SUSTAINABILITY OF NCHELENGE HIV/AIDS PROGRAMME IN LUAPULA PROVINCE OF ZAMBIA

A DAY AFTER MEDECINS SANS FRONTIERES HOLLAND HANDOVER

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3RD MASTERS IN INTERNATIONAL HEALTH
20TH AUGUST, 2008

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VRIJE UNIVERSITEIT AMSTERDAM

SUSTAINABILITY OF NCHELENGE HIV/AIDS PROGRAMME IN LUAPULA PROVINCE OF ZAMBIA

A thesis submitted in partial fulfillment of the requirement for the degree of Masters in

International Health

By Norman Sitali

Zambia

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Total word count: 14931

3RD Masters in International Health
20th AUGUST 2008
KIT (Royal Tropical Institute) / Vrije Universiteit Amsterdam
Amsterdam, The Netherlands

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KIT (Royal Tropical Institute), Development Policy & Practice
Amsterdam, The Netherlands

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Vrije Universiteit Amsterdam/Free University of Amsterdam (VU)
Amsterdam, The Netherlands

TABLE OF CONTENTS	PAGE

ANNEXES

LIST OF TABLES

FIGURES

ACKNOWLEDGEMENT

I would like to acknowledge my appreciation to Barend Geretsen and Prisca Zwanikken for their support and encouragement during my study period at (KIT) Royal Tropical Institute.

To the course secretaries Rinia Sahebdin (MPH), Kim Vandenbegher (MIH), I say thank you very much for keeping me comfortable during my study period and for facilitating all my paper work needed to study in the Netherlands.

My heart felt gratitude goes to my thesis adviser for guiding me through this thesis

Aim also very grateful for the support rendered by Médecins Sans Frontières – Operation Centre Amsterdam for the provision of a study grant towards my course fee and tuitions

ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ATC	AIDSTreatCost
CO	Clinical Officer
CBoH	Central Board of Health
CC	Community Counsellor
CHAZ	Churches Health Association of Zambia
CHW	Community Health Worker
CMS	Central Medical Stores
DAFT	District AIDS Task Force
DFID	United Kingdom Department of International Development
DHMT	District Health Management Team
DOT	Direct Observed Therapy
DRC	Democratic Republic of Congo
EFV	Efavirenz
FHI	Family Health International
GNI	Gross National Income
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GFATM	Global Funds to Fight AIDS, TB and Malaria
GRZ	Government of the Republic of Zambia
HBC	Home Based Care
HCW	Health Care Worker
HEPS	High Energy Protein Supplement
HIV	Human Immunodeficiency Virus
HR	Human Resources
IPD	In Patient Department
MoH	Ministry of Health
IEC	Information Education and Communication
INGO	International Non Governmental Organisation
MSF	Médecins Sans Frontières
MD	Medical Doctor
NHC	Neighbourhood Health Committee
NGO	Non Governmental Organisation
NVP	Nevirapine
NZP+	Network of Zambian People living with HIV/AIDS
OPD	Out Patient Department
PCI	Project Concern International
PEPFAR	President's Emergency Plan on AIDS Relief
PHC	Primary Health Care
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PSG	Project Support Group

RDT	Rapid Diagnostic Test
RHC	Rural Health Centre
SPMH	St. Paul's Mission Hospital
STI/D	Sexually Transmitted Infection/Disease
TB	Tuberculosis
UHC	Urban Health Centres
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Funds
USAID	United States Agency for International Development
UTH	University Teaching Hospital
VCT	Voluntary Counselling and Testing
WB	World Bank
WHO	World Health Organisation
ZPCTP	Zambia Prevention Care and Treatment Partnership

DEFINITION OF TERMS

STANDARD OF CARE:
This is health care resulting from adequate health system performance goals such as average level of health for the community, health inequity, responsiveness of the health system and fair financial contribution from primary source (patients)

RESPONSIVENESS:
The ability of the health system to promptly meet community health needs effectively, including coverage and distribution.

FAIR FINANCING:
The contribution of revenue to the health system from primary sources (clients/patients) and secondary sources (Government and Donors) and its allocation to health activity provider (health system)

RESOURCE GENERATION:
The ability of the health system to produce resources necessary to provide effective and efficient health services such as human resources, knowledge, physical resources (facilities, equipment and consumables) for the provision of health services.

SERVICE PROVISION:
The delivery of health interventions from the combination of inputs such as financial resources, Human resources, Capital stock, Consumables and information and knowledge

STEWARDSHIP:
This is a health policy system set up, implementation and monitoring to encompass all actors such as purchasers (health actors), provider (Health worker) and client (Patient)

ABSTRACT

BACKGROUND

Nchelenge HIV/AIDS programme started as a Home Based Care with emphasis on Information Education and Communication. The programme was parallel to the Ministry of Health (MoH) in the Health Centres. Since March 2001, it evolved into an HIV/AIDS programme integrated in the health system. It was handed over to the MoH in August 2007 by Médecins Sans Frontières (MSF).

GENERAL OBJECTIVES:

To identify key conditions for maintaining standard of care in terms of quality and quantity in an integrated HIV/AIDS programme in Nchelenge district (Luapula province) and analyse challenges the MoH in Zambia faces to sustain these standards of care, in order to make recommendations regarding the current programme and future hand over of similar programmes by organisation such as MSF.

METHODS

A desk review of literature on Nchelenge programme was done. Constraints faced by MSF are highlighted and compared to the MoH capacity to manage activities at the same level of quantity and quality. Comparative studies were reviewed through available literature online; via Pub med. and other online databases. An analysis was made to identify key factors necessitating sustainability in an integrated HIV/AIDS programme. This analysis is made using the World Health Organisation framework on Health system performance.

RESULTS

Integrated HIV/AIDS programme increases workload, facilitates health personnel role shifting, require health structure adjustment and is highly dependant on continued financial support and adequate Human Resource (HR) capacity.

CONCLUSION

Sustainability of Nchelenge HIV/AIDS programme is possible in the hands of the MoH. It requires both long-term financial support (Government and Donor) and HR to sustain its provision of quality services. A clear country policy is required on the role of community counsellors and there is need to improve the supply system for drug procurement and management.

KEYS WORDS

The key words used in the search strategy where: HIV/AIDS, Sustainability, Integrated, remote set up, factors, resource limited, Human resources, ART and Zambia.

CHAPTER 1: INTRODUCTION

I am a male state registered Nurse, qualified in 1999. After my graduation, I worked with the Ministry of Health (MoH) at the University Teaching Hospital (UTH) in Lusaka Zambia. Since mid 2000 to date, I have been working with Médecins Sans Frontières (MSF), a humanitarian emergency medical organisation. In the last 7 years, I have worked in countries with precarious conditions and struggling health care systems. These countries include; South Sudan, Liberia, Somalia, Zimbabwe and North Sudan (Darfur) respectively. I have worked in positions of a field Nurse, assistant medical coordinator and as project coordinator. In my recent years, I have moved away from hands on medical activities to assessments, planning and project management.

As an emergency medical organisation, MSF does not stay in project countries for a long time. As soon as the situation starts to normalise (politically), programmes are handed over to aid agencies involved in long-term health issues and sometimes to the MoH. The exit criteria to hand over a programme vary from project to project as well as country contexts. In Nchelenge the HIV/AIDS programme was handed over to the MoH after integration into the public health system. This was after MSF had managed the programme from March 2001 until August 2007. The MoH was able to take over responsibilities sufficiently but MSF still had concerns in regards to the institutional capacity of the District Health Management Team (DHMT) in managing the programme with scarce HR, financial and logistic constraints (MSF, 2006). This is one of the major reasons to take up this topic to be able to understand other factors that may influence the sustainability of such a programme under the MoH management. Sustainability in this case is being used to refer to “the ability of the programme to continue and to be able to attain its health system goals” which are; health, responsiveness and fair financing. The Integration of Nchelenge HIV/AIDS programme is therefore hoped to bring together common functions to solve common problems and developing commitment to shared vision and goals within the public health system. The health system in Nchelenge may not yet be adjusted for this action. However waiting for changes to occur for better delivery of services may also precipitate unnecessary delays in obtaining the desired results (Atun et al, 2008).

The poor investment in the health care system in Zambia is also a threat that can easily enhance the collapse of a health system. The majority of the Health facilities are lacking essential commodities such as adequate personnel, drugs, equipment and physical infrastructures, which are deteriorating and Nchelenge is not an exception.

The Government needs to be involved especially in its leadership role to be able to create a sustainable response towards HIV/AIDS at districts, provincial and national level (Reeler and Saba, 2004). In order to continue reaching and maintaining the health system goals for Nchelenge HIV/AIDS programme, there is need to analyse the health system performance and be able to use the findings to shape policy regarding potential programmes to be integrated in the public health system and remain sustainable.

1.1. STUDY QUESTIONS

There is need to establish a minimum health system requirement. This will help to interpret sustainability in the standard of care to achieve health system goals (health responsiveness and fair financing) and will also help to identify challenges in maintaining these standards of care. The integration of an HIV/AIDS programme into the public health system may be perceived as bringing resources from the HIV/AIDS programme into the health system to facilitate the achievement of the health system goals. However it may also be a hindrance to the general progress towards the achievement of health system goals due to factors influencing sustainability in an integrated programme. The study questions below are intended to help in reaching some conclusions to the coal issue of sustainability in an integrated HIV/AIDS programme in Nchelenge District.

i. Is sustainability in terms of quantity and quality of care possible to INGO programmes handed over to the MoH?
ii. How much can the Government and MoH manage to sustain the integrated HIV/AIDS programmes with the increased workload of patients on Antiretroviral Therapy (ART) without donor aid?
iii. What level of community counselling would be useful in an integrated HIV/AIDS programme to sustain the health system workload without compromise to the continued achievement of the health system goals?
iv. Was integration desirable for the health system in Nchelenge?
v. Was integration possible in relation to the human resource skills and available infrastructure?

1.2. STUDY BENEFICIARIES

The primary beneficiary of this paper is the MoH particularly the Central Board of Health (CBoH) as Policy makers. It is focused to give suggestions on specific issues the MoH should be focusing on in dealing with health system performance in relation to sustainability of an integrated HIV/AIDS programme within the health system and how to best handle other programmes currently managed by International Non Governmental Organisation (INGO) but having the potential of being handed over to the MoH. The study results will help me when I get back home to concentrate on specific key issues if ever dealing with the increasing programmes of integration within the public health system. In my future assignments with MSF I will be able to use the findings from this paper as a resourceful tool, as well as a checklist for handover preparation of an integrated HIV/AIDS programmes within the health care system.

