### 1.2.4. Financing of the health sector

The Sector-Wide Approach was adopted in the nineties. A significant number of Cooperating Partners (CPs) decided to channel funds to the district basket fund (Dubbeldam & Bijlmakers, 1999). The first Memorandum of Understanding (MOU) between the Government and CPs in support of the National Health Strategic Plan (NHSP) 2001 – 2005 was signed in 1999. The signing of the draft MoU 2005 in support of the latest NHSP (2006 – 2010), took place in late 2006. Two global health partnerships, the GFATM and GAVI, are listed as CPs of the health sector. However, neither of these two GHP provide any funds through the district basket.

One major donor of the health sector, USAID, channels a small amount of funds (approximately USD 2 million) through the basket fund, mainly to maintain influence over the way resources for health are used (Frantz et al., 2004). The bulk of USAID funds are used to finance project activities, many of these HIV/AIDS related, through a large number of implementing partners.

*The SWAp presents an established vehicle for new partners, such as the Global Fund to Fight AIDS, TB, and Malaria (GFATM) and President Bush's Emergency Plan for AIDS Relief (PEPFAR), that would like their assistance to be supportive of the ongoing health sector reform effort in Zambia. Both GFATM and PEPFAR involve substantial new resources: GFATM has approved close to \$122 million over two years for Zambia, and the Emergency Plan would provide Zambia with approximately \$62 million in 2004. ....The scale of these two initiatives means they have the potential to significantly destabilize the public health system. .... Complicating matters is the fact that these initiatives each have special reporting requirements, and the use of Emergency Plan funds is rather restricted – particularly in terms of supporting efforts to develop the health systems on which the sustained testing, treatment, and care of people under threat of HIV/AIDS necessarily depends (Frantz et al., 2004).*

### 1.2.5. Government Health Allocations:

The government's historical patterns of allocation to the health sector are reflected in Table 1.1 and Fig. 1.1 (further below):

*Table 1.1: National Allocations to Health and HIV/AIDS (2000-2007)<sup>1</sup>*

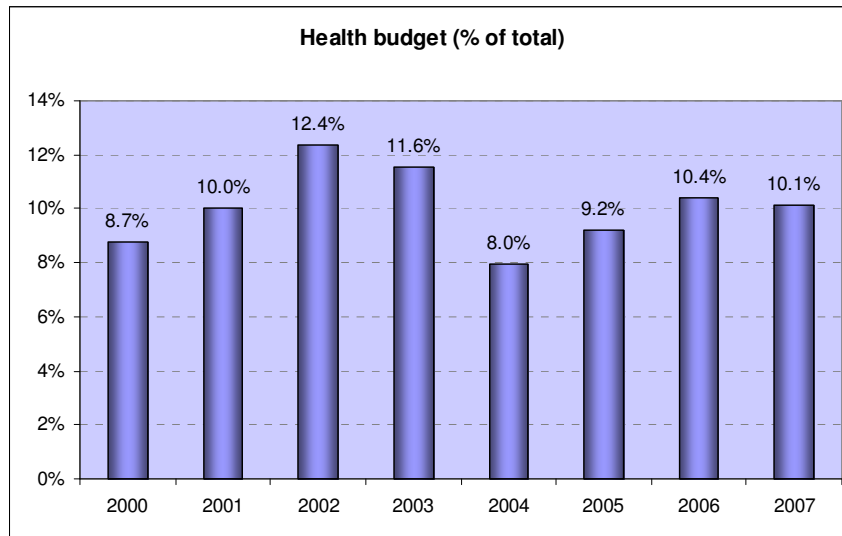
|  | 2000  | 2001    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    |
|--|-------|---------|---------|---------|---------|---------|---------|---------|
| Total National Budget (\$ million)     | 787.7 | 1,302.3 | 1,284.4 | 1,504.6 | 1,934.6 | 2,444.8 | 2,858.3 | 2,937.2 |
| Total Health (MOH) Budget (\$ million) | 68.88 | 130.20  | 158.83  | 174.17  | 154.11  | 224.95  | 296.77  | 297.14  |
| Health (% of Total National Budget)    | 8.7%  | 10.0%   | 12.4%   | 11.6%   | 8.0%    | 9.2%    | 10.4%   | 10.1%   |

*Source:* forthcoming HIV/AIDS Aid effectiveness study

As a percentage of the national budget, allocations to health have remained fairly static during 2000-2007, with the exception of 2002 when the total national budget shrank while budgetary allocations to the social sectors, including health, were considerably protected.

<sup>1</sup> The information reflects budgetary allocations not actual releases.

Fig 1.1: Health allocations in Total National Budget

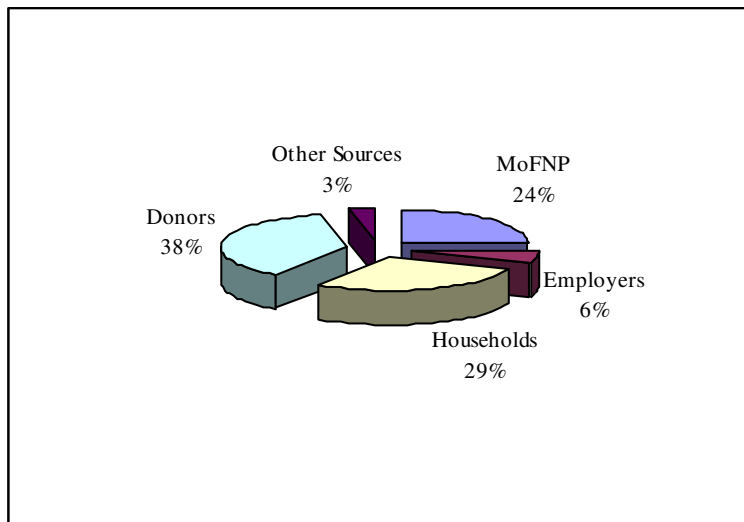


(Source: forthcoming HIV/AIDS Aid effectiveness study)

### 1.2.6. Health Expenditure

In terms of actual health expenditures, NHA data (which are currently up to date to 2004 figures) show that donors have been the main funding source for the health sector (see Fig 1.2), followed by household out-of-pocket expenditure and then tax contributions and other funding coming through the Ministry of Finance and National Planning.

Fig. 1.2: Average Shares of Total Health Expenditure by source: 2002-2004



(Source: 2006 NHA report).

In terms of actual expenditure, health spending from all sources has also been fairly static with total health spending averaging just over 6% of GDP during 1995-2004. Moreover, more recently (2006) the MOH indicated that the lack of progress in increasing both the health funding allocations (earlier highlighted) and the health spending outturns have raised

significant concerns about Zambia's prospects for meeting global commitments such as the Abuja Target for 2015<sup>2</sup>.

*Table 1.2: Health Expenditure Ratios, 1995 - 2004*

|                        | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|------------------------|------|------|------|------|------|------|------|------|------|------|
| THE/GDP %              | 5.7  | 6.2  | 6.4  | 6.9  | 5.7  | 5.6  | 5.5  | 6.7  | 6.8  | 7.2  |
| GHE/GDP %              | 2.1  | 2.0  | 2.0  | 2.0  | 2.0  | 1.5  | 2.3  | 2.2  | 1.6  | 1.2  |
| GHE/TGE %              | 6.5  | 7.2  | 7.7  | 6.5  | 6.7  | 5.0  | 7.0  | 6.9  | 5.2  | 4.7  |
| GHE/THE %              | 37.0 | 32.1 | 31.5 | 29.0 | 34.7 | 27.5 | 40.8 | 32.3 | 23.5 | 17.3 |
| HHE/THE %              | 34.1 | 33.6 | 31.0 | 31.6 | 41.8 | 39.6 | 34.2 | 28.5 | 28.8 | 28.4 |
| Donor/THE              | 11.0 | 17.9 | 22.2 | 23.0 | 9.1  | 17.9 | 14.9 | 31.1 | 38.0 | 42.5 |
| Per capita GHE<br>US\$ | 8.1  | 6.8  | 8.0  | 6.4  | 6.1  | 4.9  | 7.8  | 7.5  | 6.2  | 5.9  |
| Per capita THE<br>US\$ | 21.9 | 21.3 | 25.5 | 22.0 | 17.5 | 17.6 | 19.0 | 23.3 | 26.5 | 34.2 |

*Notes: THE: Total Health Expenditure, GHE: Government Health Expenditure, TGE: Total Government Expenditure, HHE: Household Expenditure, EXT: External Resources (Donor Expenditure)*  
(Source: 2006 NHA report.)

Note that there is a difference between government health allocation/ total national budget ratio in table 1.1 and government health expenditure/ total government expenditure ratio in table 1.2. Overall the expenditure ratio is lower than allocation ratio. This can be explained by various reasons including differences in measurement: the yellow book is the basis of health allocation ratio and considers all funds that might be available through the government system (including donor funds under SWAp, direct budget support and domestic tax revenues) while government health expenditure does not include donor SWAp expenditure. These two tables are therefore not comparable.

On a per capita basis, health spending was US\$ 22.88 annually on average during 1995-2004. As is the case with allocations and overall expenditures there has been some variation in the actual annual figures on per capita health spending. The range has been from US\$17.50 per capita (the lowest figure, in 1999) to US\$34.20 (the highest figure, in 2004).

In terms of GDP, government health spending has fluctuated around an annual average of 6.3 percent of GDP (with a range of 5.5 percent in 2001 to 6.9 percent (earlier) in 1998). The differences between the per capita and percentage of GDP figures are obviously largely to do with differences in population and economic activity movement in Zambia.

An important financing issue arising in recent times, but not adequately understood, has to do with the advent of HIV/AIDS and the responses against the pandemic. Based on the need for a so-called "emergency response," several external partners have pledged and delivered significant support to the country since 2000. Some include the Global Fund,

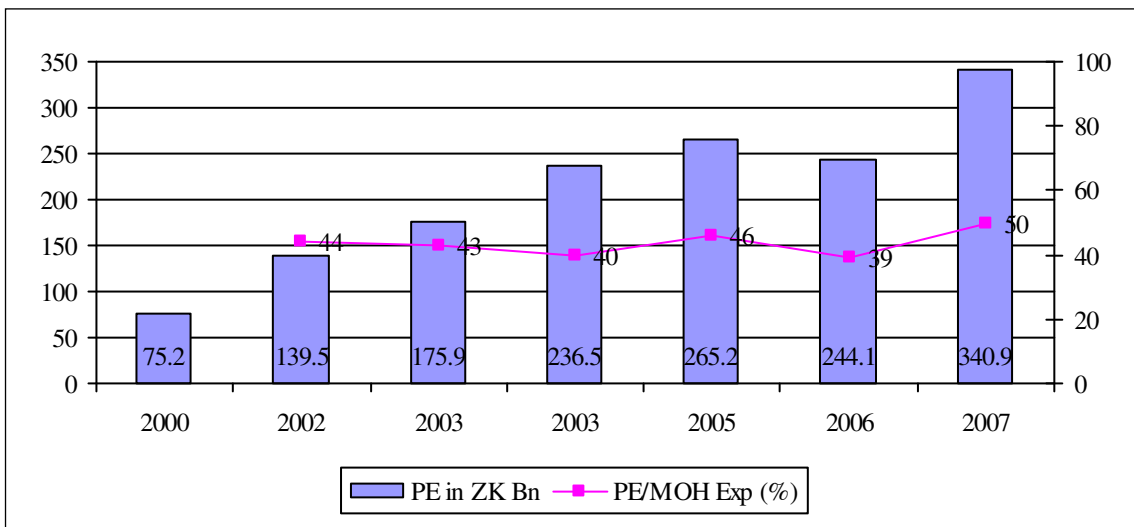
<sup>2</sup> The Abuja Target requires countries to increase their total health spending as a proportion of total public spending to 15% by 2015.

PEPFAR and the World Bank. Based on preferences for various financing mechanisms that these donor initiatives have been comfortable with, some have opted to provide their funding through largely vertical channels or projects. These disease-specific funds, which are essentially not pooled as GBS or SWAp funding, are said to account for about 50% (or more) of total donor funds to health related interventions.

### 1.2.7. The MOH budget and expenditure on Personal Emoluments (PE)

According to the 2007 report on Zambia Public Expenditure Tracking (PETS) and the Quality of Service Delivery (QSD) Survey in the Health Sector (MOH, UNZA and World Bank, 2007), MOH personnel expenditures steadily increased in nominal levels until 2005; they dipped in 2006, but are expected to rise dramatically to ZK 340.9 billion in 2007. Reflecting these trends in absolute levels, PE as a share of MOH expenditures peaked at 46 percent in 2005, then fell to 39 percent the following year (Fig 1.3), and it is estimated to garner 50 percent of the MOH's budget in 2007, the highest ever share. MoH expenditure does not include contribution of cooperating partners in the SWAp/pooled funding. However Cooperating partners do not support salaries through SWAp/pooled funding.

Fig 1.3: Personnel Expenditures in MOH Budget (ZK Billion) and Share of Personnel Expenditures to Total MOH Expenditures (%), 2000-2007.



Source: PETS/QSD report (forthcoming).

Human resource issues have become central in recent years and will continue to be topical in the near future. On the one hand, the MOH is wrecked by a human resource crisis so that expanding services to meet the MDGs would require filling the large health worker vacancies that exist. Indeed, the new Human Resources for Health (HRH) Strategic Plan, 2006-2010 calls for an eventual increase in staffing levels from about 23,000 at present to 51,000. On the other hand, sustaining the increasing amount of resources devoted to PE would be a daunting challenge, given GRZ's patchy record of managing its overall wage bill (IMF Country Case Study, 2006). In between these "expansionist" and "sustainability" concerns are a range of factors that need to be addressed:

- The facts, as shown in NHA analysis, that (a) an increasing proportion of MOH resources (and also donor resources, for that matter) are going to administration rather than service



provision; and (b) that MOH facilities at all levels are far more labour-intensive than their counterpart institutions in the mission (faith-based) and for-profit sector (MoH, 2006)

- The facts that (a) staffing patterns continue to be perverse, as reflected in the composition of established posts; (b) absenteeism, tardiness, and low morale reduce the actual availability of staff already at post, and these problems do not necessarily disappear with increases in salaries; and (c) multiple cash allowances and in-kind benefits are highly fragmented and only cover a minor percentage of MOH staff.

### 1.2.8. Funds Flow and Resource Envelope

From the PETS and QSD reports it is clear from the flow of funds that Zambia's health sector is a complicated and fragmented system, where salaries, drugs, and other recurrent expenditures are disbursed separately by different agencies.

- MoFNP provides salaries directly to the Provincial Health Offices, which then remit these to their health centres, first-level district hospitals, and second- and third-level hospitals.
- MoFNP provides the budget for other recurrent expenditures directly to MOH. Cooperating Partners (donors) provide a certain budget for 'other recurrent expenditures' through their basket funds to MOH. These basket funds are allocated in tandem with GRZ funds, and are managed and monitored closely within the MOH framework.
- For drugs, MOH allocates specific funding for the Medical Stores Ltd. (MSL), the parastatal in charge of drug procurement and distribution. MSL distributes drugs to DHMTs largely through a supply-driven system ("drug kit system"), and to second- and third-level hospitals through a combination of drug kits and a demand-driven requisition system.
- MOH then provides running costs (using GRZ and basket funds) to DHMTs and second- and third-level hospitals.
- The DHMTs, in turn, provide running costs and drugs (which they obtain from MSL) to the health centres and district hospitals under them.

Additional resources come from the following:

- Separate projects implemented by MOH, and following GRZ procurement and fiduciary systems or donor-determined systems. If implemented using GRZ systems, these flows follow the usual channels as described above.
- Vertical projects implemented by donors or their financing agents or contractors which largely lie outside the MOH procurement and fiduciary systems, but which may be implemented by MOH facilities. For the most part, these provide in-kind support, but as is shown in the results of the PETS/QSD survey report, they are increasingly providing cash support directly to facilities in ways that are still not well-understood or documented.
- The internally-generated funds of health facilities, including user fee revenues, training revenues, community donations, revenues from income-generating projects, and the like. These are not well understood or documented, but they are quite significant, as shown in the PETS/QSD survey results.

The resource envelope in Zambia's health sector was about ZK 899.8 billion for FY2005 and about ZK 1,080.8 billion for FY2006. The details are shown in Table 1.3. Note that these amounts only include monies where the GRZ/MOH is the financing agent; it excludes vertical projects. It also excludes internally generated funds (e.g., user fees), although formally, the MOH health facility is the financing agent for them.

The FY05 and FY06 resource envelopes show the following patterns: (a) There has been an 11 percent increase in flexible health funding from ZK612 billion in FY05 to ZK681 billion in FY06. (b) The gainers in FY06 were MOH non-wage expenditures (up by 31 percent), 3rd level and 2nd level hospitals (up 8 percent for wage component and 55-59 percent for non-wage component), district wage expenditure (up by 8 percent) and grants and other payments (up by 41 percent). (c) The losers were expenditures on district non-wage expenditures (down by 13 percent) and district drug expenditures (down by 34 percent). Indeed, drug allocations declined to all levels of care, but particularly to districts. (d) Changes by types of inputs shows a massive increase in capital expenditures (39 percent), a modest increase for wage and non-wage expenditures (8 and 9 percent respectively), and a 15 percent decline in drug expenditures.