CHAPTER 2: BACKGROUND INFORMATION

2.1. BACKGROUND INFORMATION

Nchelenge district is in the Luapula province of Zambia of which Mansa is the provincial capital. Luapula has 50,567 Km^2, with 15.3 people per km^2 and a population size of 775,353 in 7 districts (CSO, 2000). It is bordered along the Luapula River, through Lake Mweru and on its north the Democratic Republic of Congo (DRC). Nchelenge district has a beautiful lake located on the far Northwestern border of Zambia, which is sheared with the DRC. It is a major source of livelihood for most villagers from fishing. This boarder shearing has occasionally paved way to refugee influx to Zambia due to dispute and conflicts in the DRC (ZNTB, undated)

2.2. DEMOGRAPHIC PROFILE

The population of Zambia is estimated at 11,668,000 (WHO, 2007) of which the large segment (45%) remains uneducated and illiterate. The population pyramid for 1990 – 2000 indicates a change in the age sex structure, which could be attributed to increased mortality, particularly for adults. This has also been observed in population gaps for adults between 20 and 30 years who may be more susceptible to terminal illness such as AIDS. Table 1 below shows the country growth rate and population density. It is noted that the population annual growth rates for Zambia has been on a decline since 1980 to the year 2000 and an increasing population density. The Luapula province counts for 8% of the total population of Zambia and is represented by male (50.7%) and female (49.3%). The annual growth rate for the province is 3.2% which is a 10.3% increase from 1980, and 1990 as shown in table 1 below. This increase is only noted in the Luapula province as the rest of the provinces in Zambia had a decline in the growth rates. An account for this increase is associated to spontaneous settlement of population from neighbouring countries such as DRC and migration from the Copper belt province due to the slow economic growth. Nchelenge one of the 7 districts in the province has a 4.3% growth rate with a population size of 111,119 people (CSO, 2000).

TABLE 1: ANNUAL GROWTH RATES AND POPULATION DENSITY

Annual growth rate:					
	Zambia		**Luapula**		
1980	**3.1**		**2.1**		
1990	**2.7**		**2.2**		
2000	**2.4**		**3.2**		
Population density in KM^2					
	Area	**1969**	**1980**	**1990**	**2000**
Zambia	**752,612**	**5.4**	**8.3**	**10.3**	**13.1**
Luapula	**50,567**	**6.6**	**8.3**	**11.2**	**15.3**
Source: (Census Data from Zambia, 2000)					

2.3. SOCIAL ECONOMIC PROFILE

According to the national summary data (2005), the poverty head count revealed a 64% poverty rate of which (14%) was moderately poor and (51%) extremely poor. In 1991 the Government adopted the structural adjustment programme with intentions of creating macro-economic stability in the economy (CSO, 2003a) and also adopted an open, private sector led economy with minimal Government control (CSO, 2000). However the country's balance of payment status has mainly depended on the performance of the mining industry (CSO, 2003a). This includes Copper and Cobalt mining of which Copper accounts for approximately 80% of the country's export (CSO, 2000).

About ¾ (75%) of the Zambian population is involved in subsistence farming which contributes an average of 18% to the Gross Domestic Product (GDP) over the past decade. The poor balance of payment performance by Zambia is an attribute of the greater payment to the outside world than it earns from its exports (CSO, 2003a). The Gross National Income (GNI) per capita was $950 (WHO, 2007). The major economic activity in the Luapula province is fishing (Luapula Province, undated). Like all the other provinces in Zambia, there is a greater concentration of poverty in rural than in the urban areas and in the provinces outside the country's main railway line (CSO, 2008).

2.4. HEALTH SERVICES

There are 1,285 Health institutes in Zambia (CSO, 2000) providing free medical services including ART in all public health services (WHO/UNAIDS/UNICEF, 2007). The total life expectancy for male and female in 2007 was estimated at 38.4 years and a male/female ration of 38.3 and 38.5 years respectively. Infant mortality rate was at 77 deaths per 1,000 live births in 2007 projection, compared to 79 deaths per 1,000 live births from 2006 estimates. The < 5 years mortality rates per 1,000 live births was 121 in 2007 compared to 124 in 2006 (Zambia Facts and Figures, undated).

In Luapula Province there are 121 health facilities as elaborated in annex 3. The only Hospital in Nchelenge district has a 175-bed capacity and 40 cot beds (Chirwa, 2002). This capacity covers wards for Paediatrics, Maternity, Medical, Surgical and an isolation area. The main constraints in the provision of health care for the district is the poor quality and insufficient medical staff attributed to the loss of 70% due to migration and HIV/AIDS (Verputten, 2006). In the District, Nchelenge has also other organizations supplementing the health activities especially in the area of HIV/AIDS. There is the Nchelenge AIDS task force, Project Concern International (PCI), Project Support Group (PSG) and Churches Health Association of Zambia (CHAZ) (O'Brien, 2005). In 2005, Family Health International (FHI) one of the implementing partners of UNAID/PEPFAR started to implement AIDS prevention, treatment and care activities in 5 provinces in Zambia including the Luapula. By 2006 the FHI programme had covered the Luapula province with Prevention of Mother to Child Transmission (PMTCT) and ART activities in five districts with the aim of reaching all the districts by the end of 2007.

Since Match 2001 MSF has been working in Nchelenge District, running an HIV/AIDS programme parallel to the MoH activities as shown in annex 3. The aim of the programme was to Increase the prevention of HIV/AIDS transmission and improve the access to free quality medical and psychosocial care, through the national health system, by the end of 2008 (Verputten, 2006).

CHAPTER 3: PROBLEM STATEMENT, OBJECTIVES AND METHODOLOGY

3.1. PROBLEM STATEMENT

The HIV/AIDS epidemic is still affecting communities in Zambia. About 97% of the communities attest to have lost a family member from HIV/AIDS related deaths (CSO, 2005). Since the first reported case in 1984, HIV/AIDS has been increasing rapidly in the country (CSO, 2000). In 2003, WHO/UNAIDS estimated a total treatment need of 140,000 people and the WHO 3 by 5 targets calculated 70,000 People Living With HIVAIDS (PLWHA) in Zambia. In 2004 the MoH estimated that 1,000,000 adults and children were living with HIV/AIDS. In regards to treatment, 13,636 people were accessing ART by September 2004 with 13,555 from the public sector and 81 from private facilities. At the end of 2004 CBoH reported 15,328 patients receiving ART and most of them in public facilities. In 2005, WHO/UNAIDS estimates increased to 183,000 people needing treatment and by November 2005 CBoH reported that, 43,964 people were receiving ART in public facilities and 2,000 people in private facilities. At the end of 2005, the Government of the Republic of Zambia (GRZ) declared a national treatment target of 100,000 people. The prevalence rate for HIV/AIDS in Zambia is at 16.5% among Adults (15 to 49) years from 2003 estimates (WHO, 2006). It is higher in Women (18%) than in men (13%), in all provinces except in the Northwestern province. It is also much higher in urban population between (25 - 35%) than in rural population which is between 8 -16% (WHO, 2005). Some provinces have prevalence levels above the national average including Lusaka 22%, Copper belt 20% and Southern 20% (CSO, 2000). The prevalence in Nchelenge district is estimated at 16.5%, which is 3rd after Lusaka and the Copper belt provinces of Zambia (Verputten, 2006). A quotation from Luo (2000) cited by Kombe and Smith (2003) states that each year there are about 450,000 births/year in Zambia of which about 82,000 are to HIV positive mothers and a 39% MTCT rate if the mother is untreated (Kombe and Smith, 2003). Since the pilot programmes at UTH and Ndola central Hospital in 2002, Voluntary Counselling and Testing (VCT) and ART services have expanded covering all the 72 districts in the country. A proposed plan is to provide ART in all Hospitals and Primary Health Centres (PHCs) by 2009 (WHO, 2005).

In Zambia health services where initially provided at a subsidized rate in public facilities including HIV/AIDS treatment. However in 2004 the policy changed and ART was provided without charge in public sectors. By June 2005, the Government further declared that the entire HIV/AIDS package, which includes (consultations, laboratory and treatment), was free in all public sectors. This was done in order to scale up the HIV/AIDS programmes (WHO, 2005). However the scale up of ART in this way has also jeopardised the cost recovery system of the PHCs. They now rely heavily on external funding from Government and donor aid to maintain programmes in the health facility (Desser and Kuperus, 2008).

It is mentioned that, “Globalisation has given rise to a trend towards finding common solutions to global health challenges such as HIV/AIDS”. However one of the major reasons for the apparent ineffectiveness of global interventions is attributed to the historical weakness in the health systems of under developed countries (Coovadia and

Hadingham, 2005). The increasing demand for health care services in a developing country with limited resources such as Zambia, gives value to identifying new approaches to treatment and care that maintains effectiveness and put less demands to the meagre health resources.
Working in Nchelenge since March 2001 until August 2007, MSF has demonstrated to the MoH the possibilities to treat and care for HIV+ patients through the peripheral Rural Health Centres (RHCs). In its inception, the Nchelenge HIV/AIDS programme started as a Home Based Care (HBC) with Information, Education and Communication (IEC) being the main activities in six RHCs (Verputten, 2006). Over time there was a transitional change from HBC and IEC to a decentralized HIV/AIDS programme. From 2002 to 2004 the programme expanded towards the provision of HIV/AIDS testing and care, PMTCT, and treatment with ART in RHCs. In 2005 MSF started to support HIV/AIDS care in the Out Patient Department (OPD) of St. Paul's Mission Hospital (SPMH) with medical supplies and HR capacity. During the same year an extension was further made with two additional Urban Health Centres (UHCs) in Kashikishi town (Appels and Peteghem, 2004; Verputten, 2006). To carry out the activities the mobile team operated with 5 Clinical Officers (COs), 2 adherence Nurses, 1 PMTCT Nurse, 11 counsellors, 1 laboratory technician and 200 community counsellors (CCs) as volunteers. This was a parallel programme within the existing MoH PHCs (Appels and Peteghem, 2004; O'Brien, 2005). When the MoH took over the programme in August 2007, it had 1,191 patients on ART with district coverage of 80% of the clients legible for ART (MSF, 2007b) and the programme was fully integrated in the existing routine health services.

Integration of an HIV/AIDS programme into the health system can also be viewed as "a cure for the broader malaise of the health system" if used to improve the health system on issues related to HR development, financing, drug supply and quality assurance. It also seems to be cost effective to integrate and coordinate with other disease programmes within the health system with similar components as HIV/AIDS. It can also be seen as bringing fragmented resources to strengthen sheared health systems such as laboratory procurement and supply management (Ooms et al, 2008). For Nchelenge project, it is certain that the workload from the HIV/AIDS patients and the routine clinic activities will increase. Dovlo (2005) affirms that a significant rise in disease burden is currently recognised and attributed to HIV/AIDS and recurrent communicable and non-communicable diseases in Africa. This increased demand for health services, is however met with low supply of Health Care Workers (HCW). There is need to strengthen the health systems capacity for it to adjust adequately and have the ability to continue with the provision of targeted health services. A strong health system is essential in maintaining the short-term health goals attained through specific projects such as Nchelenge before the integration. In Nchelenge it is envisaged that the integration will maximise the impact on the resources available but bearing in mind that when funding to HIV/AIDS programmes stops, it might be difficult to absorb expenditure levels, into the regular health system (WHO, 2007a) with individual country financial capacity.

3.2. GENERAL OBJECTIVES

To identify key conditions for maintaining standard of care in terms of quality and quantity in an integrated HIV/AIDS programme in Nchelenge district (Luapula province) and analyse challenges the MoH in Zambia faces to sustain these standards of care, in order to make recommendations regarding the current programme and future hand over of similar programmes by organisation such as Médecins Sans Frontières.

3.3. SPECIFIC OBJECTIVES

3.3.1. To establish minimum health system requirements regarding sustainability of health system goals for Nchelenge integrated HIV/AIDS programme in Luapula province of Zambia.

3.3.2. To identify challenges for the MoH in maintaining standard of care in Nchelenge integrated HIV/AIDS programme based on knowledge and literature.

3.3.3. To describe options in maintaining standard of care to the MoH for the integrated HIV/AIDS programme in Nchelenge district of the Luapula Province of Zambia using available literature.

3.3.4. To use the findings in making recommendations to the MoH on key conditions for maintaining standard of care in terms of quality and quantity in an integrated HIV/AIDS programme in Nchelenge District of the Luapula Province of Zambia.

3.4. METHODOLOGY

A desk review of literature on Nchelenge HIV/AIDS project was done from the period MSF started the project until the handover (March 2001 to August 2007). Specific consideration was taken on the process and the criteria used for the hand over. The constraints faced by the organization is highlighted and compared to the MoH capacity to manage the programme at the same level of quantity and quality of service like the INGO (MSF). Comparative programmes with integrated HIV/AIDS activities were reviewed through available literature online via Pub med. and other online databases. Successful programmes with similar context of rural and developing country were analysed and compared in order to identify key factors necessitating sustainability. This facilitated in making recommendations regarding sustainability in an integrated HIV/AIDS programme such as the one in Nchelenge district in Zambia.

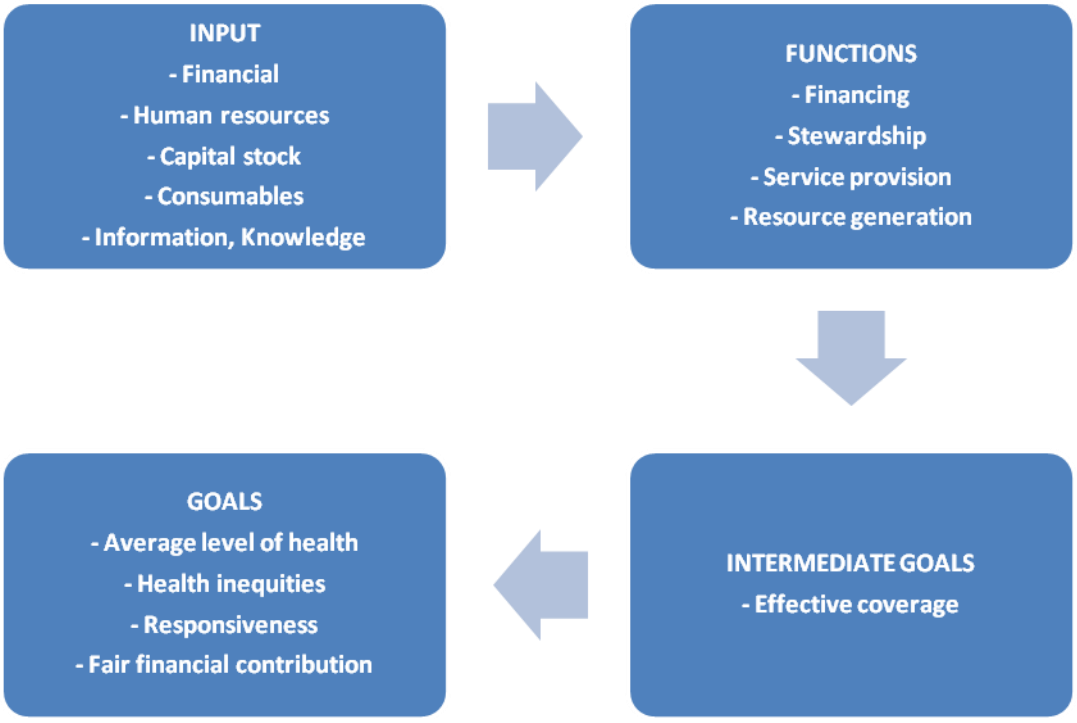
The analysis of this programme was done using the WHO framework on Health system performance. This framework is based on the concept of health actions. It covers activities whose primary intent is to maintain or improve population health through; quality functioning health systems, increase in health system responsiveness to the expectation of the population and assures faire financial contribution when user fees are required for the health service. To identify key conditions for improving and maintaining standards of care, factors explaining health system performance were analysed using the framework.

The build up of the framework is in four parts as outlined below in figure1. The building blocks for the paper looks at what inputs are available or are needed to be able to have a functioning health system with acceptable output (health goals).

The main body of the paper is covered under functions, with each category under it (financing, stewardship, service provision and resource generation). This is analysed with a concept of identifying key factors necessitating quality and quantity of health outcomes in an integrated health system. These four functions are reviewed with reference to Nchelenge integrated HIV/AIDS programme as factors explaining health system performance and in comparison with other programmes of similar complexity and in developing context.

Health system financing factor was look at both secondary revenue (money from the Government and Donors) and primary revenue (money from households and firms). The first concern in this part is the Government's ability to sustain the current programme with the increasing scale up in the absence of donor funds and the second concern is on the fee for service in the provision of health care. A question on whether sustainability of health financing may benefit from a broader acceptance of everyone contributing some fair share.

Figure 1: Framework for the assessment of Health System Performance



Source: Diallo et al, 2003: http://www.human-resources-health.com/content/1/1/3

Stewardship involves the aspects of setting, implementing and monitoring the rules for the system. Here the analysis is done to know how the HIV/AIDS programme handed over to the MoH and integrate into the health system performed and what effects this may have to the overall programme functioning in relation to the health system goals.

Service provision covers personal health services (services directly consumed by an individual) and non-personal health services (actions that are applied collectively such as mass health education). For this study the focus is on personal health services which cover diagnosis and treatment. This leads to the analysis of the delivered interventions using the health system goals within the integrated HIV/AIDS programme. Here HR and the need for country contingency plans are mentioned but not thoroughly as they also fall under resource generation.

Resources generation looked mainly at HR for Health and the supply of equipment and consumables in the health system. Alternatives in HR are highlighted for cadres to be involved in the provision of care in order to mitigate the urgent increasing need with HR crisis. This section also elaborate on the logistics system and the constraints foreseen as potentially affecting the ability to maintain or improve the health system goals for Nchelenge integrated HIV/AIDS programme.

3.5. SEARCH STRATEGY AND KEY WORDS

3.5.1. SEARCH STRATEGY

The literature used in this paper was obtained using search engines of Google and Yahoo Scholars, Databases of Pub Med and Cochrane library systematic reviews, the WHO web site and the Royal Tropical Institute library. Literature on Nchelenge HIV/AIDS programme was obtained from MSF library in liaison with the Health advisor who coordinated the project from March 2001 until August 2007.

3.5.2. KEY WORDS

The key words used in the search strategy where: HIV/AIDS, Sustainability, Integrated, Remote setup, Factors, Human Resource, ART and Zambia

CHAPTER 4: DISCUSSION AND STUDY FINDINGS

4.0. FACTORS EXPLAINING HEALTH SYSTEMS PERFORMANCE

4.1. FINANCING OF HEALTH SYSTEM

Lack of drug supply or the inability of a patient to pay for ART leads to interruptions in therapy. Most of the patients receiving ART will most likely be at a more advanced stage of HIV disease, with an increased viral load and a higher risk for drug resistance. A study conducted in Botswana, Senegal and Uganda indicated user fees being an additional and potential barrier to adherence to therapy in resource limited settings. In Botswana 70% of the patients in private clinics that provided ART, reported that the cost of medications was a problem. 44% of patients stated that having to pay for the drugs influenced their adherence to ART and also prevented treatment initiation among eligible patients (Nash and Elul, 2006). In Cameroon a study concluded that the willingness to pay for ART depended on the cost (direct dependant) with 69%, 22% and 9% of respondents from the 84 patients willing to pay up to $1, $2, $3 a day respectively. However after 6 months only 22% of these patients were still on therapy and the rest had dropped out due to financial constraints (Muko et al, 2004). An analysis with combined information from several HIV/AIDS programmes in different resource limited countries indicated that, from 4,147 adults on ART, patients had significant better survival at sites offering free ART compared to those who had to pay to receive treatment (Nash and Elul, 2006). In Brazil the success of their HIV/AIDS programme is one that is receiving recognition worldwide. This is due to its integrated approach to prevention, respect for human rights and to free of charge universal access to ART in the public health system (Greco and Simao, 2007).

As a form of sustainability, it is argued that patient fees are essential to the continuity of treatment programmes. However in Senegal a study showed that fees added not more than 10% of the cost of drugs. Patient contributions did not even cover other costs such as staff training and social services. In this case sustainability is perceived as an achievement through long-term commitment from donors and Governments resources (Whiteside and Lee, 2005). Other participatory studies have also highlighted the close link between payment of fees and perceptions of quality of care. If one is not accompanied by the other, fees can and will be seen as an important barrier in the access to services especially to those unwilling and to those unable to pay (MoH, 2000).

Money for HIV/AIDS therapy and prevention will still be the steering wedge for urgently needed increase in the overall level of resources available for health (Ooms et al, 2008). However despite the increasing and available funding for health initiatives, HIV infection rates and prevalence continues to increase globally (Coovadia and Hadingham, 2005). It is therefore essential to improve access, quality and efficiency of the current health system. To achieve this, depends highly on increased domestic and external investments in health system. This investment requires a high level of political involvement and commitment with respect to the allocation of national resources (Drager et al, 2006).

WHO in partnership with United Nations Children's Fund (UNICEF) and the World Bank (WB) have established AIDS medicine and diagnostics service as an operational arm to ensure, that developing countries have access to quality ART and diagnostic tools at the best price. The aim of the service is to help countries buy, forecast and manage their supply and delivery of products necessary for the treatment and monitoring of HIV/AIDS. For this to be a success, secondary financial resource through the GFATM, PEPFAR and the WB will be critical (WHO, 2004). This kind of concerns, especially with reference to what will be available from major multilateral and bilateral sources in the long term continues to limit the scope and rate of scale up in many countries, and threatens long terms sustainability. In spite of the encouraging reductions in the price of first line regimens in most low and some middle income countries, the demand for expensive second line regimens continue to increase. Unless prices start to decrease significantly, budgetary constraints may put treatment programmes at risk (WHO/UNAIDS/UNICEF, 2007a)

In Zambia the majority of orphans and vulnerable children live below the poverty line. The combination of increased orphans and the declining economy may enhance a situation in which families are not able to care for an additional child without influencing the survival of the entire family (NAC, 2002). To such families the possibility of health financing system will be a barrier to access health care. In 2002 ART was largely inaccessible to patients in Zambia due to the cost and lack of drugs in the HCs. While most of the cost was subsidised, at the start of the scale up, the government chose to charge each person receiving therapy around $8 per month. In addition, patients had to pay for monitoring tests and transport, raising the cost to $25 - $30 per month (MSF, 2007a). The price of most first line ARV drugs decreased between 37% and 53% in low and middle income countries from 2003 to 2006 and between 10% and 20% from 2005 to 2006.The average price paid for a WHO pre-qualified first line treatment in low income countries ranged from $123 for a fixed dose combination of Stavudine + Lamivudine + Nevirapine to $493 for the fixed dose combination Zidovudine + Lamivudine plus a single dose of Efavirenz (EFV) per person per year. On the contrary to the other combination therapy, the average price for Zidovudine + Lamivudine + Nevirapine (NVP), the second commonly used 1st line increased from $235 in 2004 to $325 in 2006 (WHO/UNAIDS/UNICEF, 2007). In 2003 Zambia had the annual incremental cost per patient for a first line ART regimen at $488 with drugs and monitoring tests accounting for 57% and 36% respectively and the rest counts for Capital and training cost. Zambia uses the cheapest combination therapy for first and second line treatment for patients on ART, however some procurement did have EFV and Abacavir (ABC) for first line treatment, which was three times more expensive, and Didanosine and Indinavir for second line therapy, which is more than $1,500. It is prudent to have a multiple protocols accommodating different subgroups and providing the flexibility for more individualized treatment options, but the expenses compared to standard fixed dose combination will subsequently mean fewer people able to receive ART (Kombe and Smith, 2003).