Table 1.3: Health Sector Resource Envelop (in ZK Billion), FY05 and FY06

|                                 | GRZ + Basket Funds |              |             |             | Subtotal     | Donor        | Total          |
|---------------------------------|--------------------|--------------|-------------|-------------|--------------|--------------|----------------|
|                                 | Wage               | Non-wage     | Drugs       | Capital     | GRZ+ Basket  | Projects     |                |
| <b>FY05 (US\$ 1 = ZK 4,500)</b> |                    |              |             |             |              |              |                |
| MOH HQ                          | 4.4                | 51.6         | 29.7        | 0.1         | 85.8         | 288.1        | 373.9          |
| 3-level hospitals               | 57.5               | 13.2         | 4.2         | -           | 74.9         | -            | 74.9           |
| 2nd-level hospitals             | 41.2               | 13.5         | 4.2         | -           | 58.9         | -            | 58.9           |
| Districts                       | 164.4              | 142.7        | 12.7        | 24.1        | 343.9        | --           | 343.9          |
| Training institutions           | 3.8                | 15.8         | -           | 2.0         | 21.6         | -            | 21.6           |
| Grants & other payments         | -                  | 26.6         | -           | -           | 26.6         | -            | 26.6           |
| <b>Total</b>                    | <b>271.3</b>       | <b>263.4</b> | <b>50.8</b> | <b>26.2</b> | <b>611.7</b> | <b>288.1</b> | <b>899.8</b>   |
| <b>FY06 (US\$ 1 = ZK 3,500)</b> |                    |              |             |             |              |              |                |
| MOH HQ                          | 4.8                | 67.4         | 29.1        | 0.3         | 101.6        | 399.8        | 501.4          |
| 3-level hospitals               | 62.2               | 20.4         | 2.8         | 17.5        | 102.9        | -            | 102.9          |
| 2nd-level hospitals             | 44.7               | 21.5         | 2.8         | -           | 69.0         | -            | 69.0           |
| Districts                       | 178.1              | 123.8        | 8.4         | 36.9        | 347.2        | -            | 347.2          |
| Training institutions           | 4.1                | 16.0         | -           | 2.8         | 22.9         | -            | 22.9           |
| Grants & other payments         | -                  | 37.4         | -           | -           | 37.4         | -            | 37.4           |
| <b>Total</b>                    | <b>293.9</b>       | <b>286.5</b> | <b>43.1</b> | <b>57.5</b> | <b>681.0</b> | <b>399.8</b> | <b>1,080.8</b> |

Source: PETS/QSD report

### 1.2.9. Donor On-Budget Contributions

Because of the complexities of the flows of funds in the health sector, unravelling donor contributions by channel of disbursement would require rigorous analysis beyond what this literature review could accommodate. Therefore, presented below is an aggregated picture of on-budget funding to the health sector.

On-budget funding in this context refers to all funding that is made available to the MOH basket (pooled funding) from GRZ (MoFNP) and Cooperating Partners, including funds in donor-determined systems that are used for implementing programmes aligned to the GRZ

systems (e.g., Global Fund money). Out of on-budget funding, the aggregate picture focuses on donor contributions only.

Table 1.4 shows the total donor contributions to pooled funding between 1997-2005, and illustrates the sizable contribution of disease specific funding (such as from the Global Fund for HIV/AIDS, TB and malaria) to the total health budget. The data roughly demonstrates that disease specific funding, given its magnitude, has the potential for causing significant distortions in the health system. A more detailed analysis of the data used to build Table 1.4 would probably illustrate this more clearly, highlighting the proportions of on-budget donor funds that are used in the SWAp mechanism (proper basket funds) and those that are not.

| Cooperating Partner       | Total                 |                             | %            |
|---------------------------|-----------------------|-----------------------------|--------------|
|                           | \$                    | K                           |              |
| Global Funds              | 60.746.679,97         | 283.758.851.564,75          | 23,3         |
| CIDA KNCV                 | 408.204,43            | 1.905.343.356,60            | 0,2          |
| NORVATIS RBM              | 499.968,00            | 2.429.844.480,00            | 0,2          |
| IMPERIAL COLLEGE          | 365.000,00            | 1.604.910.000,00            | 0,1          |
| CDC                       | 287.819,93            | 1.333.285.000,00            | 0,1          |
| LEPROSY RELIEF            | 186.829,00            | 867.994.185,00              | 0,1          |
| UNICEF                    | 4.849.455,59          | 20.691.519.258,53           | 1,7          |
| SIDA                      | 48.598.776,62         | 206.498.543.081,31          | 17,0         |
| DFID                      | 25.571.884,86         | 123.946.116.486,64          | 10,2         |
| DGIS                      | 61.870.430,11         | 256.259.524.981,25          | 21,1         |
| DANIDA                    | 32.407.264,16         | 139.803.141.365,66          | 11,5         |
| WHO                       | 4.024.083,12          | 16.637.569.954,19           | 1,4          |
| DCI                       | 19.817.188,33         | 79.655.550.415,43           | 6,6          |
| USAID                     | 5.638.993,96          | 25.824.014.912,25           | 2,1          |
| EU                        | 4.852.925,76          | 18.397.502.962,75           | 1,5          |
| WORLD BANK                | 2.514.608,28          | 11.593.320.425,00           | 1,0          |
| WFP                       | 384.248,35            | 1.583.571.633,09            | 0,1          |
| UNFPA                     | 505.168,48            | 2.186.266.500,00            | 0,2          |
| UNICEF(GAVI)              | 3.103.741,65          | 14.255.566.000,00           | 1,2          |
| ADB                       | 527.286,17            | 2.012.603.600,00            | 0,2          |
| GTZ                       | 19.475,00             | 72.000.000,00               | 0,01         |
| GFHR                      | 24.295,09             | 104.468.887,00              | 0,01         |
| SOCIETY FOR FAMILY HEALTH | 432.425,13            | 1.798.000.000,00            | 0,1          |
| JPIEGO                    | 120.546,19            | 418.295.276,00              | 0,03         |
| UNAIDS                    | 50.000,00             | 173.500.000,00              | 0,01         |
| UNDP                      | 417.182,66            | 1.671.172.801,00            | 0,1          |
| JICA                      | 21.007,55             | 72.896.200,00               | 0,01         |
| <b>Total</b>              | <b>278.245.488,39</b> | <b>1.215.555.373.326,45</b> | <b>100,0</b> |

Source: MOH, Planning and Policy Department.

### 1.2.10. Global Fund, World Bank and PEPFAR

There are a number of donor projects that many observers describe as vertical because these projects do not provide funding directly to government systems (SWAp or direct budget support) and do not inform the government adequately about the operations and funding outlays. Notable among these is PEPFAR. Over time from 2003 to 2005, PEPFAR has overtaken the Global Fund as significantly the largest financier of HIV/AIDS interventions in Zambia, in terms of funding allocations (see Table 1.5 and Fig 1.4, below). Partly, this is explained by the fact that the Global Fund is more closely tied to performance and absorptive capacity of the recipient country.

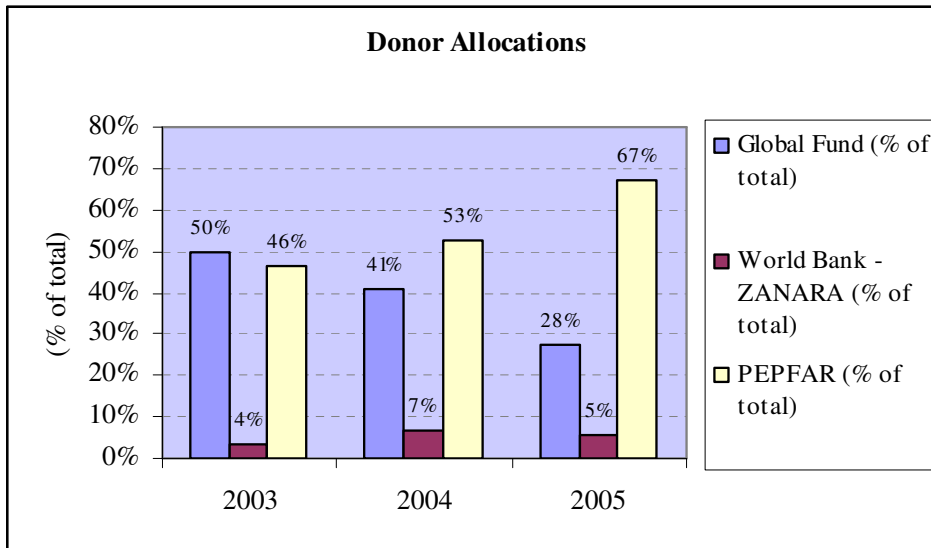
*Table 1.5: Commitments and Allocation of Three Major Donors*

| Part A: Donor Allocations/Commitments:  |      |       |       |       |           |
|---|------|-------|-------|-------|-----------|
|   | 2003 | 2004  | 2005  | 2006  | 2004-2006 |
| Global Fund (\$ million)                | 90.3 | 87.8  | 88.3  | 61.3  | 237.4     |
| <i>Global Fund (% of total)</i>         |      | 50%   | 41%   | 28%   | 39%       |
| World Bank - ZANARA (\$ million)        | 2.0  | 6.4   | 14.4  | 12.1  | 32.8      |
| <i>World Bank - ZANARA (% of total)</i> |      | 4%    | 7%    | 5%    | 5%        |
| PEPFAR (\$ million)                     | n.a  | 81.8  | 114.9 | 148.5 | 345.2     |
| <i>PEPFAR (% of total)</i>              |      | 46%   | 53%   | 67%   | 56%       |
| Total (\$ million)                      | 92.3 | 176.0 | 217.6 | 221.9 | 615.4     |
| Part B: Donor Disbursements:            |      |       |       |       |           |
|   | 2003 | 2004  | 2005  | 2006  | 2003-2006 |
| Global Fund (\$ million)                | 2.5  | 26.0  | 26.9  | 22.1  | 77.5      |
| <i>Global Fund (% of total)</i>         | 9%   | 26%   | 18%   | 13%   | 17%       |
| World Bank - ZANARA (\$ million)        | 1.4  | 6.8   | 13.0  | 14.2  | 35.4      |
| <i>World Bank - ZANARA (% of total)</i> | 5%   | 7%    | 9%    | 9%    | 8%        |
| PEPFAR (\$ million)                     | 24.0 | 68.0  | n.a.  | 129.0 | 221.0     |
| <i>PEPFAR (% of total)</i>              | 86%  | 67%   | 73%   | 78%   | 75%       |
| Total (\$ million)                      | 27.9 | 100.7 | 148.9 | 165.3 | 442.8     |

n.a. = not available

*Source:* UNZA (2007) Tracking the Effects of Donor Funds and Operations on the Health System in Zambia (final version forthcoming)

Fig 1.4: Relative contributions of the Global Fund, World Bank and PEPFAR against each other<sup>3</sup>



Source: UNZA (2007) Tracking the Effects of Donor Funds and Operations on the Health System in Zambia (final version forthcoming)

In terms of disbursements, PEPFAR has always been the largest funds provider over 2003-2006. Observers have raised various concerns about the verticality of PEPFAR operations and funding. The risks of significant deflections of resources in the regular national systems and therefore distortions of the systems have been pointed out. Concern has also been expressed that priority setting, harmonization and alignment are all made very difficult to achieve with such large vertical programs that are not well known by the government. The U.S. Government has begun to take some steps to address these concerns. For instance USAID and CDC have been providing funds to the health basket since the early 2000s under arrangements outside PEPFAR<sup>4</sup>, has made commitments to the HRH Strategic Plan (see below), and PEPFAR is itself part of the NAC Joint Financing Arrangement.

### 1.2.11. Harmonisation and alignment

Most cooperating partners (CPs) of the Zambian health sector have agreed to adhere to the Paris Declaration on Aid Harmonisation and Alignment. The signing of the MoU by the main CPs is testimony to this. However, differences exist between the GHPs: the GFATM has signed the MoU, but still requires that districts and hospitals prepare separate plans along their regular annual plans.

*Overall, Global Health Partnerships (GHPs) have contributed many benefits. The major GHPs have provided large-scale new funding .....However, these have also raised many new issues, among these the lack of alignment with country systems (High Level Forum on the health MDGs, 2005).*

<sup>3</sup> In Fig 1.4, the denominator is the sum of allocations of the three donors only. No other funds are considered. So the proportions are taken against the funding of the three only.

<sup>4</sup> This is perhaps the first time ever the U.S. Government has joined a SWAp in any part of the world.

*Overall however, countries are seeing a surfeit of coordination mechanisms with little effective coordination to show for it. The costs of poor coordination at central level fall on the districts at the frontline of execution. NGOs do not consistently share plans with districts, nor disclose finances. The McKinsey study notes an estimate that in Zambia, 50% of activities at district level are unplanned, mostly as a result of NGO activities (High Level Forum on the health MDGs, 2005).*

The CPs for the health sector who signed the 2005 MoU are: Danida, DfID, GTZ, Development Cooperation Ireland, SIDA, Commission of the EU, DGIS, USAID, UNICEF, IDA – World Bank, UNDP, UNAIDS, UNFPA, WHO, GAVI, GFATM. CPs supporting health sector activities, but who have not signed the MoU are: JICA, CIDA, and some smaller agencies who support specific projects. CIDA has since ratified its membership of the SWAp with relatively substantial pledges of over US\$25 million for 2007 and 2008

Note that despite the fact that GFATM, GAVI, IDA – World Bank and USAID (manager of PEPFAR funds through implementing agencies) have signed the MoU, the disbursement of their funds is outside of the district basket. The districts do not receive upfront any indicative planning figures based on predicted disbursements from these funding sources and therefore they are not sure whether funding will be forthcoming for the activities that they include in their district annual plans. As a consequence the implementation of district plans is often disrupted. This is especially the case for the following:

- WHO supported Roll Back Malaria activities
- World Bank ZANARA activities
- World Bank – IDA Malaria Booster Programme activities
- Gates Foundation Malaria Control & Evaluation Programme in Africa (MACEPA) in close collaboration with World Bank – IDA Malaria Booster Programme
- GFATM related activities (separate plan has to be developed!)
- GAVI related activities (mostly training)
- PEPFAR funded projects implemented by NGOs (activities planned by NGOs, not always in consultation with the districts).

Hence the following call has been made:

*“USAID should support coordination of GFATM with existing in-country processes and should advocate for the use of funds provided through President Bush’s Emergency Plan for AIDS Relief in support of health systems development in focus countries. .... The scale of these two initiatives [GFATM and PEPFAR] means that they have the potential to significantly destabilize the public health system” (Frantz et al., 2004).*

## 1.2.12. National Health Strategic Plan 2001 – 2005

The main focus of the NHSP 2001 – 2005 was on (MOH, 2005):

- Public Health Priority interventions
- Infrastructure & equipment
- Systems strengthening
- Human Resources

- Drugs & medical supplies
- Health systems governance
- Health care financing

These same priority areas were maintained in the NHSP 2006 – 2010, which is being implemented at present.

### 1.2.13. Human Resources for Health Strategic Plan 2006-2010, MoH

Zambia hosted the regional 2006 World Health Day meeting in Lusaka in April 2006. The Zambian Ministry of Health's HRH Strategic Plan 2006 – 2010 was discussed extensively during the different sessions (WHO – Global Health Workforce Alliance, 2006).

The main thrusts of the HRH strategic plan 2006 – 2010 are:

- A coordinated approach to HRH planning across the sector
- An increased number of trained and equitably distributed staff
- Improved productivity and performance of health workers
- Strengthened human resource planning, management and development of systems at all levels.