The Government expenditure on health reflects a stable prioritisation of a constant above 10% of the total spending since 1990. Although budgetary allocation is becoming more efficient, human and material resources are not distributed equitably (MoH, 2000).
The Zambian budget for 2008 as quoted from the Ministry of Finance (MoF) and National Planning stipulates expenditure on health 11.5% of the total budget. Foreign grants and loans are expected at 6.4% of the GDP (TEIUL, 2008). External funding from grants and loan play a significant role in the scale up on health sector response to HIV/AIDS. The source of external funding is mainly coming from the WB, Multi country HIV/AIDS Programme (MAP) for Africa, GFATM, and PEPFAR.

During a study by Kombe and Smith on the cost of ART in Zambia, the working figures in 2003 had an average variable cost per patient for VCT services at $3.64 with an adult VCT up take of 4%. PMTCT for both mother and child was about $0.23. Training for health workers was at $1 million annually. Using the figures as outlined above, the cost of providing ART to 10,000 patients was calculated yielding a total cost of $4.9 million using the $488.02 per patient cost annually. The budget then was marginally adequate and will still be particularly without donor aid and grant dependency. If there are no annual budget increments for ART no new patients can be initiated on ART when they become eligible. Countries like Zambia are managing with the provision of therapy in the recent time due to the decline in drug prices and increase in donor funding.
An alternative method to reduce the budget strain on ARV provision would be cost shearing. This means some patients pay and the government subsides on different categories for patients on ART. The Zambian cabinet have approved guidelines on cost sharing which identifies four potential contribution rates for patients:

Patient categories:

1. Exempted patients paying nothing
2. None exempted patients contributing 20% of the cost
3. Employers contributing 75% of the cost
4. Those who can afford to remain in the private sector pay the full cost

Table 4 and 5 below illustrate the calculation of cost shearing using the 2006 figures of patients receiving ART. The framework used is the AIDSTREATCOST (ATC) model developed by the PHRplus (Kombe and Smith, 2003). Assuming the cost of the monitoring tests, capital, and training remain the same, the updated cost of first line regimen for ART is $160 and the number of people on ART as of 30th of September 2006 was 71,500 (Country Profile Zambia, 2007).
The unit cost for monitoring test totals $177.88. This included 3 tests per year for full blood count ($28.74), urea/creatinine ($27.27), blood sugar ($14.37) and liver function test ($71.85), 2 tests for CD4+ count ($6.90) and 1 test for viral load (28.75). If a more basic monitoring system was used, the cost is reduced as follows. One less of each test performed per patient per year, meaning one CD4 and no viral loads bringing the cost down by $98.27(monitoring test) and the overall cost for the patient per year at $272.44
The reduced total cost is estimated to allow 20% more PLWHA to be added on treatment.

TABLE 2: TOTAL COSTS OF PROVIDING ART TO 71,500 PLWHA - ATC model

Cost category	Annual cost /patient	Annual cost all patients	% of cost
Drugs	$ 160.00	$ 11,440,000.0	43%
Monitoring test	$ 177.88	$ 12,718,420.0	48%
Capital	$ 29.13	$ 2,082,795.0	8%
Training	$ 3.70	$ 264,550.0	1%
Total Cost of ART	$ 370.71	$ 26,505,765.0	100%
Source: Kombe and Smith, 2003. The cost of ARV Treatment in Zambia			

The overall total has a 15% addition for logistics input and storage.

TABLE 3: COST SHARING SCENARIO FOR 71,500 PATIENTS ON ART

	Patient contribution	% of Patients	Cost to Government	Cost to Patients	Total Cost
Option 1	Paying nothing	100	USD$ 26.5 million	USD$ 0	USD$ 26.5 million
	Contribute 20%	0			
	Contribute 75%	0			
	Pay everything	0			
Option 2	30% pay nothing	30	USD$ 19.5 million	USD$ 7 million	USD$ 26.5 million
	Contribute 20%	50			
	Contribute 75%	10			
	Pay everything	10			
Source: Kombe and Smith, 2003. The cost of ARV Treatment in Zambia					

The cost recovery system with option number 2 in table 5 saves the Government $ 7 million. However this raises an issue of equity and feasibility, which requires a study on both willingness and ability to pay by the patients and employers.

As long as HIV/AIDS programmes exist the size of eligible population for ART will increase over time. This implies that Government and donors should be cautious when committing for funds for ART as this determines the decision making process. Until there is a cure, it remains a lifelong treatment commitment to the patient and the budget needs to grow (Kombe and Smith, 2003).

In Zambia the household expenditure on health before 2005 varied according to location. Nevertheless poor households had to spend up to 10% of their total expenditure when costs in kind are included (IIF, undated). With the enjoyment of current financial in flow due to HIV/AIDS epidemic, the Government could take on this opportunity time to work on the financing Policy, Social insurance mechanism and community health care financing that could be operational if ever the situation is reverted to user fees.

Zambia like many other countries is expanding its HIV/AIDS programme responding to the growing pandemic but also due to the increasing support that is becoming available. It is therefore important that this kind of investment produces the best possible benefits (WHO, 2005a). The benefits are envisaged to be able to have a positive spill over effect to the general health service delivery. However concerns regarding the financial sustainability in the long term may hinder progress in the scale up of integrated HIV/AIDS programmes (WHR, 2004). Therefore it is important to have a system in the country that monitors the benefits and impact of integrated HIV/AIDS programme to be

able to ensure continued international commitment (WHO/UNAIDS/UNICEF, 2007). This kind of monitoring will help to gage progress in implementation, problem identification, assess effectiveness, impact, and sustainability of the programme (WHO, 2005a).

4.2. RESOURCE GENERATION

4.2.1. HEALTH WORKER TRAINING

Policy and regulations that restrict special activities and procedures (drug dispensing, prescribing, and laboratory tests) to specific health cadres (Hirschhorn et al, 2006) may be a hindrance to the performance of the health system. It is becoming more of an issue in this era of HIV/AIDS and HR crisis in developing countries. In Nepal, the quest to increase the number of Medical Doctors (MD) resulted in opening a new Medical school. The result was an over population of MDs in the country. The aim was to deploy the excess MDs into the rural areas but in actual fact lead to more emigration of student graduates. The suggested conclusion from this lesson was to combine strategies for retention and increased HR production (Dussault and Franceschini, 2006). There is greater need to expand the education system for health. This includes, in-service training, HR management skills, and task shifting from identified health cadres (Ooms et al, 2008). During the HR crises in Namibia they targeted mid level cadres for training. The high level cadres would oversee, support and monitor the mid level cadres (McCourt and Awase, 2007). With certain types of health professional becoming resistant to positions in rural areas, some argue that new cadres of health workers should be developed to take over some of the these responsibilities. In Malawi and Tanzania, paramedical staffs are trained to provide urgent surgical interventions. In Argentina lay Nurses are trained to work as Nursing Auxiliary and in Ghana a new curriculum has been developed for existing lay cadres. Despite staff retention and shortage not being addressed fully by delegating skills, some greatly needed services are ensured and sustained by these measures (Dussault and Franceschini, 2006). In Zambia non-medical staffs were not permitted to do HIV/AIDS testing, except for MDs, COs, Nurses or Laboratory technicians. MSF worked towards ensuring that HIV testing could be performed by non - medical staff such as Community Counsellors (CC) in use of finger prick testing with Rapid Diagnostic Test (RDT). After lobbing for a period of time an agreement was achieved with MoH for non-medical staff such as CC, to use RDT (MSF, 2007). This freed up time and workload for the medical staff at the HCs who are in limited numbers, to provide pre-test and post test and adherence counselling (MSF, 2007a).

Engaging and achieving community participation in Health services in resources limited and a high disease burden setting is not a simple task. These community members may seek some form of payment for the health services rendered and sustainability of such a community service in a developing country is not guaranteed. Kironde and Kahirimbanyi suggest that without incentives, attrition rates in lay volunteers tend to be higher after the initial moral wear off. However the economic conditions in most developing countries often dictate for some form of remuneration. Sustainability in terms of remuneration is not the only issue of concern; the health service personnel may also be hindering the progress as they prevent the involvement of lay people providing health

services as a status symbol for their own expertise. In Bangladesh since 1984, Community Health Worker (CHW) has been incorporated into the Tuberculosis (TB) control programme initiated by the Bangladesh Rural Advancement Committee (BRAC) to cover underserved areas. In comparison with the Government run TB programmes the BRAC initiative achieved the same satisfactory cure rates and cost effectiveness of 50% less cost. In Southern Brazil the use of CHWs was found to have reduced the occurrence of morbidity and mortality among children less than five years of age. However the more inclusion of CHWs may not be a guarantee of success in an intervention. In Bukinafaso, the use of CHWs did not have any significant changes in mortality and morbidity as observed from a household survey (Dussault and Franceschini, 2006). In South Africa it was found that lay volunteers could effectively dispense TB medication and now they advocate for community participation. This suggest that in high TB burden setting, community based treatment is an option that can supplement other modes of treatment delivery. It was found to be cost effective and could be adopted appropriately with lay volunteers, recruited according to availability in each context and setting (Kironde and Kahirimbanyi, 2002). One area of interest to use this method would be in HIV/AIDS programmes. With current HR issues in the provision of heath services, Direct Observed Therapy (DOT) supporters can be further trained to carry out additional task related to HBC provided they received adequate remuneration and training.

A number of programmes have already begun re-assigning tasks as a result of shortages in specific classes of personnel. Nurses are assigned to evaluate patients for ART and prescribing in uncomplicated cases. Psychosocial counselling, adherence support and education responsibilities usually done by Nurses are assigned to lay counsellors and trained peers (Hirschhorn et al, 2006). In an assessment in four districts in Zambia, counsellors spend an average of 28 hours a week with HIV/AIDS patients and with average of 12 clients per week. Among these counsellors two thirds also provided counselling services after their regular working hours (NAC, 2002). This task (counselling) takes more time than direct clinical activities. When re-assigned to non-clinical staff, these duties can significantly stretch potentially limited nursing resources. Thus the number of patients started on ART could be increased dramatically by shifting the responsibility of Nurses although more counsellors would be needed in this regard (Hirschhorn et al, 2006). In Zambia one in five health care workers surveyed during an assessment is providing counselling services. However among those providing counselling only 39% had received in-service training for more than two weeks. This suggests that the majority who provide counselling are without adequate training. There is need to include counselling skills in the pre service training for all health categories and to have counselling recognized as a professional activity, with all its benefits and responsibilities. Training needs and activities for other lay volunteers should also be recognized officially and standardised for each cadre, reflecting specific needs in care and support (NAC, 2002). This will provide acceptable standards of prevention services such as counselling and when ever-possible prompt referral for required services. Increased competence in the required skills of ART providers and treatment supporters such as counsellors and other lay cadres should be a key to promote positive health system performance outcomes (WHO, 2005).

MSF provided in-service training in the HCs in Nchelenge where it was operating. This training did not resolve the deficit with the needed trained personnel like Nurses, COs and Midwives. However, it created relief to the over burdened staff in the health facilities as well as enhancement in various aspects of HIV/AIDS prevention and care (Bedell, 2004). The increase in knowledge facilitated the ART Nurses to also consult with stable patients on ART which in turn reduced the work load for the COs and further allowed the integration of the HIV/AIDS activities in the HC (Verputten, 2006). The decentralisation of counselling and testing from the HC proceeded with CC trained by MSF to do counselling in the community (O'Brien, 2005). However worth mentioning is that It has also been found to be difficulties in providing supervising to CC in places with none functioning committees and non existing logistics (Simwnaza, 2005).
A strong collaboration from HCs, DHMT and Zambia Prevention Care and Treatment (ZPCT) is indispensable to continue the management of the increasing patient load and the provision of quality care to HIV/AIDS patients in the district. A programme like Nchelenge HIV/AIDS needs sustained resources for both financial and human in order to sustain its provision of quality services without any adverse effects to the health system. It is and was seen almost impossible with the available medical human resources to continue with quality and quantity of care in the HIV/AIDS programme after MSF depart. ZPCT however did not have plans to provide increased medical HR. However medical staff work load decreased by delegating tasks to non-medical staff such as CC who even received monthly monetary incentives from ZPCT. They had training to use HIV/AIDS RDT with finger prick method and conducting adherence sessions for ART (MSF, 2007). This method adds advantages to effective use of scarce resources for Nurses, and COs. In this way there is a better chance of delivering care quickly despite shortages of physicians, laboratory technician and other qualified medical staff. Simplified regimes such as RDT and staff replacement in HR crises is also a critical element in ensuring that expansion of ART in poor resource limited countries can be carried out equitably (WHR, 2004).

In table 4 below it is estimated that providing ART to everyone who is clinically eligible would after five years; require twice the number of laboratory technicians and half the MDs currently available in the Public Health system in Zambia. Even at a more modest level of population coverage, the HR constraint may have a more important influence on ART expansion than the financial constraints. In this case the success of ART in the Zambian context could depend on the medium term more on its HR capacity than on its budget capacity. To provide ART for 10,000 patients with VCT you would need to include an addition of 54 Full Time Equivalent (FTE) laboratory personnel and 127 FTEs counsellors excluding PMTCT counsellor's services. When using the full coverage for ART in 1 year with 100,000 patients, current work force provide 10.3% of the MDs, 0.7% of the Nurses, 22% of the laboratory technicians and 14.4% of the Pharmacists. Training programmes should therefore be an urgent priority (Kombe and Smith, 2003). It is therefore necessary to define precisely the HR needs to be able to identify opportunities, constraints and potential impact on population health (Diallo et al, 2003).

TABLE 4: STAFF REQUIREMENT IN FTE FOR VARIOUS SERVICES

	Doctors	Nurses	Laboratory Technicians	Counsellors	Pharmacists
Available staff 2004	1,264	19,014	1,415	-	1,039
Full coverage ART in year 1 100,000 Patients	130	130	316	0	150
Full coverage ART in year 5 330, 000 Patients	429	429	1,043	0	495
ART for 10,000 Patients	13	13	32	0	15
VCT for 4% adult up take rate	0	54	54	127	0
Source: Kombe and Smith, 2003; WHO, 2006.					

Table 5 below shows the essential work force in the health sector in Zambia with the density per 1,000 populations. In the list of essential staff CHWs are recognised but there is no accountability for their numbers and so are the newly much used CC. In Nchelenge district the HC do not have Physicians, Pharmacists or Laboratory technicians. They have need for COs, Nurses, Midwives, CHWs and CC. It was noted that there was only one medically trained personnel per RHC in Nchelenge district (MSF, 2007b). However this type of shortage in HR is also present in other parts of Zambia and is impacting heavily on the delivery of health services (IIF, undated). One medically trained personnel is not sufficient to provide quality medical care especially with the integration of HIV/AIDS activities. The shortage is attributed to loss of more than 50% due to migration (within and out side the country) and the impact of HIV/AIDS pandemic on the HCW as quoted in MoH year report, 2005 (MSF, 2007). Country wide about half of the available posts for MDs and COs are filled, while around 35% of the posts for paramedics remain open. Most medical staff is lost due to 32% resignation or 38% death (MSF, 2007a).

TABLE 5: ESSENTIAL STAFF IN ZAMBIA, 2004 DATA

Category	Density/1000	Number
Physicians	0.12	1,264
Nurses	1.74	19,014
Midwives	0.27	2,996
Pharmacists	0.10	1,039
Community Health Worker	0	0
Laboratory Technicians	0.13	1,415
Source: WHO, 2006: Country Health System Fact Sheet Zambia.		

To be able to reach the WHO millennium development goals, the health system in Zambia needs an estimation of at least 2.5 HCWs per 1000 people. To be part of the millennium development achievement there is need to call for emergency human resources for health (Ooms et al, 2007). However while situations and solutions may differ in every country, a comprehensive frame work for examining the effects of HR to the achievement of health system goals can be a very useful tool towards the development of evidence based Policy options (Diallo et al, 2003). Highlighting the importance of addressing the health workforce crises, Ooms et al, (2007) reveals that it is easier to remedy the shortage of medicine with external funding in comparison with

the remedy for shortage of health workers using external funding. The justification is that HCW need to be trained first and drugs can easily be procured. This underscores the necessity of having an emergency human resources programme before the growing caseload due to increasing PLWHA on ART staying alive longer, whilst the number of people needing ART grows. This may undermine the quality of ART programmes or the performance of the health system in an integrated service provision. In Mozambique it was observed that without GFATM it would be difficult to sustain the emergency HR programme. Usually bilateral donors would not support HR programmes that indicate reliance on sustained external finding for decades (Ooms et al, 2007). However as of April 2007 the board of GFATM is in agreement to consider national comprehensive health programmes for financing. The International health partnership which includes Joint United Nations Programme on HIV/AIDS (UNAIDS) Global Alliance for Vaccines and Immunisation (GAVI) alliance, UNICEF, United Nations Population Funds (UNPF), WB, WHO and GF in a joint statement confirmed it's support "we as international partners commit to improving health and development outcomes in the world, welcome and fully support the international health partnership's, mission to strengthen health systems" Similar attention and discussions are taking place within the United States of America (USA) on the reauthorisation of PEPFAR to increase its focus on HR expansion and improving procurement and supply chains, and laboratory systems. This new dimension of approach to assisting developing countries confirms the abandonment of the conversional approach to take on a "new form of sustainability that relies on a combination of domestic resources and predictable open ended foreign assistance" It also recognises that ART can not be provided in isolation of the health system largely due to insufficient health personnel and dysfunctional health systems, in countries with high prevalence of HIV/AIDS (Ooms et al, 2008). If this system is tapped accurately, it might be an answer to the urgently needed resources especially with HR and infrastructure in resource limited countries like Zambia

4.2.2. HUMAN RESOURCE MANAGEMENT

4.2.2.1. RETENSION OF MEDICAL PERSONNELL

In limited resource context, the need to hire more health workers exist, but the inability to sustain the costs of additional workers with domestic's resources overrides this decision from progressing (Ooms et al, 2007). Integration of HIV/AIDS care into the health system requires also change estimates in the number of medical staff. This is because clinicians will have to care for regular patients as well as PLWHA. An integrated approach would allow treatment provided through the health system accessible to the greater population. In high prevalence areas, this will also decrease the risk that the expansion of a well-funded treatment programme will weaken other health services by competing for scarce skilled staff. However with the cost of ART declining, "health workforce is emerging as among the most important barriers to rapid scale up in resource limited settings" (Hirschhorn et al, 2006). A study in 29 countries by German Technical Cooperation (GTZ) placed low motivation (defined as "willingness to exert and maintain an effort towards attaining organisational goals" (Mathauer and Imhoff, 2006) at second place to staff shortages among major problems in the health workforce. In South Africa a study on the newly introduced rural allowance reviewed no impact on retention and motivation of health staff; however what was relevant to the

Nurses were their satisfaction at the Job and their self-esteem. In Zimbabwe high motivation was attributed to leadership and supportive management. This reveals the necessity of the role of motivation in HR management and staff retention from the head of the facility to the auxiliary health staff. The poorly developed conditions of the health system especially in the rural areas are also contributing greatly to the rate of migration of essential staff in search for better facilities (Kombe and Smith, 2003).
Health workforce is determined and influenced by many factors. These include assigned tasks, delivery of output and the size of the programme. In the era of integrated HIV/AIDS programmes, it is important to look at what the country work force is in comparison with the caseload (Hirschhorn et al, 2006). To have a motivated and committed workforce retained and able to deliver cost effective and quality health care, there is need to have defined staffing standards, adequate funds for training, improved working conditions and an appreciative incentive system (MoH, 2000). This should be done across the board in order to stop external and internal brain drain (Ooms et al, 2008). An adequate workforce is therefore among the key ingredients to attain improved health outcomes (Drager et al, 2006). It should be imbedded in the aim of improving staff motivation and retention by providing a work environment that enables and meets personal and organisation goals. There is need to strengthen health workers capability by offering training and supervision along side ensuring the availability of essential means such as material supplies, and equipment. On the other hand it is worth mentioning the personal amenities such as; social life style related factors, which included age, gender, quality of life and population education level. These can greatly influence job related decision to practice in rural and remote set up. Studies and literature suggest that for a comprehensive strategy to attain highest motivation and retention with health workers in developing countries, there is need to have a mix of both financial and non-financial incentives (Mathauer and Imhoff, 2006).

The GRZ is trying to address the HR problem by introducing retention schemes based on incentives for MDs and other Rural Health Workers (RHW), and conducting trainings (WHO, 2005). A budget (1.59 trillion kwacha) is assigned for utilization on health services. This includes the recruitment of 1,700 HCWs, construction expansion and rehabilitation (Hospitals, HCs and housing for rural medics). Part of the budget will also be used for the procurement of essential drugs (TEIUL, 2008). In the period before the plan is implemented, it is imperative to supplement towards the coal problem, which is the HR deficit facing Zambia partly as a result of poor retention strategies. The severity is more in the shortage of Laboratory technicians, Counsellors and MDs. Similarly for Nchelenge district, extreme constraints are being faced by programme expansion in HIV/AIDS. The constraints include lack of qualified staff, de-motivated staff, poor drug supply, inappropriate applied HR skills and poor maintenance of health structures (MSF, 2006). The constant increase in the number of PLWHA, communicable disease and non-communicable disease cannot be managed with the rate at which HCWs are trained and retained in the health system. The outcome is a workforce with personnel burnout, increased absenteeism, heavy workload and stressed. In this kind of situation countries are unable to achieve desired potential outcome as expected from the working life of their medical staff (Dovlo, 2005). In an example of 2003, 42 MDs graduated from the medical school, and only 20 stayed in the public sector whilst, the rest went to

private sector and or abroad. This is due to the imbalance in financial resources and conditions of service in comparison to the private sector and abroad (IIF, undated). In Nchelenge it was observed that 40% of CC were not motivated and did not report for counselling as expected (MSF, 2006b). To mitigate to this plight, in June 2007 the ZPCT gave further training to 30 CC identified as the most committed to enable them do their job properly and further committed to giving them some incentives in the form of transport allowance of 80, 000 kwacha/month equivalent to approximately $16 to $ 20 USD (MSF, 2007a). In most developing countries, community lay personnel like CHWs are not given any incentives. However if funds are available incentives such as free drugs, food package, travel and transport allowances are provided to make them carry out their assigned activities (Drager et al, 2006).