The cost of the HRH strategic plan has been estimated at K1,464 billion (or approximately US\$311 million) over three years (2006-2008). Table 1.6 below provides some aggregate information of these costs:

TABLE 1.6: OVERALL TOTAL COST OF THE HRH STRATEGIC PLAN

|     | Description                            | BUDGET (ZMK)           |                        |                        |
|-----|--|------------------------|------------------------|------------------------|
|     |  | 2006                   | 2007                   | 2008                   |
| 1.0 | Training                               | 69.045.554.910         | 40.832.877.910         | 40.824.003.910         |
| 2.1 | Recruitment                            | 71.112.362.650         | 70.485.702.650         | 70.485.702.650         |
| 3.1 | Retention                              | 497.164.557.883        | 313.280.557.883        | 281.329.957.883        |
| 4.1 | Systems strengthening                  | 2.475.825.000          | 1.736.125.000          | 385.400.000            |
| 5.1 | Statutory Boards                       | 495.000.000            | 495.000.000            | 495.000.000            |
| 6.1 | Monitoring and Evaluation              | 1.305.000.000          | 1.250.000.000          | 1.250.000.000          |
|     | <b>TOTAL</b>                           | <b>641.598.300.443</b> | <b>428.080.263.443</b> | <b>394.770.064.443</b> |
|     | <b>TOTAL (US\$ equivalent)</b>         | <b>136.510.276,69</b>  | <b>91.080.907,12</b>   | <b>83.993.630,73</b>   |
|     | <b>Exchange Rate: 1 US\$ = ZMK4700</b> |                        |                        |                        |

Source: Ministry of Health. Human Resources for Health Strategic Plan: 2006 – 2010

As would be expected, substantial resources are required to implement the strategies and achieve the overall objectives of the HRH Strategic Plan. The sustained support and commitment of the government, CPs, unions, professional associations and health workers will be critical. The HRH Strategic Plan anticipates that “Most of the recurrent costs related to human resources (salaries, regular training courses, regular management and supervision activities) will be funded from the regular government budget” [p.51].

The proposed MOH 2006 budget estimates for human resource activities are presented in Table 1.7 below:

*Table 1.7: Proposed MOH 2006 Budget Estimates – HR Activities, by Funding Source*

| <b>Funding Source</b> | <b>Amount (K billion)</b> | <b>Amount (US\$ million)</b> |
|-----------------------|---------------------------|------------------------------|
| European Union (EU)   | 30.55                     | 6.5                          |
| Expanded Basket       | 1.37                      | 0.3                          |
| Global Fund           | 0.36                      | 0.1                          |
| GRZ                   | 31.02                     | 6.6                          |
| Sida                  | 12.01                     | 2.6                          |
| USAID/HSSP            | 6.01                      | 1.3                          |
| WHO                   | 0.08                      | 0.0                          |
| World Bank            | 0.62                      | 0.1                          |
| <b>Grand Total</b>    | <b>82.01</b>              | <b>17.4</b>                  |

*Source:* constructed from HRH Strategic Plan data

The estimated budget was significantly less than the 2006 cost requirements of the Plan. Against 2006 costs amounting to a total of K641.6 billion (or US\$136.5 million) (Table 1.6) the budget in Table 1.7 implies a financing gap or deficit of K559.6 billion or US\$119.1 million in 2006 alone. Despite the internal and external commitments, the HRH Strategic Plan budget was already considerably off track in 2006, relative to anticipated costs.

#### 1.2.14. HRH Related Indicators and targets for NHSP (2006 – 2010)

The NHSP 2006 – 2010 is indicated to incorporate the HRH Strategic Plan (2006 – 2010). As the HRH Strategic Plan follows the NHSP congruence and consistency in the strategic and implementation formulation is intended to prevail.

The HRH section of the NHSP takes cognizance of the following contextual issues in the design of the strategies:

- HIV/AIDS has been a critical factor impacting on the attrition rates of HRH
- Migration of HRH both domestically and externally
- Rural areas have been more adversely affected than the urban areas
- Compensation has been a factor in the migration related attrition of HRH
- Restrictions due to macro-economic conditionalities
- Implementation of health care programmes and services has consequently been adversely affected.

The total staff complement of the MOH in 2004/05 was 23,176 workers, of whom almost half were categorised as “support” staff. The HRH strategic plan recommends an increase of 26,184 health sector workers, more than doubling the current establishment. At the same time, the plan indicates that with “... the need to conform to the PSRP targets ...” the government PE ceiling is set at 8.01% of GDP. The MOH budget for PE represents a PE/GDP ratio for the health sector of 0.9163%, which has to be reduced to 0.7676%. It is unclear how this reduction in PE expenditure can assist in improving the HRH base of the health sector, given that the plan promotes the increase in staffing levels and improved remuneration packages.



*The Jesuit College for Theological Reflection in Zambia calculated in May 2006 that the monthly cost of absolute basic needs for a family of six to survive was 1.4 million Kwacha (USD 410). On average ..... a nurse's salary was 1.2 million Kwacha (USD 351) (OXFAM, 2007).*

The PE/GDP ratio has been projected to double according to the HRH Strategic Plan. This measure is driven by the expanded sector organisation structure which seeks to increase the staff from 23,000 to 49,000 workers as well as due to expected increases in various incentive schemes such as rural retention payments for health workers. However, the allocation of resources to meet this increase is subject to budget approval and allocations. (See Table 1.7B below). The table shows the projection of 2.2% as the PE/GDP ratio based on the reviewed establishment.

### 1.2.15. Current PE/GDP ratio

The Human Resource for Health Strategic Plan (HRHSP) notes that the level of Government funding for human resources in the health sector is constrained by the following two factors:

- Revenue constraints arising out of the performance of the economy and therefore, implicitly, the tax revenue collection.
- The requirement to conform to the PRSP targets of setting personnel emoluments (PE) at the ratio of 8.01 to GDP. Of this overall public sector PE/GDP ratio, the health sector takes up 0.916%, or less than 1%.

The proposed establishment of the health sector that has been submitted for Cabinet approval would lead to the expansion of the health sector from 23,000 staff to 49,000. If remuneration levels remained unaltered this would lead to a PE:GDP ratio of 2.2%.

*Table : 1.7 B PE/GDP Ratio for proposed establishment*

| <b>Cadre</b>        | <b>Mean salary 2005<br/>(Zk, 000)</b> | <b>Number in<br/>Proposed est.</b> | <b>Total PE</b>         |
|---------------------|---------------------------------------|------------------------------------|-------------------------|
| Doctors             | 9 000,00                              | 2300                               | 20 700 000,00           |
| Clinical Officers   | 2 600,00                              | 4000                               | 10 400 000,00           |
| Nurses              | 2 580,00                              | 16732                              | 43 168 560,00           |
| Midwives            | 2 580,00                              | 5600                               | 14 448 000,00           |
| Pharmacists         | 4 760,00                              | 162                                | 771 120,00              |
| Lab staff           | 2 560,00                              | 1560                               | 3 993 600,00            |
| Radiographers       | 2 580,00                              | 233                                | 601 140,00              |
| EHT                 | 2 580,00                              | 1640                               | 4 231 200,00            |
| Other staff         | 2 580,00                              | 17133                              | 44 203 140,00           |
| <b>Total</b>        |                                       | <b>49360</b>                       | <b>142 516 760,00</b>   |
| <b>GDP</b>          |                                       |                                    | <b>6 300 000 000,00</b> |
| <b>PE/GDP Ratio</b> |                                       |                                    | <b>2,26%</b>            |

*Source: HRH Strategic Plan 2006 - 2011*

<sup>5</sup> Based on available statistics of average salary per annum per cadre.

### 1.2.16. Imbalances on Spatial Human Resource Distribution

HRH constraints are more than simply the required numbers and the compensatory levels.

Table 1.8 shows an inequitable distribution of HRH in the different provinces while Table 1.9 shows the extent of the HRH crisis per cadre.

*Table 1.8: Distribution of HRH in Zambia 2005*

| Province       | Drs        | CO          | RM         | RN          | ZEM         | ZEN         | Pharm     | Lab        | Para-<br>medic | EHT        | TOTAL        |
|----------------|------------|-------------|------------|-------------|-------------|-------------|-----------|------------|----------------|------------|--------------|
| Central        | 35         | 132         | 60         | 84          | 242         | 388         | 9         | 37         | 46             | 93         | 1126         |
| Copperbelt     | 202        | 187         | 126        | 357         | 505         | 1160        | 33        | 110        | 140            | 79         | 2899         |
| Eastern        | 29         | 138         | 15         | 103         | 159         | 506         | 8         | 28         | 38             | 95         | 1119         |
| Luapula        | 15         | 65          | 10         | 36          | 39          | 274         | 5         | 25         | 21             | 55         | 545          |
| Lusaka         | 256        | 212         | 129        | 421         | 305         | 1014        | 5         | 103        | 162            | 58         | 2665         |
| North-<br>West | 21         | 55          | 5          | 38          | 41          | 281         | 7         | 18         | 20             | 73         | 559          |
| Northern       | 22         | 107         | 18         | 94          | 149         | 320         | 5         | 30         | 35             | 90         | 870          |
| Southern       | 38         | 174         | 31         | 117         | 359         | 663         | 16        | 48         | 53             | 126        | 1625         |
| Western        | 28         | 91          | 16         | 38          | 64          | 350         | 4         | 18         | 30             | 81         | 720          |
| <b>TOTAL</b>   | <b>646</b> | <b>1161</b> | <b>410</b> | <b>1288</b> | <b>1863</b> | <b>4956</b> | <b>92</b> | <b>417</b> | <b>545</b>     | <b>750</b> | <b>12128</b> |

*Co = clinical officer; rm = registered midwives; rn = registered nurses; zem = zambia enrolled midwives; zen = Zambian enrolled nurse; eht = environmental health technician*

*Source: Ministry of Health. Human Resources for Health Strategic Plan: 2006 – 2010*

*Table 1.9: Current staffing, approved establishment and deficit by HRH cadre*

| Staff category        | Current staff levels | Recommended establishment | Deficit | Deficit (% of Recommended establishment) |
|-----------------------|----------------------|---------------------------|---------|--|
| Doctor                | 646                  | 2300                      | 1654    | 71.9                                     |
| Nurses                | 6098                 | 16732                     | 10636   | 63.6                                     |
| Mid wives             | 2273                 | 5600                      | 3327    | 59.4                                     |
| Clinical officers     | 1161                 | 4000                      | 2839    | 71.0                                     |
| Pharmacists           | 24                   | 42                        | 18      | 42.9                                     |
| Pharmacy technicians  | 84                   | 120                       | 36      | 30.0                                     |
| Laboratory scientists | 25                   | 50                        | 25      | 50.0                                     |
| Lab technologists     | 100                  | 210                       | 110     | 52.4                                     |
| Lab technicians       | 292                  | 1300                      | 1008    | 77.5                                     |
| EHO                   | 53                   | 120                       | 67      | 55.8                                     |
| Eh technologist       | 32                   | 220                       | 188     | 85.5                                     |
| EH technicians        | 718                  | 1300                      | 582     | 44.8                                     |
| Dental surgeon        | 14                   | 33                        | 19      | 57.6                                     |
| Dental technologist   | 40                   | 300                       | 260     | 86.7                                     |
| Dental therapist      | 2                    | 300                       | 298     | 99.3                                     |
| Physiotherapist deg   | 0                    | 50                        | 50      | 100.0                                    |
| Physiotherapist dip   | 86                   | 250                       | 164     | 65.6                                     |
| Radiologist           | 3                    | 33                        | 30      | 90.9                                     |
| Radiographer          | 139                  | 200                       | 61      | 30.5                                     |

|               |       |       |       |       |
|---------------|-------|-------|-------|-------|
| Paramedics    | 320   | 6000  | 5680  | 94.7  |
| Nutritionist  | 65    | 200   | 135   | 67.5  |
| Support staff | 11003 | 10000 | -1003 | -10.0 |

*Source: Ministry of Health. Human Resources for Health Strategic Plan, 2006 – 2010*

Some of the factors impacting on HRH in Zambia identified include:

- State of health facility infrastructure – equipment, machinery, buildings
- Housing and accommodation availability
- Training availability
- Skills mix and competencies and their distribution

### 1.2.17. Retention initiatives currently implemented

Several initiatives are being undertaken to attract more staff and retain them in their positions:

- Zambia Health Workers Retention Scheme (funded by RNE, for medical doctors only during pilot phase). See Mid-term review by Koot and Martineau (March 2005);
- Recruitment of nine (9) clinical care specialists seconded to Provincial Health Offices by the Health Services Support Programme (Health Services Support Programme - HSSP, Abt Associates Inc, USAID funded). (*Note that these 9 CCSs were recruited from MOH staff; some of them are surgeons and paediatricians now placed in largely administrative posts. Also of importance is that HSSP has its own HIV/AIDS programme in addition to other NGOs providing support in HIV/AIDS projects funded by USAID / PEPFAR*);
- Top-up allowances for DHO staff from the district basket.
- Renovation / construction of staff houses for medical staff in Luapula Province (USAID);
- UNFPA support to training of Enrolled Midwives in North-Western Province;
- Salary supplementation for lecturers at School of Medicine, UNZA, by WHO;
- Support to training of nurse tutors, curriculum reviews and strengthening of training institutions by SIDA.
- Expanded Zambia retention scheme to be supported mostly through the expanded basket funds (RNE/DGIS, HSSP/USAID, CIDA, SIDA, DFID, EU, World bank (WB), Clinton Foundation). This scheme includes provision of not only salary top-ups and other incentives to Doctors, Pharmacists, Nurse Tutors, Nurses, Medical Licentiates, Clinical Officers, Physiotherapists, and Laboratory Technologists through the expanded basket funds but has additional components which are separately funded such as improvement to staff accommodation (RNE), installation of solar panels to rural health centres (WB) and purchase and supply of drugs (DFID). The Clinton Foundation has specifically employed 6 specialists in Paediatric-HIV Management.

In addition to these initiatives, a number of districts have taken their own initiatives to improve the performance of health workers (electrification of staff houses, renovation of staff accommodation, salary top-ups, and provision of staff transport).

Of note is that the HRH strategic plan does not mention the GHPs / GIs and the vertical implementation of GI funded programmes as possibly contributing to, or destabilising / fragmenting the health system.

### 1.2.18. SWEF findings of GHPs

The SWEF research teams in Ethiopia, Benin and Malawi (Stillman & Bennett, 2005) studied the effects of GHPs/GIs on policy processes, HRH, Public/Private mix and Pharmaceuticals & Commodities. The main policy and HRH findings of the SWEF studies are:

- Policy processes: “...the majority of GFATM supported programmes are well aligned, but heavily centralised even in decentralised contexts”. Due to the vertical nature of GFATM funded programmes, there is a sense of lack of ownership, and national and especially sub-national stakeholders feel disempowered.
- HRH: Most proposals include training activities, but staff motivation and retention are rarely addressed in the proposals. In the countries where the research was conducted, the most important constraints were felt at central level in the proposal development / planning phase. Health worker incentives are mostly related to training allowances, but training mostly focused on clinical issues with little to no attention for management and planning skills.
- Additionally, a significant increase in the number of NGOs benefiting from GFATM funding was noted in the three countries. Concern was expressed about the limited capacity of the NGO sector and the inadequate measures to ensure quality control of the private sector.

### 1.2.19. PHRplus Study findings on HRH Crisis in Zambia

The PHRplus report sought to analyze the human resource requirements associated with scaling up the provision of ART, PMTCT, and VCT services in the public health sector. It used data collected from a facility assessment of 10 major public hospitals to estimate human resource requirements for scaling up these HIV/AIDS services.

The report estimated future national human resource needs based on [then] current attrition, graduation, and retention. Furthermore, it explored a range of policy implications, including the effects of salary increase on attrition and emigration; alternative ART staff model; and opportunities for human resource mobilization. Given that the provision of HIV/AIDS services was changing dramatically in Zambia and certain policy and programmatic decisions on how key health staff would be mobilized at lower levels of care had yet to be made, some assumptions had to be made in the forward-looking estimations of human resource needs.

The report presented four main findings: first, attrition rates for all health staff had increased dramatically compared to historical trends. Data showed that doctors had the highest attrition rate (9.8 percent) followed by nurses (5.3 percent) and pharmacists (4.6 percent). Second, looking only at national human resources figures had the risk of obscuring important trends within the country. The analysis indicated that there were differences in urban and rural attrition rates, leading to net losses of staff in rural areas (Eastern, Luapula, Northern, and Western provinces) and net staff gains in urban areas (Copperbelt and Lusaka provinces). Third, it was projected that many facilities would soon start experiencing severe constraints in expanding their HIV/AIDS services. Data from the 10 hospitals indicated that, on average, facilities were utilizing 1.4 full-time equivalent (FTE) doctors on ART services (a total of 8.2 FTE doctors at all facilities treating 3,800 ART patients). Comparing the FTE staff to the total number of staff at the provincial facilities suggested that there was room for expansion of ART services to some degree, noting however, that doctors at University Teaching Hospital (UTH) (which is by far the largest facility) were each

treating 43 patients per day, and the counsellors were seeing 40 patients per day, far above the average. This meant that UTH facility staff were spending less time treating or counselling each patient than any of the other facilities. This suggested that UTH staff were seriously overworked.