The increase of HIV/AIDS and the impact it is having on HCW needs some attention. In an assessment in four districts of Zambia some respondents (18%) acknowledged having support services to help care providers in dealing with burnout associated with increased demand for care due to HIV/AIDS patients. In mission hospitals the availability according to the respondent was as high as 83%. The support described included (72%) talking to colleagues, (62%) staff counselling available, and (50%) staff allowed to take sick leave (NAC, 2002). As part of the retention and motivation strategy this issue needs to be addressed in the era of staff shortages and increased burden of work.

4.3. LOGISTICS AND SUPPLY

In an assessment conducted in four districts in Zambia, it was found that the main source of drug supply for health facilities are the provincial or district stores 64%, followed by the Central Medical Store (CMS) at 28%. Among the respondents who provide pharmaceutical services at their health facilities 81% indicated receiving essential drug package. However less than half (44%) of the 81% respondent reported having the essential drug package on time and only 1/3 (34%) of respondents reported the essential drug package being complete upon arrival. TB drugs availability, among many in the package showed a wide range of variation especially for Isoniazide (INH) and Streptomycin. Less than a 1/3 of the health facilities reported having ART drugs in stock (NAC, 2002).

Since March 2001 (when MSF started the HIV/AIDS programme in Nchelenge district) MSF supplied ART for PLWHA through the HCs in which it was operating. The drug supply apart from ART also included treatment for opportunistic infections. In the mission Hospital, the MoH previously had supplied ART for 10 patients per month on a cost recovery basis. However this did not last for long because the MDs at SPMH prescribed ART free of charge. This prompted the Government to stop the supply. MSF then helped to continue the supply through the HIV/AIDS clinic at SPMH OPD. This was in March 2005 before the Government had confirmed that ART and care for HIV/AIDS patients would be free (O'Brien, 2005). During the presence of MSF in Nchelenge district from 2001 to 2007, the fear of drug supply and other essential requirements to run an HIV/AIDS programme did not exist. However in the absence of INGO in rural area, communities have strong fears that they will be left out of the supply chain and always be the last on the list.

The increased burden of public care due to HIV/AIDS comes as a result of additional testing, monitoring, counselling and treatment (IHA, 2004), which also increase demand for logistics and supplies. Similarly to the TB DOT Short Course programme there is need to have drug supply surveillance and monitoring system and at the community level collaborate with other programmes in the implementation of supplies (NAC, 2002). In one report it was found that about, 50% of the total health expenditures was spend by household on drugs. A possibility of such high expenditures is assumed partly to indicate self-medication by patients instead of seeking institutional care, drug stock outs or some economic efforts to avoid cost sharing charges (Diop et al, 1998). The improvement of the logistics and supply management system is critical to the provision of quality health care (Bwembya, 2005) especially in the HIV/AIDS activities where ART is the heart of the programme.

A concern regarding sustainability of the Nchelenge integrated HIV/AIDS programme would be related to the introduction of new treatment for Malaria. MSF conducted trainings to HCW at HCs on how to use RDT for detecting Malaria and how to use Artesunate based combination therapy (Coartem) for treatment of Malaria in 2002. Although the Government Malaria Policy changed in 2002, Coartem was only available through MoH in 2005 (Verputten, 2006). Since the beginning of 2005, the National Malaria control centre took over this responsibility. A study by MSF then, showed adherence to Coartem in Nchelenge district over 90% until January 2005. Despite all the training and support towards the introduction of Coartem, the supply chain to the district was not a smooth running process, very often HCs ran out of Coartem. In 2006 MSF had to provide an emergency supply to cover the Coartem shortages and Malaria RDT. The RDT were available in the MoH CMS, but were not distributed to the DHMT in Nchelenge (MSF, 2007b). Looking at the Malaria programme retrospectively, the promotion of new Malaria drug started with frequent supplies and a lot of campaigns in all the districts. In relation to the HIV/AIDS treatment scale up, the momentum of energy is still high especially with the currently available flow of external finances.

During the integration process, several systems in the MoH services were observed to need strengthening, especially the HR and logistics management. There were gaps in availability of staff and lack of drugs and medical materials in the health facilities. For HCs staff to be responsible for the treatment and care of HIV/AIDS patients there is need to have constant supply of all necessary drugs. The District Hospital in Nchelenge was facing similar problems with their supply system. Helping to set up a reliable supply line for drugs in Nchelenge district was a priority. Through discussion and meetings with CMS, it becomes clear that all drugs and diagnostic supplies could be procured through CMS as long as the required request and reporting is made available. After the hand over of the project to MoH; to secure the life line of the programme (sustainable supply of ART) FHI through ZPCT was engaged in the commitment to support the DHMT in the HIV/AIDS prevention, treatment and care activities in Nchelenge district (MSF, 2006).

4.4. SERVICE PROVISION

In Zambia the utilisation of the existing health facilities by the population indicates utilisation rate of 86% in 2006 and 78% in 2005 (CSO, undated). This indicates a reasonably high access to the services being provided.

4.4.1. ACTIVITIES AT ST. PAUL'S MISSION HOSPITAL

SPMH is a level one Hospital (Chirwa, 2002). There are wards for paediatrics, maternity, medical, surgical, and isolation. At SPMH HIV/AIDS patients who were hospitalized, were referred by MSF from the HCs and followed up in the In Patient Department (IPD) before the integration. The nursing care for HIV/AIDS patients was mentioned to be insufficient with attributes to lack of Knowledge about HIV/AIDS, lack of nursing/medical staff and a higher probability of fear of contracting HIV/AIDS. The adverse effect to this kind of attitude was that, clients who required initiation of ART were not receiving the drugs. By March 2005 MSF medical staff had already started getting involved in the routine medical activities in the Hospital and at the same time started to support HIV/AIDS care (VCT and ART) in the OPD. MoH staff provided the care to the patients and MSF gave technical support and medical supplies (Verputten, 2006). In the IPD MSF participated in the joint ward rounds with the Hospital staff and the paediatrician supported the paediatric ward when capacity allowed. There was a constant lobby for counselling and testing to be standardised as part of the routine activities in the medical, paediatric, isolation and maternity ward by MSF. This was meant especially for all TB and HIV suspected cases, in the Hospital wards as a step towards the integration of the HIV/AIDS programme. In the routine Hospital activities HIV/AIDS education, counselling and diagnosis were advocated to become routine part of the services. The increase in workload towards education and counselling prompted a conscious lobby for Counsellor Positions to be permanent at the Hospital with recognition from both the Hospital and the DHMT. This was a projected action to be able to free the MSF counsellor once the position is recognised at the District level (O'Brien, 2005).

In the Ante Natal Clinic (ANC), family planning and monitoring through PMTCT was integrated with the HIV/AIDS programme to be able to identify HIV exposed and infected children. The general coverage of ANC in Zambia for 1st visit was (94%) and 4th visit was (71%) in 2001 to 2002. This provided a higher coverage for screening after counselling. In the TB programme at the Hospital, all clients received routine HIV counselling and testing (Verputten, 2006). The TB programme had 75% detection and treatment success rates with DOTS in a 2003 cohort (WHO, 2006). If well integrated with the HIV/AIDS activities this would increase the rates at which the affected population could be reached and increases coverage. This is also cost effective if compared with programmes running parallel to existing health activities (Wandwalo et al, 2005).

4.4.2. ACTIVITIES AT RURAL HEALTH CENTRES

MSF was visiting the HCs two to three times a week conducting an HIV/AIDS programmes parallel to the routine MoH activities. To make sure the services provided would be sustainable, they started to link the different service points like Expanded Programme of Immunization (EPI), growth monitoring, ANC and TB to the HIV/AIDS

care activities within the HCs (Verputten, 2006). This was an important step towards integration. It gave HC staff the sense of ownership and control over programmes, which they would be able to take over. Discussions were held between MSF, MoH and DHMT. This was to identify activities that were necessary to allow the DHMT to comprehensively address the prevention, treatment and care of an integrated HIV/AIDS programme in the absence of MSF (O'Brien, 2005).

The MSF Nchelenge team initiated a formalized scheme to train MoH personnel with specific learning objectives during a standard three months internship. This was for COs, Nurses and other health workers in the HCs (Verputten, 2006). As of September 2006, the COs from MSF where allocated to three different HCs. They worked fulltime for three months enabling complete integration of all HIV/AIDS services in the HCs activities (MSF, 2006). Prior to the three months the training was done with MoH staff rotation to different HCs. This provided a practical orientation in various aspects of HIVAIDS care. To avoid weakening the existing health care system the staff rotation was done in such a way that avoided the removal of essential personnel from services during their training rotation (Bedell, 2004). In the training the Nurses received lessons on ARV dispensing and consumption monitoring whilst the CCs received training in adherence counselling. The aim of the integration of activities was to eventually have HIV/AIDS services including ART provided by MoH staff, and potentially made available throughout the week as opposed to the two to three times a week schedule by MSF (O'Brien, 2005). A transitional hand over plan was implemented in five out of the ten HCs as initial sites because they had COs who were capable and well trained. This meant MSF international staff had more advisory and supporting role with more responsibilities for MSF senior national staff and MoH HC staff (Verputten, 2006).

4.4.3. HOME BASED CARE

Patients qualifying for HBC services, must have a long-term illness or in an advanced stage of disease as a result of HIV. A patient receiving this kind of service has a broad range of physical, psychological, social economic and spiritual needs. In an assessment in Zambia, HBC needs classified by care providers stated food at (97%), drugs (84%), help with infection (70%) and emotional support at (64%) respectively (NAC, 2002). HBC for PLWHA is becoming a necessity in limited resource settings affected by the HIV/AIDS epidemic. There is need to expand the scope of this service in order to provide a comprehensive package for households made vulnerable by HIV/AIDS (Platt et al, 2004). With increasing limitations in the health sector in relation to capacity, there is a significant demand in HBC programmes to support chronically ill people. These programmes are unfortunately predominantly in urban areas and close to District Hospitals. The way forward is also not clearly defined particularly on how much burden of care can continue to be passed on to communities without much support. However in view of the increasing cost of providing care to PLWHA, the GRZ is in favour of encouraging the development of HBC activities (MoH, 2000). This calls for partnership with HCs and various communities (villages and resident NGOs) in the catchments areas. The aim is to identify health problems and finding solutions by sharing the implementation of the planned activities developed from a community based work plan. This facilitates the objectives of a HBC programme, which is to involve communities as much as possible in the provision of care for HIV patients and promoting prevention of

infection. With the ever-increasing number of people with HIV/AIDS HBC needs to be seen as a component supporting the continuation of care for PLWHA and not as a parallel initiative. Patient's care at home provides some basis on prevention of HIV infection through health education of family members and leads to community mobilization through counselling and dialogue in the community. HBC in this way reduces the ever-increasing burden of caring for HIV/AIDS patients at the health facilities. However in as much as this service is appreciated Physicians in the focus group discussion expressed their caution. They emphasised on the need for providers of HBC services to be well trained. This is in hope that they know when and where to refer clients when their conditions changes and that referral are not to be limited to medical issues only but covering all aspects of care and support. In Zambia HBC services provided by trained personnel are done on part-time bases (74%) or as unpaid volunteer work (52%). The majority of the providers 69% are Enrolled Nurses. They report 8 to 10 home visits per day on average. With these high numbers in case load per HBC provider, the quality time spend with clients is assumed to be low. These services are mainly community initiated (77%) compared to (16%) initiated by the health facilities. A well functioning programme of HBC has the potential to reduce the congestion at health facilities, reduce the cost of care and provide patients with a wide range of palliative services besides clinical care. However there are also some substantial costs in these programmes too. The costs include transport to provide adequate and supportive supervision, community training, and dignified patient transfer and referrals. The community capacity to refer clients from HBC to medical or social support facilities is always difficult or not existing. This is further hampered by lack of involvement of other actors beyond the health sector. There is need to strengthen the referral systems between health facilities and community initiatives to have a successful programme (NAC, 2002), which also calls for both greater involvement of PLWHA and proper management skills for HCs staff to monitor the performance of the community based health workers. For such a large-scale implementation of integrated HIV/AIDS programme with a link to the community through HBC, there is also a need for strong political support and administration that is transparent (Simsomboontong et al, 2000).