### 1.2.20. HRH issues related to training by externally funded projects

Dräger et al. (2006) mention that any activity related to systems' strengthening and HRH has to be integrated within the disease specific proposals starting from round 6 GFATM proposals and are scathing about training activities included in the GFATM proposals:

*....Most proposals provide an elaborate training strategy..... However, none of the reviewed proposals link their plans for capacity development to a coordinated training plan.... Furthermore, only about 20% of the suggested training programmes include the assessment of staff training needs, an evaluation of on-the-job impact of new skills or any other kind of follow up of training activities" (Dräger et al, 2006).*

### 1.2.21. HRH issues related to GFATM and PEPFAR funded projects

The GFATM, GAVI, and World Bank funded projects disburse their funds through the MoH. PEPFAR, however, has its own partner organisations that are responsible for the implementation of project activities. For the fiscal year 2006, a total of 51 prime partners (who in turn can have sub-partners) were funded ([www.pepfar.gov/partners](http://www.pepfar.gov/partners)). In Zambia, a number of the prime partners implement project activities in the same provinces. An example is in Central Province, where in 2004/05 three different programmes were directly implemented, each with an HIV/AIDS component. Two of those programmes (HCP and ZPCT) had their own provincial offices & staff, but recruited from the public health sector.

Systemic issues that arise include:

- Parallel reporting requirements

ART Information System (ARTIS) data collection tools were introduced in addition to HMIS, although the intention is to integrate the data of the two systems. The new data collection tools require significant staff time to complete. In some districts where NGOs support the implementation of vertical programmes, health facility and DHO staff have additional reporting requirements (PEPFAR, MSF funded) and data are used by the implementing organisation rather than integrated in the routine system of data collection, analysis and interpretation.

- Recruitment of staff for project purposes

PEPFAR funded NGOs (e.g. Family Health International - Zambia Prevention, Care and Treatment (ZPCT)) have engaged data clerks with a far higher salary package than MoH pays. This is often de-motivating as clerks' posts, which only require a secondary school certificate, are paid approximately twice as much as a Registered Nurse who works at the ART clinic.

- Supervision

Supervision is conducted in an uncoordinated way since the start of parallel PEPFAR funded programmes: in the four provinces where Family Health International (FHI) implements the ZPCT projects, ZPCT staff members responsible for the different sub-themes (PMTCT, VCT, laboratory, drugs and ART) each supervise health workers in the districts. These supervision activities are additional to the District Health Office's (DHO) supervisory activities and are planned without consultation with the DHO (W. Meeus, own observation in Kabwe, Central province).

- Training

To ease the shortage of trained workers, donor projects have been heavily involved in in-service training programmes often based on competency diagnoses and skill-deficit assessments prior to project inception. While this is a short-term solution, in-service training engenders its own problems. It diverts the attention away from the appropriateness and quality of pre-service training. It covers only a proportion of all service providers. It is usually not a sustainable option. Workshops are also disruptive as they take many health workers absent from their posts (Huddart & Picazo, 2003).

These issues have contributed to the current state of health service delivery and the degree/extent of contribution or attribution is yet to be established.

### 1.3. Definition of terms

“District health systems” comprise of all public providers of health services (hospitals, clinics, pharmacies, counselling centres) as well as private providers, such as church-based/faith-based institutions, other NGOs and private for-profit institutions (private hospitals, clinics, surgeries, pharmacies, laboratories). They are managed by the District Health Management Teams on behalf of the Government of Zambia.

“Externally funded health programmes” are defined as programmes that receive their funding from external sources, i.e. not from the Government. Various types of externally funded programmes (or projects) may be distinguished, depending on:

1. Their funding modality: with funds either flowing through the government or outside government;
2. Whether or not the programme is designed and implemented in consultation with the DHMT (a good indicator of this is: whether or not the programme and its financial resources are an integral part of the District Health Plan and the annual budget);
3. Whether the programme is implemented through existing public health facilities using existing personnel or whether it has its own institutions and staff. Some externally funded programmes do both: they employ staff on their own (such as a coordinator), and use government staff to render particular services.

## 2. Study objectives and research questions

The proposition that has led to the present study is that the added value of externally funded programmes should not be taken for granted and that it is worth having a critical look at the possible negative implications of such programmes, especially when it comes to their effects on the recruitment, deployment and retention of scarce human resources for health.

### 2.1. General objective

To analyse in what way HRH recruitment, deployment and retention at the district level are influenced by external funding; and to what extent this is in line with national and district policies and strategies.

### 2.2. Specific objectives

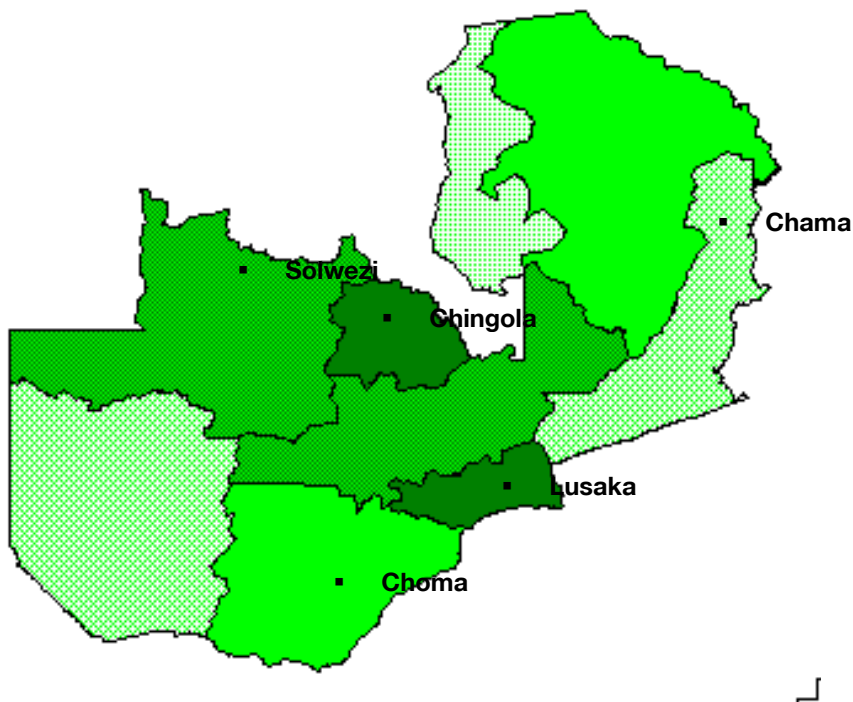
1. To establish the trend in HRH recruitment, deployment and retention at the district level in the past five years (2002-2006), and the reasons for attrition.
2. To assess whether HRH have been distributed according to needs within the district and identify the reasons for any gaps.
3. To determine the proportion of funding by central government, donors and district's own resources towards staff recruitment, deployment and retention at the district level in the past five years.
4. To identify and document the coping strategies employed by DHMT in recruiting, deploying and retaining HRH.
5. To document the extent to which NGO and parallel programmes at district level have influenced the recruitment, deployment and retention of HRH over the past five years.
6. To determine the influence of external funding agencies on the productivity of HRH.
7. To provide suggestions for the optimal use of external funds in improving HRH utilization.

## 3. Methodology

### 3.1. Study type and study populations

The study was designed as a multiple case study, with districts serving as cases, since they are the managerial entities of which the management team (DHMT) is responsible for planning, finance, HRM, the coordination of various health programmes and district health in general. The inclusion of several districts would allow for some comparative analysis. It was not the intention to constitute a fully representative sample of districts: three districts were chosen because of their existing working relations with Chessore (Chama, Choma, Chingola); the fourth district (Solwezi) because of its working relation with Cordaid, one of the agencies that has funded the study. The four districts are situated in various parts of the country, as shown in Figure 3.1. Appendix A contains brief profiles of the four districts.

*Figure 3.1: Map of Zambia*



Data about staffing and funding levels in the four districts were collected for a period of five years (2002-2006).



## 3.2. Data collection techniques and instruments used

The study involved the use of both quantitative and qualitative data collection techniques and tools. Data collection forms and interview schedules were designed at a one-week workshop in Lusaka, May 2007, under the guidance of a facilitator who used an existing training package<sup>6</sup>. A team from Kenya participated in the same workshop, who then implemented a similar study in Kenya. The results of this study are presented in a separate report.

Data collection forms were used to capture information from the DHMT on private health care providers (Form 1) and externally funded programmes (Form 2) operating in the district. Special forms (Form 3) were used to retrieve information on the staff establishment of the respective DHMT's (including health centres) and hospitals, the number of posts filled at the beginning and end of the year, and staff recruitment data for a five-year period (2002-2006). Form 4 captured information on attrition by gender, cadre and type. Data was also obtained on the staff complement at private health facilities (Form 5) and the involvement of HRH engaged in public services. Sources of finance for DHMT and yearly expenditure data (including expenditure on HRH) were also collected (Forms 6 and 7). Form 8 captured information on financial expenditure on HRH by externally funded programmes. Information on salaries and allowances for different cadres of health workers was also obtained, with interest in allowances and salary top-ups paid by Government, NGOs and externally funded programmes (Form 9).

Some of the data collection instruments were pre-tested in the field during the workshop in May 2007. Two interview guides were tested through trial interviews with health staff at two health centres in Lusaka district.

In-depth interviews were held with the District Directors of Health (DDH) of each of the four districts (4 interviews in total), hospital in-charges (5 interviews), health centre in-charges (3 in each district, totalling 12), coordinators of externally funded programmes (10 interviews) and with the persons in charge of private health care facilities.

Focus group discussions were held with DHMT managers in three districts (not in Solwezi) and with health centre staff, including those involved in externally funded programmes in all the districts. The DHMT in Solwezi was unavailable for the FGD during the period of the study. The DDH had long periods of being away from the station and the other managers were said to be too busy to attend to our need for information. The FGD with the DHMT managers were held after most of the data had been gathered and preliminary findings documented. This served to verify some of the information gathered and also to get further insight into the local district information. Valuable information was also obtained through

<sup>6</sup> Varkevisser C., I. Pathmanathan and Ann Brownlee (2003), *Designing and conducting health systems research projects*. KIT Publishers and IDRC.

informal discussions and further details were obtained from the enumerators who were resident in the four districts.

The volume of data obtained in each district is as shown in Table 3.1.

*Table 3.1: Data sets obtained from each district through interviews and data collection forms.*

|                               | Chama     | Choma     | Chingola  | Solwezi |
|-------------------------------|-----------|-----------|-----------|---------|
| 1. Inventory of private prov. | 5         | 6         | 3         | 6       |
| 2. Externally funded progr    | 3         | 7         | 3         | 7       |
| 3. Staff movements            | 1         | 3         | 1         | 1       |
| 4. Staff attrition            | 1         | 3         | 1         | 1       |
| 5. Staff at private facility  | 5         | 2         | 2         | 2       |
| 6. Financial exp - Public     | 1 (4 yrs) | 1 (5 yrs) | 1 (5 yrs) | 0       |
| 7. Financial exp – Private    | 5         | 2         | 1         | 2       |
| 8. Financial exp – External   | 3         | 1         | 0         | 0       |
| 9. Salaries and allowances    | 1         | 3         | 1         | 1       |

### 3.3. Data processing and analysis

Data were processed and analysed by the principal investigator and his assistant before convening in a workshop in August 2007, during which the analysis was completed and the present report was compiled.

### 3.4. Limitations of the study

Several factors have limited the study:

- The information from certain key informants was rather difficult to access
  - Some were out of their office for prolonged periods
  - They did not always keep information in an easily retrievable form
  - Some needed permission from their national headquarters to divulge any info.
- The hospital staff that were interviewed were mainly those involved in some kind of externally funded programme, providing a rather one-sided picture. It would have been desirable to also interview the health workers who were not involved in the externally funded programs to get an objective view of the study findings
- Qualitative data collection processes could have been a little more in-depth (more focused, more probing)

Finally, it turned out that there were fewer externally funded programmes than expected in the four districts. While this was a finding in itself, it has also limited the study in the sense that the initial definition of what should be considered an externally funded programme proved not tight enough.

## 4. Research Findings

### 4.1. Inventory of externally funded programmes, Private-for-profit and Private-not-for-profit providers at the district level

An inventory of externally funded programmes that are operational in the four districts included in the present study has shown a variety of programmes. They differ in terms of:

1. the extent to which they are 'controlled' by the DHMT, or at least the extent to which the DHMT has been involved in the orientation of the programme, in terms of its focus, objectives, strategy, targets, strategy, type of activities;
2. funding modalities; and
3. implementation modalities, especially the use of human resources.

Table 4.1 below contains a listing of the externally funded programmes present in the districts. Observed is that in Chama, the poorest district, no externally funded programs operate. In the other districts almost all programmes are funded outside the government system and use Government staff, at least for part of their implementation. Unfortunately budgets of EFPs could not be retrieved at both district and national level.

*Table 4.1: List of externally funded programmes by district*

| AFP                                      | Focus                                     | Funding          | HR strategy  |
|--|---|------------------|--|
| <b>Chama</b>                             |   |                  |  |
| No AFP present                           |   |                  |  |
| <b>Choma</b>                             |   |                  |  |
| ZAMBART (Zambia Aids Related TB project) | TB/HIV research                           | Gates Foundation | - 17 own staff (1 CO, nurses, counselors, microscopist, research assistants)<br>- Higher salary than government, christmas bonus<br>- Engage government health centre staff on ad hoc basis in 5 study HCs plus CHWs & TB supporters<br>- Allowances same as government<br>- Budget 2006: ZK 111,000,000 (15% HRH) |
| AED/Linkages                             | PMTCT, BCC, HIV/AIDS DTC, TB, VCT         | USAID            | - Using government staff (Cos, ENS, EMs) within hospital (6 staff) and 24 health facilities (2 staff per health facility) and community volunteers<br>- Allowances<br>- Training of HWs  |
| HCP (Health Communication Partnership)   | BCC, Malaria IRS, PMTCT, Immunisation     | USAID            | - Using government staff from health facilities<br>1 full-time staff, No incentives to the govt staff.   |
| Pregnancy Registry study                 | Malaria research implemented by TDR Ndola | WHO              | - Working through government hospital.<br>- DDH= PI, Director Hospital = co-investigator, 4 midwives & 1 lab technician<br>- Allowances higher than government salary  |
| PPAZ (Planned                            | PMTCT, VCT, FP,                           | USAID            | - Centrally recruit their own staff to do outreach   |

|  |  |                                |   |
|--|--|--------------------------------|---|
| Parenthood Association Zambia)                           | BCC  |                                | - Allowances lower than government rates  |
| Afya Muzuri  | HIV/AIDS DTC, PMTCT, VCT, TB, BCC, Malaria, FANC | DfID, SHARES                   | 3 full-time staff, utilize govt staff<br>- Nurses and Cos   |
| <b>Chingola</b>  |  |                                |   |
| ZPCT (Zambia Prevention, Care and Treatment Partnership) | VCT, ART. Implemented by FHI                     | USAID (PEPFAR)                 | - Use existing HRH to run ART clinics. - Pay allowance of K 40,000 per shift (10,000 less than government)  |
| <b>Solwezi</b>   |  |                                |   |
| ZPCT   | VCT, PMTCT, TB, ART Implemented by FHI           | USAID (PEPFAR).                | - Clinical Officer, EHT, EN, Lab Tech<br>- Most staff recruited from outside the province working for local or international organisations  |
| Solwezi General Hospital ART Clinic                      | ART  | ZPCT                           | - Staff seconded from government (on government pay roll)<br>- Nurses, 1 data entry clerk, 3 HIV/AIDS counselors<br>- Pay for extra shifts, only 1 allowed per week   |
| Eye Care Project   | Restoring sight to people                        | Sight Savers Int., Government  | - 20% of funds to salaries of project staff<br>- Permanent staff seconded from the government through MoH (paid by MoH)<br>- doctor, nurses, clinical officer<br>- Additional allowances for additional shifts<br>- Training for health staff |
| CHAMP (Comprehensive HIV/AIDS Management Program)        | VCT, PMTCT, ART, HIV/AIDS DTC                    | USAID through SHARE funding.   | - 4 staff: 1 nurse, CO, EHT, & Lab tech<br>- Directly employed<br>- Most of staff previously working with FBO<br>- Higher salary than government<br>- Lunch and housing allowance   |
| Malaria Program  | Malaria  | GRZ, USAID (HSSP & MCPA), NMCC | - Using both government staff on off-duty (3) and direct recruitment (4)<br>- Government allowances<br>- Other incentives: breakfast, tablet of soap, tooth brush, face towel   |

Apart from the above, several NGOs and private health care providers (table 4.2) operate in the study districts. These facilities are being run with very few health workers (1-3 nurses) with either 1 doctor or clinical officer. Most of these staff were staff who have retired from public service except for Nchanga North Hospital which is fully funded hospital owned by a mining consortium.

Table 4.2 Private-For-Profit (PFP) and Private-Not-For-Profit providers (PNFP)

| PFP/PNFP                                | Focus   | HR strategy   |
|---|---|---|
| <b>PFP Chama</b>                        |   |   |
| Chizya Medical Centre                   | General Medical Care  | - Own staff   |
| <b>PNFP Chama</b>                       |   |   |
| Catholic HB                             | TB, malaria case Mx, PMTCT, BCC, VCT  | - Engage 1 part time nurse from the hospital for K 200,000/month  |
| Holiday HBC                             | TB, HBC, HIV awareness, OVC support, malaria control  | - Use 1 part time Clinical Officer - No pay   |
| WAATP                                   | TB, HIV/AIDS DTC, BCC, HBC  | - No HWs involved   |
| Vision 2000                             | TB, HBC, Condom distribution  | - No HWs involved   |
| <b>PFP Choma</b>                        |   |   |
| 5 PFP Surgeries                         | General Medical Care  | - Own staff   |
| <b>PNFP Choma</b>                       |   |   |
| Kara Counseling                         | Hospice, VCT, Malaria, HIV/AIDS DTC, BCC, PMTCT   | - Own staff with lower salary than government<br>- Also using government part-time staff  |
| <b>PFP Chingola</b>                     |   |   |
| Stubbs Chemist                          | Private drug merchant   | - 1 full time pharmacist<br>- housing, transport and lunch allowance for staff  |
| <b>PNFP Chingola</b>                    |   |   |
| Izeni Centre                            | VCT, HIV/AIDS DTC   | - 3 E/M Nurses<br>- Higher salary than government<br>- Training, loans and medical schemes  |
| Nchanga South Hospital                  | Hospital services, VCT, ART, PMTCT  | - Own full time staff<br>- Salary far better than government (not disclosed)<br>- Several other incentives for HRH retention.   |
| Multisectoral response to HIV           | HIV/AIDS activities at district level   | - Coordinates district HIV/AIDS programs<br>- Employ the DATF coordinator (not HW)  |
| CHAMP                                   | VCT, ART in the private sector  | - Do not use any public HR  |
| <b>PFP Solwezi</b>                      |   |   |
| 6 health facilities                     | HIV/AIDS, Malaria, TB, FP   | - Own full time staff   |
| <b>PNFP Solwezi</b>                     |   |   |
| St. Francis Mission Rural Health Centre | Out patient and in patient department   | - 3 nurses paid by MoH<br>- GF through CHAZ supports CDEs salaries<br>- Allowances/ top ups from EFPs are higher<br>- Drugs provided by ActionMed<br>- 2006: 15% on HRH of total expenditure of K 123,000,000 |
| Mumbezhi Rural Health Centre            | Palliative care for terminally ill, Outreach programmes and environmental preventive measures | - 6 staff: 2 nurses (who are as well MW), Environmental Technician, 3 other cadres<br>- GF through CHAZ supports CDEs salaries<br>- 2006: 15% on HRH of total expenditure of K 280,000,000                    |

## 4.2. Staffing levels and distribution patterns

Reliable data on staffing levels over the past five years (2002-2006) could not be obtained from Solwezi district. Below the results are presented for Choma, Chingola and Chama districts.

### 4.2.1. Choma district

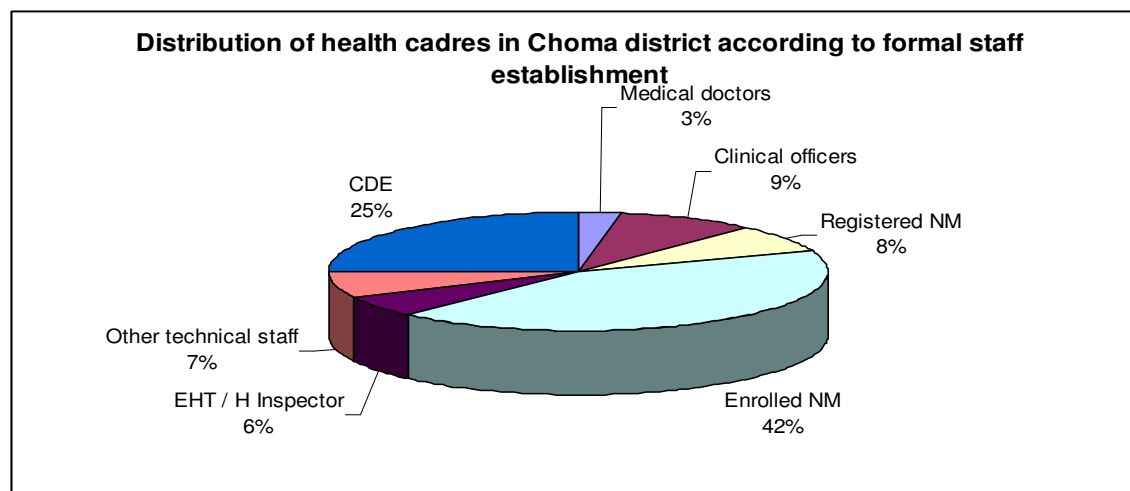
The figures for Choma district as a whole are disaggregated into three categories: the District Hospital, Macha mission hospital and the DHMT staff complement, which includes all staff at the 34 rural health facilities in the district.

Table 4.3: Total health staff establishment for Choma district

| Cadre            | District hospital | Macha hospital | DHMT + RHCs | TOTAL | %   |
|------------------|-------------------|----------------|-------------|-------|-----|
| Dr               | 12                | 6              | 1           | 19    | 3%  |
| CO               | 15                | 9              | 34          | 58    | 9%  |
| RN               | 10                | 18             | 7           | 35    | 5%  |
| RM               | 6                 | 4              | 6           | 16    |     |
| EN               | 65                | 60             | 80          | 205   | 31% |
| EM               | 15                | 7              | 53          | 75    | 11% |
| EHT              | 1                 | 1              | 34          | 36    | 5%  |
| Pharm            | 1                 | 1              | 1           | 3     |     |
| Pharm Dis        | 2                 | 2              | 3           | 7     |     |
| Dental T         | 3                 | 2              | 0           | 5     |     |
| CDEs             | 65                | 50             | 50          | 165   | 25% |
| Lab Tech         | 6                 | 1              | 7           | 14    |     |
| Pharm Tech       | 3                 | 2              | 0           | 5     |     |
| Radiographer     | 3                 | 2              | 0           | 5     |     |
| X-ray Assistant  | 0                 | 1              | 0           | 1     |     |
| Physiotherapist  | 3                 | 2              | 0           | 5     |     |
| Nutritionist     | 1                 | 0              | 1           | 2     |     |
| Health Inspector | 0                 | 0              | 3           | 3     |     |
| TOTAL            | 211               | 168            | 280         | 659   |     |
| Share            | 32%               | 25%            | 42%         | 100%  |     |

Based on the 2002 establishment, Choma district is supposed to have 659 staff, of which about a third (32%) are supposed to be based at the district hospital, one quarter at the mission hospital (25%) and the rest (42%) at the rural health facilities (including DHMT). Figure 4.1 shows that enrolled nurses/midwives and the Classified Daily Employees (CDE, 25%) are by far the largest cadres, representing together two-thirds of the total staff establishment. Medical doctors, clinical officers and registered nurses/midwives are the highest qualified cadres, constituting 3%, 9% and 8% of the staff establishment, respectively.

Figure 4.1:



The next three tables show the number of posts filled during the five years under study at Choma district hospital, Macha mission hospital and the DHMT (incl all RHCs).

Like elsewhere in rural areas in Zambia, the formal staff establishments appear to have limited practical value in Choma district, as the number of positions filled bears little correlation with the number of approved posts for several categories of staff.

Table 4.4: Choma District Hospital: Position filled at start of the year, over five years

|                 | Establishment | 2002       | 2003       | 2004       | 2005       | 2006       |
|-----------------|---------------|------------|------------|------------|------------|------------|
| Dr              | 12            | 6          | 7          | 5          | 5          | 5          |
| CO              | 15            | 15         | 14         | 15         | 15         | 14         |
| RN              | 10            | 10         | 12         | 13         | 14         | 15         |
| RM              | 6             | 7          | 6          | 7          | 6          | 6          |
| EN              | 65            | 47         | 51         | 58         | 65         | 60         |
| EM              | 15            | 17         | 15         | 21         | 19         | 20         |
| EHT             | 1             | 1          | 1          | 1          | 1          | 1          |
| Pharm           | 1             | 0          | 0          | 0          | 0          | 0          |
| Pharm Dis       | 2             | 0          | 1          | 1          | 1          | 1          |
| Dental T        | 3             | 2          | 2          | 3          | 3          | 3          |
| CDEs            | 65            | 52         | 52         | 51         | 52         | 52         |
| Lab Tech        | 6             | 5          | 5          | 7          | 7          | 8          |
| Pharm Tech      | 3             | 1          | 1          | 1          | 1          | 1          |
| Radiographer    | 3             | 3          | 3          | 1          | 3          | 3          |
| Nutritionist    | 1             | 1          | 1          | 1          | 0          | 0          |
| Physiotherapist | 3             | 2          | 2          | 2          | 0          | 0          |
| <b>TOTAL</b>    | <b>211</b>    | <b>169</b> | <b>173</b> | <b>187</b> | <b>192</b> | <b>189</b> |
|                 |               | <b>80%</b> |            |            |            | <b>90%</b> |

The above table shows that overall the staffing situation at Choma District Hospital has somewhat improved over the five years period, from 80% to 90% of all the established posts filled. Improvements are recorded for the nursing cadres (RN, EN, EM) and lab technicians. This small increase was attributed to transfers (eg of nurses into the districts

following their husbands who were working in Choma or had retired from other districts). The numbers of medical doctors and clinical officers has slightly decreased, though. Declines are also recorded in the number of nutritionists and physiotherapists.

*Table 4.5: Macha mission hospital: Positions filled at start of the year, over five years*

|                 | Establishment | 2002 | 2003 | 2004 | 2005 | 2006 |
|-----------------|---------------|------|------|------|------|------|
| Dr              | 6             | 4    | 5    | 5    | 5    | 6    |
| CO              | 9             | 2    | 3    | 3    | 5    | 7    |
| RN              | 18            | 8    | 6    | 4    | 4    | 5    |
| RM              | 4             | 5    | 6    | 4    | 4    | 4    |
| EN              | 60            | 29   | 24   | 25   | 39   | 45   |
| EM              | 7             | 10   | 10   | 10   | 10   | 7    |
| EHT             | 1             | 2    | 2    | 2    | 2    | 2    |
| Pharm           | 1             | 1    | 1    | 1    | 1    | 1    |
| Pharm Dis       | 2             | 1    | 1    | 0    | 1    | 1    |
| Dental T        | 2             | 1    | 0    | 1    | 1    | 1    |
| CDEs            | 50            | 53   | 53   | 53   | 58   | 58   |
| Lab Tech        | 1             | 1    | 1    | 1    | 3    | 1    |
| Pharm Tech      | 2             | 2    | 3    | 3    | 3    | 3    |
| Radiographer    | 2             | 0    | 0    | 0    | 1    | 2    |
| Physiotherapist | 2             | 0    | 0    | 0    | 1    | 1    |
| X-ray Assistant | 1             | 1    | 1    | 1    | 1    | 1    |
| TOTAL           | 168           | 120  | 116  | 113  | 139  | 145  |
|                 |               | 71%  |      |      |      | 86%  |

Likewise, in Macha mission hospital the staffing situation has also improved, from 71% to 86% of all posts filled over five years. This hospital was much better off in 2006 in terms of doctors and clinical officers than five years earlier. The number of enrolled nurses also went up, and there are now two radiographers where there were none before. It is worrisome, though, that the small numbers of registered nurses, registered midwives and enrolled midwives decreased further. This may point at deteriorating service delivery in the domain of reproductive health.

*Table 4.6: Choma DHMT (incl RHCs): Position filled at start of the year over a period of five years*

|           | Establishment | 2002 | 2003 | 2004 | 2005 | 2006 |
|-----------|---------------|------|------|------|------|------|
| Dr        | 1             | 1    | 1    | 1    | 1    | 1    |
| CO        | 34            | 12   | 14   | 20   | 20   | 18   |
| RN        | 7             | 2    | 2    | 1    | 1    | 1    |
| RM        | 6             | 1    | 1    | 1    | 2    | 2    |
| EN        | 80            | 103  | 96   | 96   | 93   | 93   |
| EM        | 53            | 42   | 36   | 31   | 30   | 24   |
| EHT       | 34            | 22   | 22   | 23   | 24   | 24   |
| Pharm     | 1             | 0    | 0    | 0    | 0    | 0    |
| Pharm Dis | 3             | 1    | 1    | 2    | 2    | 4    |
| CDEs      | 50            | 103  | 107  | 115  | 115  | 139  |



|                  |     |      |     |     |     |      |
|------------------|-----|------|-----|-----|-----|------|
| Lab Tech         | 7   | 2    | 2   | 3   | 3   | 4    |
| Nutritionist     | 1   | 0    | 0   | 0   | 1   | 1    |
| Health Inspector | 3   | 2    | 2   | 3   | 3   | 3    |
| TOTAL            | 280 | 291  | 284 | 296 | 295 | 314  |
|                  |     | 104% |     |     |     | 112% |

Surprisingly, Choma DHMT has more staff overall than its formal staff establishment would allow, which makes it a rather unique district. It has even seen a slight increase in its actual staffing levels over five years to 112% in 2006. This should not be mistaken for a good sign. The above figures show the heavy reliance of rural health facilities on CDE's, who together with the Enrolled Nurses are responsible for the apparent 'overstaffing'. This of course does not make up at all for the severe shortage of higher qualified cadres, especially clinical officers, RN and RM. Although their number has increased from 12 to 18, there is a shortage of Clinical Officers of which there should be 34 according to the formal establishment (based on one CO per RHC). It means that only about half of the RHC have a clinical officer. In fact, Choma has 34 health centres and only eight of these have Clinical Officers. The others are staffed by nurses, except 1 which has no trained staff at all.

The decrease in the number of Enrolled Midwives (from 42 to 24, a reduction by almost half over just five years!) is noticeable and extremely worrying. Again this suggests that pregnancies are not adequately monitored and deliveries not assisted by professionally trained staff, which could fast lead to complications and increased maternal and infant death.

#### 4.2.2. Chingola district

Figure 4.2 below shows the predominance of enrolled nurses and midwives in the staff establishment of Chingola DHMT: they constitute 48% of all the workers who should be there in theory. CDE's with clinical, nursing and/or administrative duties make up 10% of the staff establishment, with CDE support staff making up 15%.

Figure 4.2:

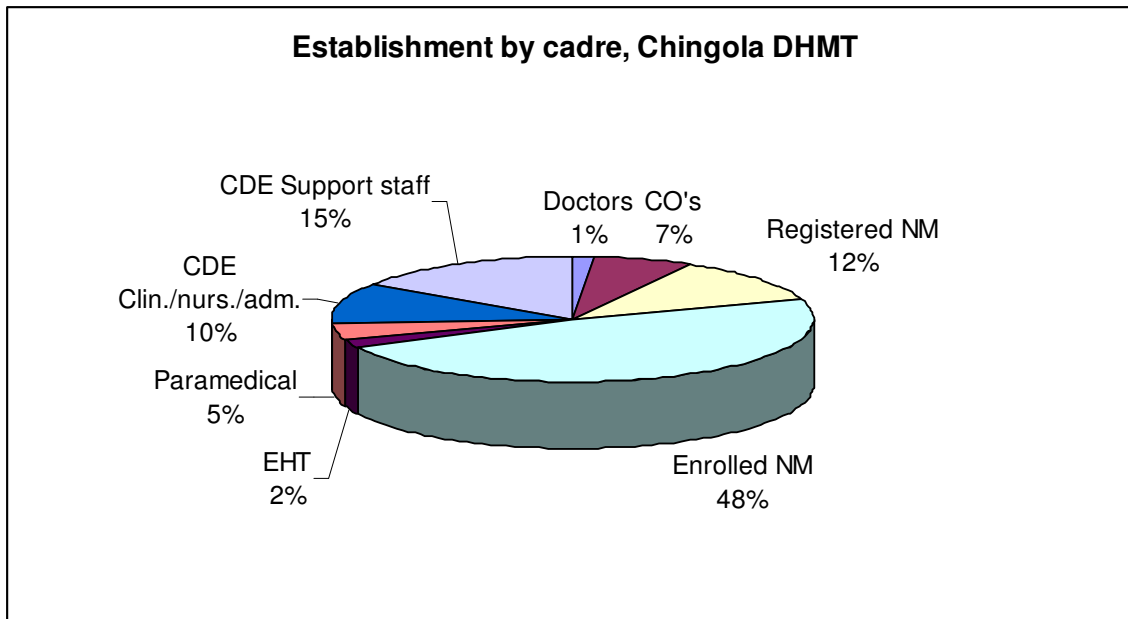


Table 4.7 shows that the percentage of positions filled did not exceed 60% throughout the six year period. In fact there was a slight decline, from 56% in 2002 to 52% in 2005. This was 'repaired' by the recruitment of 16 extra CDE's in 2005. It should be noted though that these were general support staff, who are supposed to undertake cleaning and other support activities.

It can further be observed that:

- The district saw its number of Registered Nurses triple from 3 to 9, but this is still far below the formal establishment of 23;
- The number of Registered Midwives was reduced to about half (from 15 to 7): eight midwives migrated to the UK over a three year period (2002-05). This was a big blow to the district; and
- Enrolled nurses and enrolled midwives also decreased in number, as the number of departures outpaced the new recruitments.