4.4.4. NUTRITON AND HIV/AIDS

In Nchelenge District MSF provided High Energy Protein Supplement (HEPS) to all patients for the first 3 months after commencement of ART or TB treatment. All the mothers in the PMTCT programme received HEPS until they were 6 months post delivery regardless of their choice for feeding the infant (replacement feeding or breast feeding). Patients at the HCs with Body Mass Index (BMI) of <18.5 also received HEPS regardless of their diagnosis (Bedell, 2004; O'Brien, 2005). At SPMH there was no nutritional program for the often severely malnourished patients in the IPD. This was further to be investigated at national level with MoH to look into the possibilities of a nutrition support programme in the Hospital. To reduce mortality and morbidity related to HIV/AIDS, it is important to acknowledge that adequate nutrition is a vital component of the HIV/AIDS care (O'Brien, 2005). However a consideration on a more locally sustainable practice for infant feeding was underway as HEPS and lactogen could not be feasibly sustained after MSF departs (MSF, 2007a). In 2002 in an assessment in four Districts in Zambia it was noted that the World Food Programme (WFP) was giving

HEPS, fortified with vitamins and minerals, to patients with TB and refugees, but not to patients with HIV/AIDS (NAC, 2002). In the context of HIV/AIDS food aid should not only look at ration size and food type but also the aspects of delivery and distribution mechanism. It should be related to the vulnerability such as illness, reduced labour and increased caring burdens. There is need for a long-term safety net due to long-term nature of vulnerabilities related to HIV/AIDS. This increases the difficulties in making decision on when food is appropriate and when to stop the assistance. An example refers to food aid linked to treatment for HIV/AIDS, which is potentially a lifelong commitment. As quoted in Castleman et al, (2003) by Harvey (2004) there is a growing interest in food and nutrition needs of people receiving ART in resource-limited settings. HIV/AIDS is said to have an "important impact on nutrition and nutrition has an impact on the progression of HIV/AIDS" (Harvey, 2004).

4.5. STEWARDSHIP

The DHMT within the framework of health reforms are responsible for HIV/AIDS activities related to the health sector through policy guidance from the MoH and technical guidance from the CBoH. The District AIDS Task Force (DATF) is formed with representation from the community, NGO, and DHMT. DATF therefore provides an avenue for planning responses towards the HIV/AIDS pandemic in line with national strategic framework on AIDS. With decentralisation of the health systems the DHMT are also responsible for planning, implementing and monitoring of Primary Health Care (PHC) programmes. Together the district and the provincial health management teams administer health services. The DHMT manage at local level with health service issues, coordinates and train district staff. The Provincial health teams support the district teams. Through the Provincial teams the district receives their supply for equipment, drugs and vaccines from the national supply chain. At National level the CBoH manages the health sector and is responsible for national health policy, strategic planning, resource mobilisation and external relations (NAC, 2002).

The health policy before the free public health services in 2005, stipulated that every Zambian with an income should contribute to the cost of health care. However exception existed based on age (children < 5 and adults > 65 years) and disease (TB, HIV/AIDS, STD. Cholera, Dysentery, Safe motherhood, family planning, EPI and treatment of chronic hypertension and diabetes). This was aimed at enhancing equitable and appropriate health delivery but in practice it was difficult to implement due to lack of resources (IIF, undated), which includes supervision.

In the realm of stewardship, there is greater need to improve at all levels especially at HCs and communities. This is because of the increasing community health cadres such as CCs getting more involved in the integrated HIV/AIDS programmes. In an assessment of four districts in Zambia, 2/3 of the 545 HCW respondents reported being supervised on the job regularly. Three months prior to the survey they received a total of 21 supervisory visits on average. However, about 1/4 (24%) of them had only one supervisory visit during the same three months. The main reasons for the supervision where; work related problem discussions (76%), job performance observation (72%) review of reports (63%) and provision of technical updates in regards to their work. In as much as supervision was appreciated, much more overriding challenges in regards to

job performance were cited. They included (78%) staff shortages, (65%) lack of supplies and (58%) lack of adequate training (NAC, 2002).

Literature research and documentation on sustainability of integrated HIV/AIDS programmes is limited. Most of the literature focuses separately and in detail to individualised key factors related to sustainability of such programmes. Sustainability as the maintenance and or improvement in quality and quantity requires health system performance to be analysed in order to acclaim health system goals. In Nchelenge with the integration of an HIV/AIDS programme into the health system, some consideration should be to see how health system related factors could influence the success of an integrated HIV/AIDS programme. These factors would include:

A. Programme factors: adherence, psychosocial support, HIV/TB integration, and nutritional support.
B. Health care policy and procedure factors: determination of ART eligibility, cost sharing, and ART distribution process.
C. Site factors: number of examination rooms, patient's volume and provider to patient ratio, urban versus rural, and longevity of the programme.

On a more direct effect and concerns for Nchelenge programme is the complexity of ART regimens, poor health care and laboratory infrastructure, limited space and a low provider patient ratio (Nash and Elul, 2006). These factors are best analysed with programme type which could either be a vertical or integrated. A dimension of facets will exist depending on the programme approach. Vertical programmes such as the way the HIV/AIDS programme in Nchelenge was initiated is meant to address problems through specific measures with "single purpose machinery". In contrast, integrated programmes, seeks to handle the health problems with a wider approach and is planned with focus on sustainability. The vertical programme receives favour over the rationale that assumes that focusing on a few well-chosen interventions is an affective way of achieving maximum time and impact using available resources. The benefits of a vertical programme are that they focus on population need for a particular disease and use specialised staff to manage one condition. They have dedicated resources and operate like a project with set objectives to be achieved in a specified time scale, which often is short. In this way they are more efficient than integrated programmes in achieving objectives. Some evidence indicates that vertical programmes can also have positive spill over effects on health systems by enhancing surveillance, quality control of laboratories, promoting leadership and improving donor coordination (Atun et al, 2008). The positive outcome also counts for building skills and developing an effective management structure, which is assumed, to be able to make health services stand and cope with increased demands (Coovadia and Hadingham, 2005). However vertical programmes are equally criticised for being value driven, lacking foundation and much focusing on time gains. They are usually externally driven and favour a top down approach, which excludes the engagement of the local population in planning or implementation. The outcome is distorted priorities, undermined local ownership and undermined responsiveness of local health services. It is further argued that vertical programmes waste resources because of duplication and inefficiency. Inefficiency in

this sense is being explained with the overburdening of staff through multiple reporting channels, unjust differences of pay and status leading to employee dissatisfaction and consumption of scarce resource that could be used elsewhere. All this reduces the health system effectiveness but also reducing the chances of being sustainable beyond additional external donor resources. In a weak health system vertical programmes are more likely to yield quicker results compared to strategies that tries to mend and strengthen broader health service delivery. However it is also noted that for effective public health interventions a strong health systems is needed for sustainability in the medium and also in the long-term future. Very few vertical programmes would focus their efforts to avoid negative spill over effects to make them more beneficial to the weaker health system when integrated later on.

On the contrary to the vertical programmes, integrated health service approach focuses on the use of generalised personnel dealing with multiple symptoms and conditions, responding to the demands and needs of the user and also covering sectoral links internally and externally. Limited evidence available suggest that integrated approaches in comparison with vertical programmes, are able to improve health outcomes in areas such as HIV/AIDS, Mental Health and some communicable diseases (Atun et al, 2008). It is also said that an integrated system response has the advantage that constrains addressed can also benefits a range of other diseases and draws attention to other health challenges that might be overlooked in the context of HIV/AIDS (Coovadia and Hadingham, 2005). On the contrary to the positive effects, vertical programmes appear to have impaired the effective management of HIV, TB, substance abuse and mental health programmes in some countries of the eastern part of the WHO European region and may also have negative spill over effects in the mainstream programme objectives (Atun et al, 2008)

In Zambia the current number of people receiving ART is 71, 500 and the number of PLWHA is estimates at 1,000,000.To contribute to the achievement of universal access by 2010 there is need to have a steep increase in the initiation of ART every year. This impresses an urgent need for creating new approaches to service delivery and health system strengthening (WHO/UNAIDS/UNICEF, 2007). To achieve this there is need to develop a practical and feasible system to manage integrated HIV/AIDS programmes in the health system, capitalising on the positive spill over effects of an effective vertical programme run by an INGO for 6 years. However it is important to note that the benefits of integration are not universal, and are largely affected by political, financial and service factors and constraint related to weak health system and lack of resources. When planning to integrate a programme into the health system, there is need to set foundations to determine the perception of sustainability in view of health system performance. The following should be considered in the implementation; a clear plan directing how the integrated service will be managed, a clearly defined process of integration with phases and sequence, a clear strategy on how to handle political opposition and a well set monitoring and evaluation system and process that provide alert signals for decision makers if problems occurs (Atun et al, 2008). This also calls for a balance within the health service provision that will avoid taking HIV/AIDS as privileged over other diseases within the health systems (Harvey, 2004).

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSIONS

In resource limited countries like Zambia, ART cannot be provided in isolation from the health system due to the HCW deficit, poorly functioning health system and increased HIV/AIDS prevalence. Increasing demand for health care services in this kind of setting calls for new approaches that maintains health system effectiveness but reduces the pressure on scarce resources. This counts for use of simple tools such as RDT and the involvement of CCs. This has become an important element in the management of the HR crisis in the health system; HIV/AIDS programme expansion and the sustainability of ART in poor resource countries. In the community as well as in the health system, the role of a CC is become more recognised. This is based on their clinical and non-clinical support they are able to provide. Their role has an impact in the decrease in workload once they are engaged in the service delivery. It qualifies the need to have a clearly defined community programme with aims and objectives that enhance health system performance. However for this programme to be reliable and sustainable there is need to have a look into the issue of incentives to safe guard the attrition rates, which is observed to be high when the moral wears down. Apart from the remuneration issues the programme needs to have some form of supervision and monitoring system to facilitate quality of care. This supervision is found to be very difficult due to lack of structure and organisation.