The main shift then that emerges over the six years period is that midwives (RM and EM) and enrolled nurses have been substituted by CDEs.

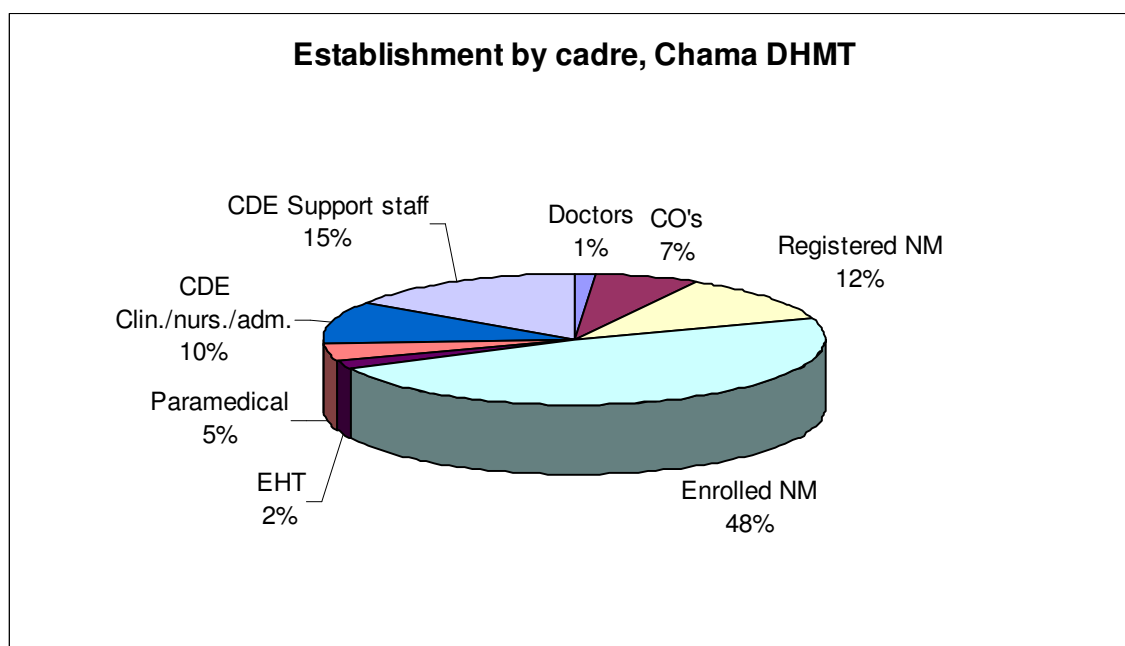
Table 4.7: Chingola district: positions filled at the start of the year over a period of six years

|                          | Establishment | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--------------------------|---------------|------|------|------|------|------|------|
| Dr                       | 5             | 3    | 3    | 4    | 4    | 4    | 3    |
| CO                       | 26            | 12   | 13   | 13   | 13   | 13   | 13   |
| RN                       | 23            | 3    | 3    | 4    | 9    | 9    | 9    |
| RM                       | 24            | 15   | 13   | 11   | 7    | 7    | 7    |
| EN                       | 110           | 78   | 77   | 71   | 65   | 65   | 63   |
| EM                       | 75            | 42   | 39   | 41   | 39   | 39   | 37   |
| EHT                      | 8             | 2    | 3    | 3    | 3    | 3    | 2    |
| Pharm                    | 0             | 0    | 0    | 0    | 0    | 0    | 0    |
| Pharm Disp               | 6             | 0    | 0    | 0    | 0    | 4    | 4    |
| Dental Techn             | 6             | 1    | 1    | 1    | 1    | 1    | 1    |
| Lab Techn                | 6             | 4    | 4    | 4    | 4    | 4    | 4    |
| CDE Clinical/nursing/adm | 40            | 21   | 21   | 18   | 19   | 22   | 24   |
| CDE Support staff        | 60            | 38   | 38   | 38   | 38   | 54   | 54   |
| TOTAL                    | 389           | 219  | 215  | 208  | 202  | 225  | 221  |
|                          |               | 56%  | 55%  | 53%  | 52%  | 58%  | 57%  |

#### 4.2.3. Chama district

The breakdown of the staff establishment by cadre for Chama district is identical to that of Chingola district: enrolled nurses and midwives constitute almost half of the entire workforce on paper, while CDE's form one quarter (25%; of which 10% have clinical, nursing and/or administrative duties, and 15% are support staff – see Figure 4.3).

Figure 4.3:



The percentage of positions filled remained more or less stable at around 50% during the six years period, as shown in Table 4.8 below. Special note is made of the critical shortage of clinical officers, operating with only six in 2007. There was a small but steady increase in the number of Enrolled Nurses (from 10 in 2002 to 17 in 2006) and of Enrolled Midwives (from just 1 in 2002 to 4 in 2006), but this is still far below the formal establishment. Unlike in other districts, the number of CDE's in Chama did not increase during the period of study.

*Table 4.8: Chama DHMT: positions filled at the start of the year over a period of six years*

|                          | Establishment | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--------------------------|---------------|------|------|------|------|------|------|
| Dr                       | 2             | 1    | 1    | 1    | 1    | 1    | 1    |
| CO                       | 27            | 4    | 4    | 7    | 4    | 5    | 6    |
| RN                       | 5             | 1    | 2    | 2    | 1    | 2    | 3    |
| RM                       | 4             | 0    | 0    | 2    | 2    | 2    | 1    |
| EN                       | 34            | 10   | 11   | 11   | 13   | 17   | 16   |
| EM                       | 23            | 1    | 1    | 2    | 2    | 4    | 4    |
| EHT                      | 23            | 7    | 7    | 9    | 7    | 7    | 8    |
| Pharm                    | 1             | 0    | 0    | 0    | 0    | 0    | 0    |
| Pharm Disp               | 1             | 0    | 0    | 0    | 0    | 1    | 1    |
| Dental Techn             | 1             | 0    | 0    | 0    | 0    | 0    | 0    |
| CDE Clinical/nursing/adm | 30            | 24   | 24   | 24   | 23   | 21   | 18   |
| CDE Support staff        | 89            | 67   | 67   | 67   | 67   | 65   | 65   |
| TOTAL                    | 240           | 115  | 117  | 125  | 120  | 125  | 123  |
|                          |               | 48%  | 49%  | 52%  | 50%  | 52%  | 51%  |

### 4.3. Staff movements and trends in HRH recruitment and attrition

#### 4.3.1. Choma district

The levels of staff recruitment and retention have been examined over the same five-year period for Choma district, and the results are as shown in table 4.9. The patterns of staff movements do not appear very different between the district hospital, the mission hospital and DHMT, with 23% to 30% of new recruits (expressed as a % of the formal staff establishment). The DHMT, however, lost relatively more staff, resulting in a smaller net increase in health staff compared to the two hospitals.

*Table 4.9: Staff movements in Choma district over five years (2002-2006)*

|                    | Choma district hospital | Macha mission hospital | Choma DHMT | Total |
|--------------------|-------------------------|------------------------|------------|-------|
| Establishment      | 211                     | 168                    | 280        | 659   |
| New recruits       | 49                      | 50                     | 84         | 183   |
|                    | 23%                     | 30%                    | 30%        | 28%   |
| Staff lost         | 25                      | 26                     | 75         | 126   |
|                    | 12%                     | 15%                    | 27%        | 19%   |
| Net change         | 24                      | 24                     | 9          | 57    |
| % of establishment | 11%                     | 14%                    | 3%         | 9%    |

For Choma district hospital, 2003 was a good year with 19 newly recruited staff, among which 13 ENM; 2005 was the worst, when the hospital lost 9 staff members. For Macha mission hospital, 2004 was the best year, with 25 new recruits, among which 14 were EN and two were clinical officers. For Choma DHMT 2003 was the best year with 30 new recruits, but 18 of these were CDEs. Of the remainder, 6 were COs, 2 were EN and others were paramedicals. Attrition was highest in 2002, when 21 staff were lost against only eight new recruits.

### 4.3.2. Chingola and Chama districts

Similar variations in staff movements were observed for Chingola DHMT and Chama DHMT. While attrition appears to be a constant phenomenon for Chingola DHMT (with losses of 10 to 15 staff members per year), Chingola was more successful in recruiting new staff in 2005 and 2006 compared to a few years earlier following recruitment of a more active human resources manager who deliberately engaged the ministry of health to facilitate recruitment processes for the district.

The HRH interviewed mentioned a variety of factors that make their workplace less attractive, such as their general working environment (poor ventilation in service rooms), lack of equipment (such as laboratory instruments), lack of accommodation, long distances to work, remoteness of the place, bad roads and poor road transport, poor hospital management, etc.

Data about the causes of staff attrition from three districts are presented in table 4.10.

*Table 4.10: Causes of staff attrition by district, over five years (2002-2006)*

|             | Choma district   |               |               |                               |                              | TOTAL | %    |
|-------------|------------------|---------------|---------------|-------------------------------|------------------------------|-------|------|
|             | Chingola<br>DHMT | Chama<br>DHMT | Choma<br>DHMT | Choma<br>District<br>Hospital | Macha<br>mission<br>hospital |       |      |
| Resignation | 11               | 1             | 2             | 1                             | 1                            | 16    | 7%   |
| Retirement  | 17               | 2             | 24            | 2                             | 0                            | 45    | 21%  |
| Transfer    | 13               | 6             | 17            | 1                             | 19                           | 56    | 26%  |
| Migration   | 8                | 10            | 0             | 3                             | 4                            | 25    | 11%  |
| Dismissal   | 1                | 0             | 6             | 0                             | 5                            | 12    | 5%   |
| Death       | 7                | 7             | 33            | 14                            | 4                            | 65    | 30%  |
|             | 57               | 26            | 82            | 21                            | 33                           | 219   | 100% |

Overall, death (30%), transfer (following their husbands who had found a job elsewhere) (26%) and retirement (21%) account for more than three-quarters of the total staff attrition. Migration to other countries comes as the fourth most frequent cause (11%), which shows that even health staff from remote rural areas seek and manage to find jobs outside Zambia. However, the most important causes of staff attrition vary between districts: retirement in Chingola district (30% of all causes), migration in Chama district (38%), death in Choma district (DHMT and district hospital, 40% and 67% respectively), transfer at Macha mission hospital (58%). It has not been possible to further identify the exact motives of those who

resigned or migrated. It is hence not clear to what extent health staff from these districts have been taken over by NGOs or private enterprises.

Among the eight health staff who migrated from Chingola DHMT, all were midwives (7 RM, one EM) and all went to the United Kingdom. As a result, Chingola saw the number of RM's decline from 15 in early 2002 to just 7 at the end of 2005 (on an establishment of 24). This should be a cause of great concern. According to one of their colleagues who still works in the district:

*"They were just fed up. They did not like working very long working hours and being paid very little."*

The high death rate among health staff in Choma district is alarming. The exact causes would need to be explored further. In the meantime, pending the outcome of further investigations, it is appropriate to institute a workplace safety policy in Choma district.

The number of transfers from Macha Hospital is notable. Located in a very remote rural area, this phenomenon signifies the general rural-urban drift that is seen in most sectors of the Zambian community. The fact that Macha is a church-based institution is not an explanatory factor, since all workers are government employees and their salary levels are the same as those of health staff based at government institutions.

However, upgrading of one's qualification was seen as one of the contributing factors to this rural-urban trek. A clinical officer at one of the rural health centres who had just upgraded his qualification to a medical licentiate remarked:

*"This health centre has no facilities for me. I am moving to the hospital where I will be able to perform surgical procedures".*

## 4.4. HRH funding levels

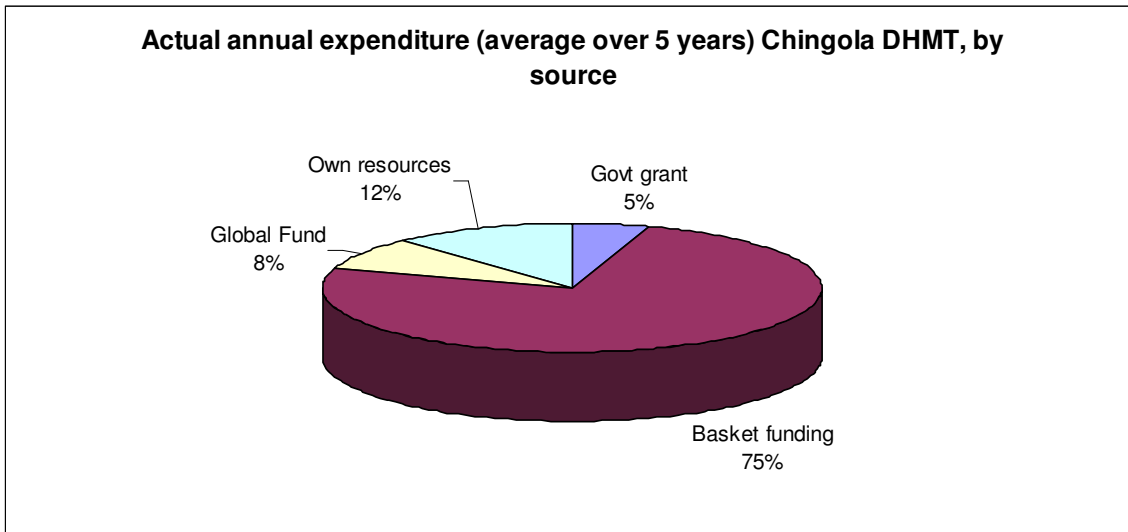
Data on funding levels from four different sources were obtained for two districts (Choma and Chingola) over a period of five years (2002-2006). Data from Chama was not disaggregated by source and there was completely no data for FY 2002. It proved difficult to get any additional information from the accountant who was often out of station. The accountant in Solwezi did not provide any of the data required.

### 4.4.1. Chingola district

Budget execution for Chingola district is low: On average, only 53% of the budgeted amounts from the government grant was actually spent over the five years period. From the (donor supported) basket fund only 81% was actually disbursed and spent on average.

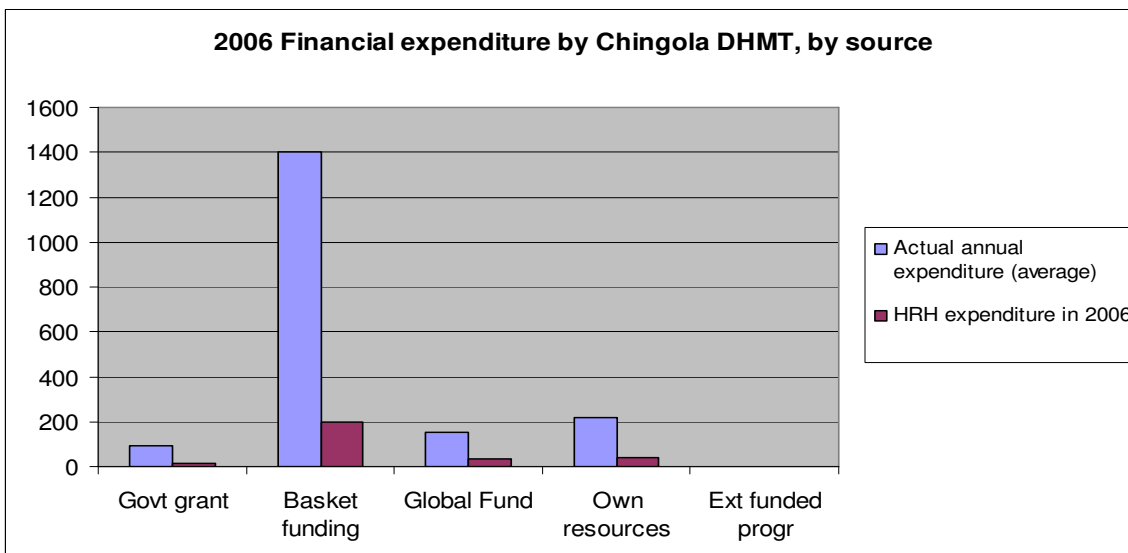
Figure 4.4 below brings out the distribution of actual annual expenditure (averaged over five years) by Chingola DHMT: three quarters comes from the basket fund (75%), with 12% coming from the district's own resources generated through user fees, 8% from the Global Fund and 5% from the Government grant.

Figure 4.4:



The next graph shows that financial expenditure on Human Resources constitutes only a small proportion of total expenditure for each funding source: the Global Fund (20%) and basket funding (18%) have the largest percentages that are spent on human resources, the larger proportion of funds being spent on service provision and district health programs. It is to be noted though that most of these HR funds are used for human resource development (including workshops). It's only the district's own resources that are used in part (14%) to pay for salaries of those who are not (yet) on Government's payroll and for some financial incentives.

Figure 4.5: Financial expenditure in Millions Zambian Kwacha



It is further observed that:

- The Government grant for Chingola district peaked in 2002, with slightly over ZK 100 m, but fell to ZK 80 m in 2005 before recovering to ZK 85 m in 2006.

#### Govt Funding for Health in Chingola

| FNY          | Budget      | Actual      | HRH Budget  | HRH Actual |
|--------------|-------------|-------------|-------------|------------|
| 2002         | 195,910,087 | 100,636,730 | 53,350,800  | 29,342,940 |
| 2003         | 153,358,617 | 98,511,087  | 33,503,500  | 18,426,925 |
| 2004         | 190,455,200 | 95,575,050  | 25,400,000  | 13,050,200 |
| 2005         | 144,552,000 | 79,663,000  | 28,910,400  | 15,932,617 |
| 2006         | 174,711,918 | 84,553,053  | 25,053,003  | 10,008,090 |
|              | 858,987,822 | 458,938,920 | 166,217,703 | 86,760,772 |
| average/year | 171,797,564 | 91,787,784  | 33,243,541  | 17,352,154 |
| USD/year     | 42,949      | 22,947      | 8,311       | 4,338      |
| per capita   | 0.20        | 0.11        | 0.04        | 0.02       |

- HRH expenditure fell drastically to just ZK 10 m in 2006, or about 60% of what it used to be in 2003.
- Actual total HRH expenditure for Chingola (average over 5 years) amounts to just USD 0.02 per capita per year.
- Basket funding provides by far the largest source of income for the district: ZK 1,400 m per year, or 15 times the amount of the Government grant.
- Basket funding provided the largest amount of finance for HRH from all sources: USD 0.29 per cap per yr.
- After additional funds of ZK 321 m in 2004, basket funding fell with ZK 200 m in 2006, even though the total basket funding for the district remained fairly stable at ZK 1,400 m per year.
- Global Fund money for Chingola district is around ZK 150 m per year, which is equivalent to about 10% of the basket funding, or 1.6 times the Government grant.
- Expenditure on HRH has almost constantly remained at 20%, or 0.03 per capita per year of the district global fund budget.
- Chingola district's own resources generated through the collection of user fees have seen a slight increase to ZK 249 m, after a dip in 2004. On average ZK 221 m was being generated per year.

Following the abolition of user fees in April/May 2007 in Chingola<sup>7</sup>, four RHCs are no longer charging fees, while six urban centres continue to charge. There is no mechanism as yet to compensate the DHMT for the income lost. As a result, the district's own resources are expected to decline in 2007, putting further stress on an already tight budget.

#### 4.4.2. Choma district

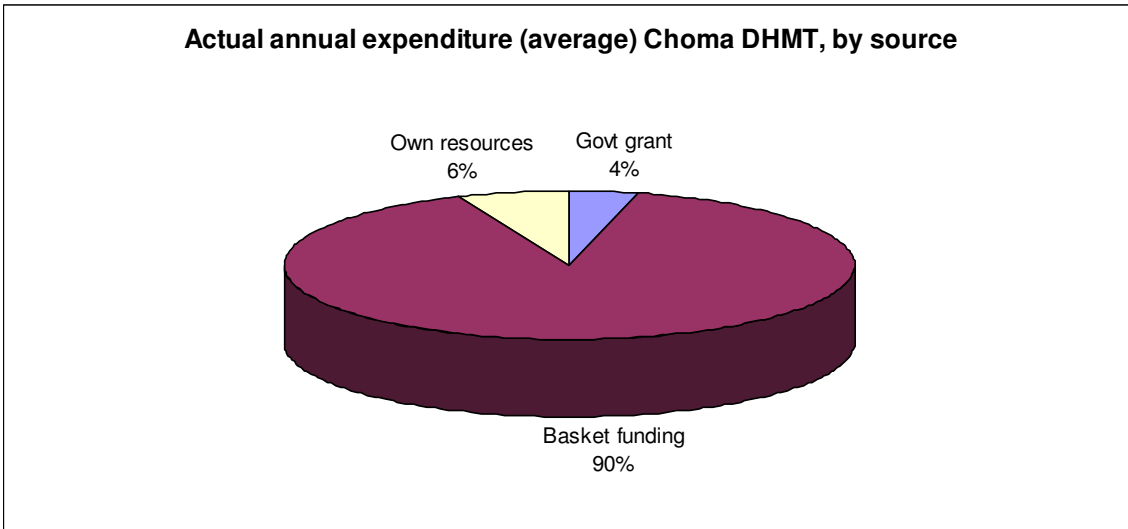
Financial information for Choma DHMT was obtained from three sources only, as displayed in Figure 4.6 below. Basket funding constitutes an even greater proportion of total funding than in Chingola district.

<sup>7</sup> Other districts may have abolished user fees earlier; the MoH circular reached Chingola DHMT late.



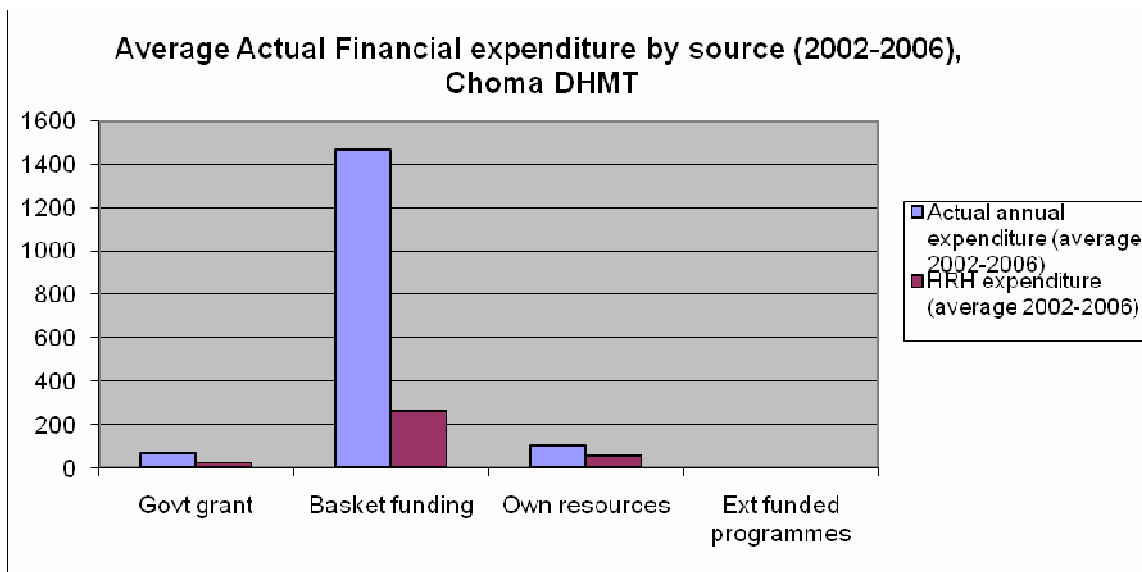
Budget execution for Choma district was also low: on average, only 49% of the budgeted amounts from the government grant was actually spent over the five years period. From the (donor supported) basket fund only 78% was actually spent on average.

Figure 4.6:



The next graph (Figure 4.7) again confirms that financial expenditure on Human Resources constitutes only a relatively small proportion of total expenditure for each funding source: 18% of basket funding and 12% of the Government grant in Choma district are spent on human resources. It should be noted that the expenditure from these two sources goes mostly towards human resource development, including workshops. The district uses a relatively larger share (33%) of its own resources to pay for salaries of those who are not (yet) on Government’s payroll and for some financial incentives.

Figure 4.7: Financial Expenditure in Millions of Zambian Kwacha



It is further observed from an analysis of basket fund data (Table 4.10) that out of a total budgeted per capita expenditure of \$2.14, only \$0.39 per capita was budgeted for HRH and even then only \$0.30 was actually spent. From the district's own resources (Table 4.12), an average per capita expenditure of \$0.11 was budgeted, with \$0.06 being budgeted for HRH. This was actually spent, and was higher than the Government allocation and actual disbursement (Table 4.11). From government funding, a per capita expenditure of \$0.21 was budgeted but only \$0.04 was for HRH. However, only \$0.02 was actually spent.

*Table 4.10: Basket funding for Choma District, 2002-2006*

| Year         | Budget               | Actual               | HRH Budget           | HRH actual           |
|--------------|----------------------|----------------------|----------------------|----------------------|
| 2002         | 963,804,878          | 771,043,902          | 192,760,975          | 144,570,731          |
| 2003         | 1,583,394,243        | 1,187,545,682        | 395,848,560          | 296,886,420          |
| 2004         | 1,610,646,282        | 1,369,049,342        | 322,129,256          | 241,596,242          |
| 2005         | 2,107,365,344        | 1,580,524,000        | 316,104,801          | 79,026,200           |
| 2006         | 3,085,278,373        | 2,431,203,393        | 462,791,755          | 551,652,258          |
| <b>TOTAL</b> | <b>9,350,489,120</b> | <b>7,339,366,319</b> | <b>1,689,635,347</b> | <b>1,313,731,851</b> |
| USD/yr       | 467,524              | 366,968              | 84,482               | 65,687               |
| Per capita   | 2.14                 | 1.68                 | 0.39                 | 0.30                 |

There was a great increase in actual HRH expenditure in 2006 from the basket funds. This was due to change in government policy about the processes of payroll administration which now require HR officers to travel to Lusaka instead of Livingstone for the purposes of verification and/or correction of the payroll every month. These officers need to be paid per-diem for each journey made. This has increased the cost of the exercise.

*Table 4.11: Government Funding for Choma District, 2002-2006*

| Year         | Budget               | Actual             | HRH Budget         | HRH Actual         |
|--------------|----------------------|--------------------|--------------------|--------------------|
| 2002         | 107,089,430          | 80,317,073         | 16,063,494         | 14,457,073         |
| 2003         | 175,932,693          | 123,152,885        | 70,373,077         | 45,742,500         |
| 2004         | 178,960,696          | 30,613,901         | 13,422,052         | 10,066,539         |
| 2005         | 234,596,149          | 37,174,023         | 35,189,422         | 26,392,066         |
| 2006         | 342,808,708          | 43,734,145         | 51,421,306         | 23,420,000         |
| <b>TOTAL</b> | <b>1,039,387,676</b> | <b>314,992,027</b> | <b>186,469,351</b> | <b>120,078,178</b> |

*Table 4.12: Own resources for Choma District, 2002-2006*

| Year         | Budget             | Actual             | HRH Budget         | HRH Actual         |
|--------------|--------------------|--------------------|--------------------|--------------------|
| 2002         | 103,800,452        | 83,040,361         | 20,760,090         | 28,850,000         |
| 2003         | 98,862,568         | 79,090,054         | 59,317,540         | 74,400,000         |
| 2004         | 113,503,064        | 85,127,298         | 68,107,838         | 50,400,000         |
| 2005         | 279,389,379        | 201,160,352        | 91,458,602         | 94,800,000         |
| 2006         | 236,191,161        | 83,801,039         | 35,428,674         | 24,454,760         |
| <b>TOTAL</b> | <b>831,746,624</b> | <b>532,219,104</b> | <b>275,072,744</b> | <b>272,904,760</b> |

In 2006 there was a large increase in actual funds collected from own resources. This followed an increase in user fees and the introduction of a more effective fee collection

mechanism (which resulted in an increase in the number of CDEs). However, Choma is one of the districts that is affected by the recent order to stop charging user fees and there is a significant drop in own revenues, resulting in difficulties to maintain statutory obligations. Mechanisms for compensation from the government are not yet clear.

## 4.5. Constraints and DHMT coping strategies in recruiting, deploying and retaining HRH

The Ministry of Health has fixed staff establishments for all districts and all types of health facilities. It uses two criteria for staff establishment: population and type of health facility. Recently the staff establishments have been revised, but so far these have not been implemented. The DDH interviewed in three districts argued that the current staff establishments were obsolete and that there was no relation between actual staffing levels (i.e. the number of workers that are deployed in reality) and the theoretical establishment.

*“What has happened is that this staff establishment has stayed too long. The population has grown and the establishment hasn’t been changed until only this year [referring to 2007]. I think we’re supposed to have had a revised establishment where we [DHMT] also give our input”*

### 4.5.1. Recruitment challenges

Under the Central Board of Health (CBoH), the processes of recruitment, retention and deployment were decentralised. Each DHMT was mandated to recruit, deploy and retain HRH. Thus, the DHMTs would advertise for staff in the training institutions and solicit for applications from prospective candidates. However, these new staff members were to be paid by the DHMT from their own resources. Most of the DHMTs did not have the resources to employ thus recruitment was very much constrained. However, this system allowed the different DHMTs to advertise their particular advantages over the others and gave them the authority to recruit themselves.

The low recruitment rates caused staffing to fall to critically low levels in many health institutions. Having acknowledged the HRH crisis, the MoH reviewed the employment policy in early 2003 and advised to put HRH back on the MoH payroll. Thus, for a brief period in 2003, DHMTs were encouraged to recruit the HRH who would then be put on the Government payroll. This gave a major boost to some districts: Choma DHMT recruited a record 7 clinical officers and Choma hospital, for instance, saw a steep rise in their number of enrolled nurses and enrolled midwives recruited.

In June 2003, however, the Govt issued a new order, stopping this practice stating that no new staff recruited by districts would be put on government payroll any more. All graduates from training colleges were to apply directly to the MoH, which would recruit and deploy according to the set criteria.

One key informant, member of the DHMT in one of the districts included in the study pointed out:

*"When the Ministry stopped employing new staff, then we had big problems."*

The DDH and DHMT interviewed in the present study expressed dissatisfaction with this situation. They are fully dependent on the central level for the recruitment of new staff and filling of vacancies. Otherwise, they are depending on transfers, which often happen at the initiative of the individual staff member (e.g. following the spouse's transfer) and which districts themselves have no control over. Some transfers are the result of disciplinary measures following poor performance or some malpractice of the incumbent.

*"We are now dependent on transfers for recruitment. We don't even celebrate when we receive a transfer because we know where these people have come from they have created some kind of problem. So, that does not solve our problem."* [Group discussion with DHMT members in one of the districts]

In the perception of DDH and DHMT, the MoH's criteria to deploy newly graduated staff are not transparent. It thus seems to depend on the negotiating power of mainly the DDH to put pressure on the MoH and get the maximum possible new postings. Districts are thus at the mercy of the MoH, which is an unpleasant situation.

A senior DHMT member in one of the others districts made a more general statement during a focus group discussion:

*"We have many ideas on how to recruit and retain staff, but we have tight policies: who will give you authority to go ahead? So that becomes very difficult: we used to have certain powers, but these have been removed from us. We are now powerless"*

Another hospital worker put it as follows:

*"It's the government's responsibility to recruit: why can't they sort it out?"*

With the abolition of the CBoH, the decentralisation process has been reversed, resulting in very little mandate for districts, especially with regard to staff recruitment and deployment. Nevertheless, districts try to employ various strategies to cope with this.

#### 4.5.2. Recruitment coping strategies

- In Choma, between 2004 and 2006 the district managed to train and upgrade six Enrolled Nurses to Registered Nurses. These nurses are now back in the district, working at health centres that previously did not have registered nurses. Four of these six nurses now receive a higher benefit package from the Government (that of an RNM); the two others are yet to be formally recognised as RNM. The DDH has instituted a bonding system, by which the nurses sign a contract with the district and with the MoH, which compels them to remain in the district for at least two years after completion of their training. Thereafter the nurses are free to apply for transfers, if they wish.
- 
- Chingola district is also upgrading Enrolled Nurses to Registered Nurses, but there is no bonding system. As a result, the district is losing these cadres quickly since they apply for positions elsewhere.

- Chama district does not even have Enrolled Nurses stationed at some of its Health Centres. The DHMT's strategy is to recruit CDEs with good 'O' level qualifications for nurse training. This initiative is yet to start but it is hoped that it will strengthen the nurse work force in Chama district, which is one of the least attractive districts to work in for health staff because of its remoteness. However, unless there is a change in the current Government policy, these CDE's, once they complete their nurse training, may not receive an immediate increase in their salary from the Government, and hence the district may have to look for additional financial resources to supplement their salaries until they are upgraded on the payroll. This may take up to nine months, according to some interviewees.
- Choma and Chingola districts have resorted to recalling staff members who had gone on voluntary or compulsory retirement. Chingola district, for example, recalled three Registered Midwives and one Enrolled Midwife. However, this is a very temporal measure as some of these workers are "tired" and need to truly retire.

### 4.5.3. Deployment

In most districts, human resource management is segregated between the hospital(s) and the DHMT. Each institution fights for its own staff complement. Staff transfers between hospitals and health centres, or vice versa, need approval from the central level. The situation in Chama district is different, though. Since Chama hospital is formally considered a rural health facility (with a modified staffing establishment), the DHMT in Chama has the mandate to deploy all the health staff in the entire district. This facilitates a fair distribution between the 'hospital' and health centres and according to the needs of the district as a whole and each and every individual institution.

The criteria for DHMT to assess staffing needs are based on a combination of factors, which include workload (e.g. number of patients seen per day), and availability of facilities, such as a laboratory, x-ray, etc.