Countries in the developing world including Zambia are managing with current HIV/AIDS programme expansion due to the increasing external support and the reduction in the price for first line treatment. However domestic resources are equally important and should be available and committed to HIV/AIDS programmes in order to impress the international community. Health system financing that depends on user fees or cost shearing cannot be used as a sustainable measure in the realm of HIV/AIDS, they are said to be potential barriers to ART adherence. Long term donor and Government funds are said to be the answer to sustainability of integrated HIV/AIDS programmes. However this concern should not entirely be focused on financial matters but also on factors that play a role in the health system performance such as HR especially with the continuous increase in PLWHA. A programme like Nchelenge HIV/AIDS needs sustainable resources for both financial and human in order to sustain its provision of quality services without any adverse effects to the health system.

Vertical programmes have shown some positive spill over effects on the health system. It increases the ability of health services to cope with increased demands as a result of its personnel skills and a strong managerial structure. However it can also reduce the health system effectiveness due to the exclusion of the locals in planning and programme implementation. This reduces the chances of being sustainable when external donor's resources are ceased.

The values of integration are said not to be universal as they are affected by political, financial and service factors. However integration can maximise the impact on

resources available but when funding of the programme stops, it might be difficult to absorb the expenses into the health system. For a successful Integration, the health system requires adjustments from its routine activities. The demand for the facility is increased hence the adjustment in the number of provider to patient ration, size and number of examination rooms at the health facilities. Integrated approach in the health services benefits a range of other diseases and also avails attention to other health challenges within the health system that might be over looked in disease specific programmes. Integrated approach has also shown some cost effectiveness when coordinated properly with other disease programmes within the health system with similar components as that of HIV/AIDS. Health system capacity when strengthened allows adequate adjustment and ability to continue the provision of targeted health services. A strong health system has the potential to sustain short-term health goals attained through vertical programmes.

A reliable supply line for ART is like a heart for the HIV/AIDS programme. This is very important for the programme performance. It calls for improvement in logistics and supply management for the continuity of the programme. For HCWs to be responsible for the treatment and care of HIV/AIDS patients there is need to have constant supply of all necessary drugs and other medical material.

Activities patterning to HCW retention should be accompanied by training of HCWs. The Shortage of HCWs ranks first among health workforce problems to motivation, job satisfaction, self esteem, leadership and supportive management respectively. To acquire a motivated and committed work force a system should have adequate staffing capacity, enough money for training, an acceptable working conditions and an appropriate remuneration system. This deficit in HCWs calls for expansion in the education system of health personnel. To be able to meet with the increasing demands, in-service training, HR management skills and task shifting from identified health cadres should be encouraged. This will help to manage gaps in the health profession. New cadres should be identified to relieve the workload and the absence of HCW in some regions especially in rural remote areas. In the identification of lay people as potential health cadres, CC images as the most urgent need in the HIV/AIDS arena with staff deficit. However this measure of improvising does not create a desired solution to the needed trained medical personnel, but it does provide services that are relevant to the health system. The sustainable solution to this problem lies in the training and supervision of HCW and availability and prompt supply of essential medical materials with monetary and non-monetary incentives. In both short and long term aspects, the declining in the cost of ART ranks HCW force as a major issue compared to financial constraints in the integrated HIV/AIDS programme especially in limited resource settings. To maintain a positive health system performance adequate, HCW force is essential. The constraint lies in the balance of programme expansion, training of staff and their retention within the health system.

5.2. RECOMMENDATIONS:

5.2.1. The DHMT together with the Provincial health management team needs to work on the logistic system for drug procurement and supply management in order to

increase health system performance. This will help in part to motivate the staff and improve health system goals, which in tern adds value to sustainability.

5.2.2. The MoH should take advantage and apply for the new form of sustainability from donor aid. This new form of sustainability relies on both domestic and predictable foreign assistance (financial aid) that covers health system strengthening, capacity building and expansion of HCW which includes, planning, training and recruitment.

5.2.3. At CBoH level, there is need to have a standardised country wide Policy regarding the ever increasing number of CCs in Zambia. They should have roles and responsibilities that explain their position in relation to health service provision. This Policy should include as a matter of urgency the recognition of CCs position as a profession with a curriculum and outlined benefits including the payment of remuneration.

5.2.4. There is need to include counselling skills in the pre service training for all health cadres in Zambia.

5.2.5. To have a motivated and committed workforce retained and able to deliver cost effective and quality health care, there is need to have defined staffing standards, adequate funds for training, improved working conditions and an appreciative incentive system.

5.2.6. Sustainability of programmes such as HIV/AIDS handed over to the MoH can only be achieved through long term commitment from donor and government resources. In the absence of this commitment, HIV/AIDs patients should be part of the excepted patients in fee for service in the health system.

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ANNEX 1.

SUMMARY OF HEALTH INSTITUTIONS IN ZAMBIA BY TYPE, SIZE AND OWNERSHIP

FACILITY TYPE		NO. OF UNITS	TOTAL NUMBER OF		NUMBER OF FACILITIES OWNED BY			
			BED	COTS	GOVT	PRIVATE	MISSION	TOTAL
3RD LEVEL		5	3802	452	5			5
2ND LEVEL		18	5133	988	12		6	18
1ST LEVEL		74	6795	1166	36	17	21	74
HEALTH CENTRES	RURAL	973	8077	570	889	23	61	973
	URBAN	237	1632	325	163	74		237
HEALTH POST		20			19	1		20
TOTAL		1327	25439	3501	1124	115	88	1327

SUMMARY OF HEALTH INSTITUTIONS IN LUAPULA PROVINCE

FACILITY TYPE		UNIT	BED	COTS	NUMBER OF UNITS OWNED BY			
					GOVT	PRIVATE	MISSION	TOTAL
LEVEL 3								
LEVEL 2		1	300	100	1			1
LEVEL 1		6	618	78	2		4	6
HEALTH CENTRES	RURAL	111	894	86	107	2	2	111
	URBAN	2	5		2			2
HEALTH POST		1			1			1
TOTAL		121	1817	274	113	2	6	121

HOSPITAL LEVEL BY PROVINCE AND NUMBER OF BEDS AND COTS

LUAPULA PROVINCE	NAME OF HOSPITAL	OWNER	BED	COT
1ST LEVEL	KAWAMBWA	GOVERNMENT	56	
	MBERESH	MISSION	80	
	MAMBILIMA	MISSION	104	12
	KASHIKISHI/ ST. PAULS	MISSION	175	40
	LUMBWE	MISSION	116	16
	ST. MARGARET/ KASABA	MISSION	87	10
2ND LEVEL				
	MANSA	GOVERNMENT	300	100

(Chirwa, 2002)

ANNEX 2.

SUMMARY OF HEALTH INSTITUTIONS IN LUAPULA PROVINCE

PROVINCE DIVISON BY DISTRICTS

CHIENGI DISTRCIT

KAWAMBWA DISTRICT

MANSA DISTRICT

MILENGE DISTRICT

MWENSE DISTRICT

NCHELENGE DISTRICT: MSF-H ACTIVITIES

SAMFYA DISTRICT

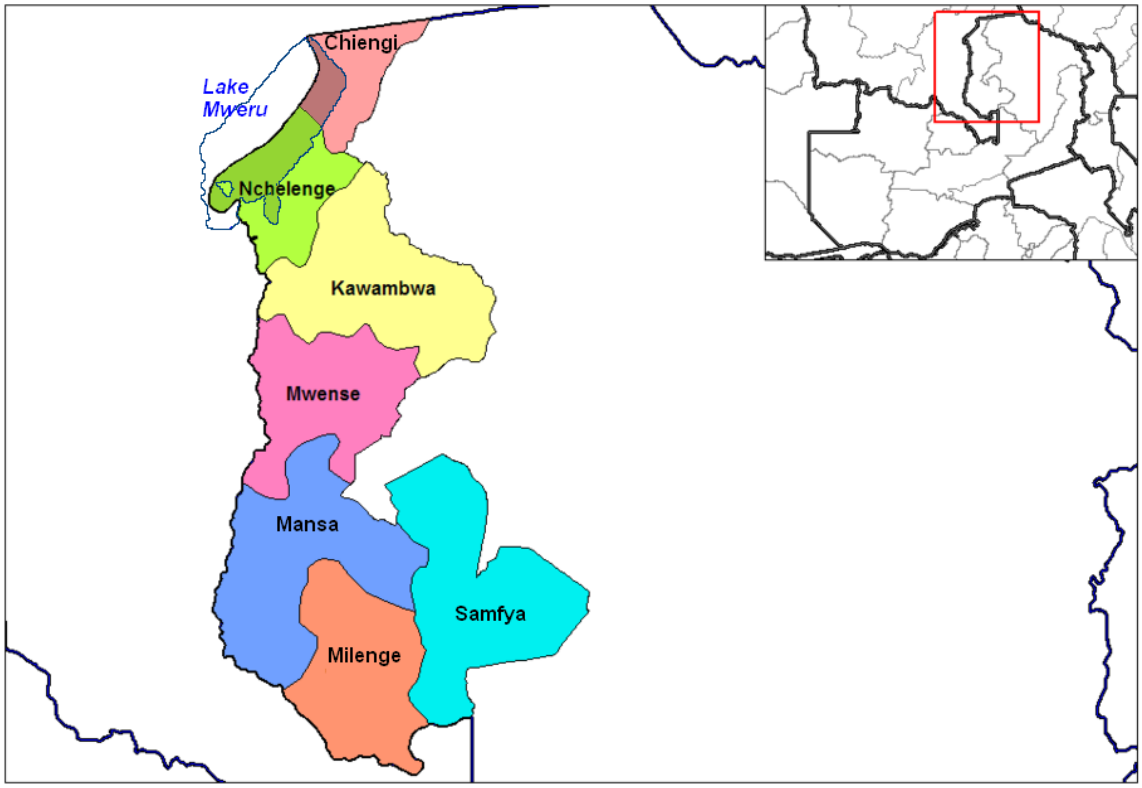
HEALTH FACILITIES IN NCHELENEG DISTRICT

FACILITY NAME	FACILITY TYPE	FACILITY OWNER	TOTAL NUMBER OF		MSF ACTIVITIES
			BEDS	COTS	
KASHIKISH/ST. PAULS	DH	MISSION	175	40	YES
CHABILIKILA	RHC	GOVERNMENT	6	2	YES
CHISENGA ISLAND	RHC	GOVERNMENT	6	1	YES
KABALENGE	RHC	GOVERNMENT	6	1	NO
KABUTA	RHC	GOVERNMENT	12	1	YES
KAMBWALI	RHC	GOVERNMENT	12	2	YES
KANYEMBO	RHC	GOVERNMENT	6	0	YES
KILWA ISLAND	RHC	GOVERNMENT	6	0	YES
NCHELENGE	UHC	GOVERNMENT	1	4	YES
KAFUTUMA	RHC	GOVERNMENT	12	0	YES
KASHIKISHI	UHC	GOVERNMENT	3	0	YES
TOTAL	11		245	51	
Source: (Chirwa, 2002; MSFH, 2005)					

RHC: Rural Health Centre;
UHC: Urban Health Centre;
DH: District Hospital;
MSF: Médecins Sans Frontières

ANNEX 3.

DISTRICTS OF LUAPULA PROVINCE - MAP



(Rexparry, 2007)