### 4.5.4. Deployment coping strategies

Health managers in all facilities included in the present study have basically two ways in which they try to make optimal use of their human resources.

- On busy days, they call upon existing staff to extend their working hours. Sometimes they put doctors, clinical officers and nurses on double shifts, meaning that they work 12 hours non-stop, or they call them back for a next shift after only a short rest. It is also common for health workers to work during their leave days; and for health workers to return to work during their annual leave. Others, who do not go on annual leave at all because of the work pressure, have accumulated too many annual leave days and risk losing the value of their leave days.

For the individual health worker it is, in a way, attractive to work extra hours or on leave days, since it gives them some extra income ('moonlighting'). For nurses at the hospital, an extra shift pays ZK 40,000 (about USD10). Whilst this may seem attractive for both parties (both the health manager and the individual health worker) it is not a sustainable solution, since it leads to exhaustion and burnout.

- The second strategy is to assign certain clinical tasks to non-qualified staff. Because of the persistent staff shortages, certain health facilities reported to be using unqualified CDE's

for activities such as screening patients, examining them, taking X-rays and dispensing drugs. Only few health facilities have Clinical Officers, so that enrolled nurses perform clinical duties which they are not trained for. Chama district does not even have enrolled nurses in all its RHCs: eight health facilities in the northern part of the district are being run by unqualified CDE's.

As a result, the quality of care leaves much to be desired and is going down rapidly. Interviewed staff gave several examples: when a woman is in labour, foetal heart monitoring is not being done; post-operative care is lacking; etc.

Not being able to work according to certain professional standards is obviously frustrating for the staff involved.

*"During screening, the important thing is to clear the queue. Some patients you don't even examine. In fact the majority are not examined, you just prescribe. What has been happening now is that, those people you see in the morning, they come back the same day in the evening and they are admitted. You feel bad, but what can you do? People feel good at least if you see them."*

#### 4.5.5. Challenges to retain staff

Poor conditions of service are the main reason for staff to resign. The low salary level is just one of those conditions. In an environment with staff shortages, dilapidated buildings, non-functioning equipment and frequent drug shortages, it is difficult for health staff to remain motivated. Staff housing is one of the main areas of discontent. In Chingola, for instance, one of the health facilities has only three staff houses on a total staff establishment of 29. Most workers have to look for their own housing. They are entitled to housing allowance, but this does not cover the real cost. Some cadres get ZK 100,000 per month, others get ZK 50,000, but the actual rents are much higher: from ZK 300,000 and more.

Lack of good schooling and other education facilities was cited as another reason why health workers prefer to be posted in towns rather than in remote rural areas. Some health staff on the other hand, in particular in Chama and Choma districts, expressed preference for rural postings because it allows them to raise some extra income from agriculture and livestock breeding.

#### 4.5.6. Strategies to retain staff

The health authorities in all four districts are aware of the importance to take special measures to retain staff. Strategies used by DHMT include:

- Some DHMTs actively encourage local communities to build staff houses.
- DHMT in Chama and Choma districts have purchased motorcycles for their staff to facilitate transportation.
- Choma DHMT had discussions with the local representative of the Ministry of Education to upgrade schools in rural areas where health workers do not want to be posted.
- Some districts (e.g. Choma) are giving priority to health staff from RHCs when sending staff for training. This would serve as an extra motivation for them, in addition to the existing (centrally controlled) rural hardship allowance, from which all professional staff (except CDEs) benefit.

## 4.6. The influence of NGOs and externally funded programmes on staff productivity

While most NGOs that engage in health activities in the district work with their own staff outside government, most externally funded programmes were found to be working through the DHMT or government hospitals and to be competing for staff time.

*"These programmes bring along extra work in data collection and other things. You find that there are only very few health workers at the health centre. That is tiring them a lot; it is frustrating them at the same time."* [FGD with DHMT]

*"You find the first months they are very enthusiastic, they are managing but burn out very quickly because we are using the same number of staff whom we have said that they are already overburdened with work and we give them parallel programs."* (Interview DDH)

One project in particular was found to be using health staff for a single purpose (in this case a research project), diverting valuable human resources away from the hospital's core activities. It thus affects staff productivity.

One externally funded project, which is being implemented at Choma district hospital over a period of four years (the Pregnancy Registry Study, implemented by TDR/Ndola, funded by WHO), engages several government health workers. The DDH serves as the local project coordinator, the hospital director as the medical officer, whilst several hospital staff (nurses, lab technicians, accountants, secretaries) perform various technical and administrative duties. The exact extra workload that this study brings along has not been established. It was also difficult to establish to what extent the study competes with the regular duties of the officers concerned and whether one can speak of 'interference'. However, the nurses involved in the study are exempt from taking part in extra shifts or other relief activities when clinics or wards are busy, since they are considered too much occupied by the ongoing study. All staff involved receive monthly allowances, varying from ZK 350,000 for the admin staff to ZK 2.1 m each for the coordinator and the medical officer. For the latter two persons these allowances amount to around 50% of their regular salaries. Nurses receive ZK 1.4million per month which is equivalent to their monthly salary.

One of the nurses involved explained that she did her utmost to do a good job: keeping patient records up to date and well organised, adhere to protocols and established technical procedures, following up patients at their homes, etc. She also stated that the environment within which this project was implemented was more or less ideal, with all the stationery being available and close supervision guaranteed. This was in great contrast with the regular services provided to pregnant women who were not part of the study: the services were of much lower quality and no records were kept.

*"Because you know that you will get money from this programme, those pregnant women for example who are not on the programme, you shout at them, you don't even spend time on them. Especially when you are alone on duty, taking care of two wards, you just pass through quickly to give drugs. Those pregnant women on the programme,*

*when they don't come for their appointment you check in the records, you follow them up to their homes in the villages, but those who are not on the programme you don't even know if they have not come for their appointment."* [FGD with health workers].

The downside of this project was not brought out during the key informant interviews and focus group discussion that were held. It is clear though, that:

1. Competition for scarce staff time in this case may result in essential regular services not being delivered because of external priorities; and
2. The project has introduced dual standards, leading to dual conditions of services, dual staff attitudes and practices, a dichotomy in service quality, and hence the risk of different health outcomes for those clients who are included in the study population and those who are not.

#### 4.7. The influence of NGOs and externally funded programmes on staff recruitment, deployment and retention

While some externally funded programmes compete for precious staff time, as shown in Section 4.6, no hard evidence was found of any influence of these programmes on staff recruitment or deployment. Only very few externally funded programmes recruited their own staff and paid better salaries than the public sector.

Statements however were made referring to negative influences such as:

*'Challenges are faced by organisations dealing with HIV/AIDS because they are well funded. This situation attracts staff that join HIV/AIDS oriented programmes'. (Eye Clinic, Solwezi)*

*'With many NGOs dealing with HIV/AIDS competition among private and public NGOs with regard to staff, recruitment is a big issue' (CHAMP coordinator, Solwezi)*

*'Most of the health professionals working for ZAMBART came from government (me too), 2 came from private sector, 2 are government retirees (ZAMBART team leader, Choma)*

Most programs, as shown in table 4.1, use part-time staff who are paid allowances which is similar to government allowance. In FGDs it was stated that these allowances were a significant incentive to health workers.

*"Even when you are supposed to be off duty and resting, because of that incentive, you are willing to come back for an extra shift" Nurse from Chingola*

In relation to retention, one example was found of a project that had managed to retain health staff (mainly nurses) who otherwise might have resigned. The TDRC run malaria research programme in Choma district (the Pregnancy Registry Study) has concluded contracts with the individual nurses (and the hospital), obliging them to remain with the project for the full four years of its operation.



*“With the programme I am involved in, we have signed a contract for four years. This bonds me to this hospital. The contract says that I can not leave the hospital until the programme comes to its end. So the hospital is assured that I will be here in the coming four years”.*

The hospital director and the matron were happy with this arrangement since they saw a clear benefit for the district. They pleaded that other projects adopt the same arrangement

*“... so that we need not worry about who will be leaving next”.*

Also the st. Francis Mission Rural hospital stated that:

*“...The allowances paid by CHAZ retain health staff in this centre that suffers from lack of transport and incentives’.*

## 5. Discussion and conclusions

The human resource crisis in Zambia's public health sector is characterised by high vacancy rates, high rates of staff turn over (especially in rural areas), skewed staffing patterns (between various cadres) and general dissatisfaction among health workers with their working environment and conditions of service. The Human Resources for Health Strategic Plan (2007-2010) of the Ministry of Health acknowledges this and proposes several initiatives to address the crisis. It employs four main strategies:

1. A coordinated approach to planning across the sector
2. Increase the number of trained and equitably distributed staff
3. Improve the productivity and performance of health workers
4. Strengthen human resource planning, management and development systems at all levels of the health system.

In a recent paper that describes the state of HRH in Zambia, Picazo and Kagulura (2007) argue that: (a) staffing patterns continue to be perverse, as reflected in the composition of established posts; (b) absenteeism, tardiness and low morale reduce the availability of staff already at post, and these problems do not necessarily disappear with increases in salaries; and (c) multiple cash allowances and in-kind benefits are highly fragmented and only cover a minor percentage of MoH staff. The present study has tried to unveil what lies behind this.

Picazo and Kagulura further argue that the HRH shortage is worsening at a time when the health sector is "being flooded with donor resources" and they label this as a paradox:

1. Firstly, vertical projects rarely, if ever, provide direct salary support. The Global Fund is one of the very few externally funded programmes that have allowed the funding of health systems strengthening, including human resource development. Most of the other large vertical initiatives, such as PEPFAR, lie outside the purview of government, even though they involve the MoH service delivery system and rely (partly) on MoH health workers.
2. Secondly, the cooperating partners that contribute to the basket fund still haven't created a provision to support personal emoluments directly. Basket funding can be used for HRD (e.g. training workshops) and as such it contributes only indirectly to strengthening HRH.
3. The Government itself has been unable to adjust HRH remuneration levels and still relies on a compressed payroll structure (with little differentiation in salary levels between various cadres), supplemented with various types of allowances.

As a result, while total per capita health expenditure nationwide may increase with the addition of more funding into the health system, PE (personal emoluments) as a proportion of total health expenditure declines. It is the inability of basket funds, health projects and vertical funding mechanisms to formally finance PE *"that causes so much money chasing so few workers"*.

The general objective of the present study was to analyse in what way HRH recruitment, deployment and retention at the district level are influenced by external funding. In order to do so, first the existing staffing patterns and trends in staff deployment and movements at

the district level needed to be described, and the way district health managers work towards ensuring that health personnel is distributed fairly and according to local needs.

The study has thus once more confirmed that the human resource situation in rural areas is in a permanent crisis. This is broadly acknowledged, not only by health service providers at the operational level in hospitals and clinics, but also by district health managers, health programme managers and the national level, policy makers and representatives from international agencies that support the health sector.

The study has further demonstrated how district health managers are trying to cope with very little resources to deploy health staff according to needs. Surprisingly, and contrary to our expectations, there is very little evidence of extra financial resources reaching the districts that were included in the present study. Therefore, competition for staff by externally funded programmes in the districts appears to be limited. However, our findings indicate competition for staff time in the public facilities that implement externally funded programmes, although this is difficult to quantify. Programmes that provide incentives are popular among the staff. In combination with the fact that many staff feels overloaded, it may be expected that other services suffer when extra tasks are added and no extra staff is brought in. In one district a clear example of competition for staff time was brought to the fore: its negative sides are undeniable and should be remedied.

More specifically, the present study has shown that:

1. There is very little evidence of any increase in funding levels at the district level and below. Examples of projects that are competing for scarce staff time are also not abundant. Moreover, this study once again confirms that huge lack of staff at district level.
2. Formal staff establishments have limited practical value for districts, as the number of positions filled bears little correlation with the number of approved posts for several categories of staff. Recruitment and deployment of health staff is highly centralised (after a brief spell of decentralised authority, in 2003-2004) and this has clearly affected the human resource situation at the district level and below.
3. The human resource situation has not improved over the past five years and remains alarmingly poor, with just 50 to 60% of the established posts filled in districts like Chama and Chingola. While some districts managed to get a few extra staff (more clinical officers at Macha mission hospital and Choma DHMT; more registered nurses at Chingola DHMT) districts turn out to be relying more heavily on CDE's than ever before. This does in no way compensate for the severe staff shortages of higher qualified cadres, especially clinical officers, registered nurses and registered midwives. Although this cannot be proven, the negative effect that this has on health outcomes, such as maternal and infant morbidity and mortality, is very likely.
4. District resources for HRH have in fact declined and are largely limited to HRD (including workshops). This prevents health managers to provide some extra incentives to their staff or to recruit (and remunerate) additional staff. The abolition of user fees in rural health facilities is expected to further affect negatively the income of the DHMT and hence their capacity to support health service delivery in rural areas.
5. Districts employ a variety of strategies to address the HRH crisis and retain staff, but none of these have a significant impact. DHMT's are in fact rather powerless because of a combination of three factors: their restricted mandate (because of centralised authorities),

the meagre financial income from districts' own resources and the limited extent to which external funding can be used to strengthen the human resource base.

## 6. Recommendations

It is recommended that steps be taken to ensure that more external funds reach the district, but in such a way that these funds strengthen the district health system. In particular the HRH situation needs to be strengthened and for this to happen it is inevitable that:

1. districts get a certain mandate to recruit and deploy their own staff, and that
2. they get a certain amount of resources for PE, rather than just for HRD/staff development in order to retain the staff.

Some more specific recommendations that emanate from this study are addressed to three different actors: funding agencies, the Ministry of Health and district-level health authorities.

1. Recommendations to funding agencies and managers of externally funded programmes:
  - Consider any negative side effects that externally funded programmes and projects may have on HRH and the delivery of regular services that are not necessarily the focus of the programme/project;
  - Include an HRH component (beyond in-service training), which would allow district health authorities to strengthen their general HRH resource base.
2. Recommendations to the Ministry of Health:
  - Institute measures to increase the autonomy of district health authorities to recruit staff and fill vacancies;
  - Coordinate the processes of HRH management at the district level to bring about an equitable distribution of the HRH within the district and encourage deployment to more rural areas (e.g. by providing additional incentives).
  - Institute special measures to protect weaker districts (very remote; low income from own resources) from losing their staff to the better endowed districts;
  - Take steps to increase GRZ support by harmonising externally funded programs;
  - Negotiate with external funding agencies to include a HRH component in their support package that would allow DHMT's to strengthen their human resource base.
3. Recommendations to DHMT's:
  - Negotiate with partners and funding agencies to include a HRH component in their support package;
  - Be pro-active to identify staff grievances and conduct exit interviews with members of staff who have resigned voluntarily from the public service or who are being transferred so as to know their reasons and obtain suggestions to better retain staff.
4. Other recommendations
  - Conduct a resource tracking study for some of the externally funded programmes that operate on a nationwide scale, such as PEPFAR and GFATM, so as to determine the share of resources that trickle down to district level;
  - The exact causes of the high death rate among health staff in Choma district should be explored further. In the meantime, it is appropriate to institute a workplace safety policy in the district.

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## Annex 1 Background information on districts involved in the study

|   | <b>Chama district</b>  | <b>Choma district</b>  | <b>Chingola district</b>   | <b>Solwezi district</b>   |
|---|--|--|--|---|
| Province                                      | Eastern  | Southern   | Copperbelt   | North-West  |
| Population                                    | 97,097   | 242,000  | 218,000  | 235,000   |
| Public providers                              | District Hosp,<br>19 RHC   | District Hosp.,<br>34 RHC  | District Hosp.,<br>10 HC (of<br>which 4 RHC +<br>one dental/eye<br>clinic) | District Hosp.,<br>45 HC<br>(including 2<br>Urban Clinics)<br>and 3 HCs to<br>open soon   |
| Private not-for-profit: FBO's and other NGO's | 4 HBC<br>programmes:<br>Catholic,<br>Haliday,<br>WAATP,<br>Vision 2000 | Macha mission<br>hospital;<br><br>Kara<br>Counseling<br>Trust  | Iseni clinic<br>(Roman<br>Catholic)  | St Francis<br>RHC;<br><br>Mumbezhi RHC  |
| Private providers                             | Chizya private<br>(pvt) clinic   | Venus clinic   | Nchanga South<br>hospital (mines)  | 4 pvt clinics   |
| Externally funded programmes                  | none   | 4 programmes:<br><br>ZAMBART;<br><br>AED Linkages<br>(USAID<br>funded);<br><br>HCP/ART<br>(USAID<br>funded);<br><br>Pregnancy<br>registry study<br>(malaria<br>research TDRC,<br>WHO funded) | 1 programme:<br><br>ZPCT (USAID<br>funded)                                 | 3 programmes:<br><br>ZPCT (USAID<br>funded);<br><br>Eye care<br>project (funded<br>by Sight Savers<br>Int'l)<br><br>CHAMP<br>(USAID funded) |





## Colophon

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