

**THE PERCEPTIONS AND EXPERIENCES OF MEDICAL TECHNICIANS OF THE
DECENTRALIZATION OF THE ART PROGRAMME IN MOZAMBIQUE**

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A mini-thesis submitted in partial fulfillment of the requirements for the degree of Masters in Public Health in the School of Public Health, Faculty of Community and Health Sciences, University of the Western Cape.

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KEY WORDS

- HIV/AIDS
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- Decentralization
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- Human Resources for Health
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ABSTRACT

In response to the increasing burden with regard to treatment of HIV/AIDS in Mozambique, the Ministry of Health has developed a national strategic plan for HIV and AIDS. This provided for broader access to Antiretroviral Therapy (ART) by decentralizing and integrating ART services into the essential services provided at the primary care level. In keeping with this initiative, medical technicians are now responsible for first-line ART prescription and management at primary-level care health centres in the country. The ART programme was introduced in Mozambique in 2003 alongside other health services offered in hospitals; it was decentralized to PHC health centres in 2006.

This study aimed to explore the experiences and perceptions of medical technicians regarding the decentralization and integration of ART services into PHC health centres in Beira. An exploratory qualitative study was conducted using in-depth interviews, key informant interviews and focus group discussions. A sample of 15 medical technicians was distributed across two focus groups for the purpose of discussion. In addition there were four in-depth individual follow-up interviews with four medical technicians, drawn from the two focus groups. Three key informant interviews were also held to collect data. The data was analysed using content analysis.

The study revealed that the decentralization process was viewed by many of the medical technicians as a very positive initiative for the country. However a number of operational and managerial issues need to be addressed to ensure the effectiveness of the comprehensive approach that was institutionalized and adopted by all PHC health centres. Key amongst the issues that needed to be addressed were the workloads of the health care personnel, and of medical technicians in particular. Their workloads have increased without any corresponding increase in the health workforce needed to manage the patient load. The medical technicians felt that this adversely affected the quality of care they were able to provide to patients, and specifically to those requiring ART medication. The recommendations that emerge from the study are intended to promote the development of policy that will improve of working conditions and assist medical technicians to provide a better service to their patients.

DECLARATION

I declare that this mini-thesis is my own work and that all sources used or quoted have been indicated and acknowledged by means of complete references; and that this work has not been submitted before for any other degree at any other university.

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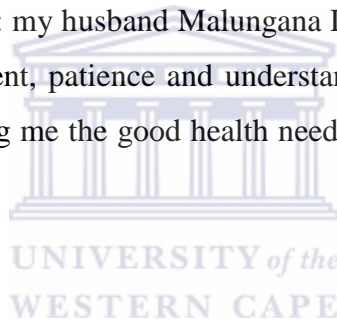
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ACRONYMS/ABBREVIATIONS

ART	Antiretroviral Therapy
FGD	Focus group discussion
HIV	human immunodeficiency virus
AIDS	Acquired immune deficiency syndrome
HR	Human resources
HRH	Human resources for health
HRM	Human resources management
HW	Health Workers
ILO	International Labour Organisation
MoH	Ministry of Health
PHC	Primary Health Care
PLHIV	People living with HIV
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
UWC	University of the Western Cape
WHO	World Health Organization

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CHAPTER 1: A DESCRIPTION OF THE STUDY

1.1 : Introduction

The World Health Organization (WHO) estimates that Mozambique has the 8th highest prevalence of HIV/AIDS and the 5th largest population of people living with HIV/AIDS in the world (WHO, 2009). The Joint United Nations Programme on HIV and AIDS (UNAIDS) noted that the HIV/AIDS epidemic continues to be most severe in Southern Africa. However in Mozambique, although it is still at an unacceptably high level, it seem to be levelling off (UNAIDS, 2011).

The total population in Mozambique is currently estimated at approximately 23,049,621 – 65 % live in rural areas, with the remaining 35% concentrated in urban areas. In Sofala Province, where Beira is located, the population is estimated to be around 1,857,611. 62.6% of the population in Sofala province lives in the rural areas and 37.2% in the urban areas. 61.4% of the provincial population is female and the population has a growth rate of 2.4% (INE e MISAU [Instituto Nacional de Estatística e Ministério de Saúde], 2012).

The prevalence of HIV infection in the adult population of Mozambique (aged between 15 and 49 years) is currently 11.5%. Higher prevalence rates are recorded in urban areas (15.9%) and lower rates (9.2%) in rural areas. The prevalence is also higher among females with a rate of 13.1% compared with 9.2% for men (these figures refer to both rural and urban areas) (INS, INE [Instituto Nacional de Saude, Instituto Nacional de Estatistica] e ICF Macro , 2010).

In response to the HIV/AIDS epidemic the Ministry of Health put forward a national strategic plan placing particular emphasis on the reduction of vertical transmission and the prevention of HIV transmission generally (Conselho Nacional de Combate ao HIV e SIDA, 2004).

In 2004 the country's Antiretroviral Therapy (ART) programme was made available nationally. It was implemented as a vertical programme and for the most part was linked to the Central or Provincial Hospitals (run by the state). As a vertical programme the ART services on offer were provided in a system that ran parallel to the other general services provided in these hospitals. The hospitals had their own pharmacies, data systems, health workforces, waiting and reception areas, etc. These hospitals are referred to in Mozambique as *Hospital de Dia* or Day Hospitals.

Patients attending the Central or Provincial Hospitals and who were identified as HIV-positive were referred to specialized ART clinics to register for HIV care. These clinics were all supported by international donors (Audet et al., 2010).

However, since 2006 in order to maximize the use of the limited resources that are available to the Ministry of Health, the ART programme has been decentralized from the Day Hospitals and integrated, along with other HIV/AIDS-related services, into services that are routinely offered at a primary level of care (referred to in Mozambique as *Cuidados Primários de Saúde* or Primary Health Care (PHC) services). This shift symbolized the adoption by the Ministry of a comprehensive approach to the delivery of HIV/AIDS services (including ART) and was characterised by the availability of different kinds of services or operational programmes at one site – i.e. by the offering of what is known as a ‘one-stop shop’. This refers to the delivery of comprehensive and integrated services in one site (UNAIDS, 2010). This approach also brought these services closer to the patients and was aimed at reducing follow-up failures and improving ART adherence (Pfeiffer et al., 2010).

As in other places in Mozambique, the ART programme was decentralized in Beira in 2006. Until then, as was the norm in Mozambique, the HIV/AIDS-related services were usually managed by physicians in the vertically-orientated *Hospitais de Dia* or Day Hospitals (Pfeiffer et al., 2010). As part of the ART decentralization process, medical technicians were trained in the provision of ART – and specifically in how to integrate it with their routine activities in their consultations with outpatients, and their provision of inpatient treatment and antenatal care (Pfeiffer et al., 2010).

Medical technicians are a critical cadre of health workers within the health system in Mozambique. They were introduced after independence in 1975 when the most physicians – mainly Portuguese nationals – left Mozambique, leaving only about 80 Mozambican doctors for a nation of approximately 14,000,000 people. Since then the country has relied largely on medical technicians (or *técnicos de medicina* as they are referred to locally). Medical technicians undergo a thirty-month training programme and are able to provide the basic clinical and managerial services that would ordinarily be carried out by a doctor (Audet et al., 2010).

Medical technicians are similar to physician's assistants; in terms of hierarchy and functionality, they are below a medical doctor but above a nurse. This means that in settings without a medical doctor there is a medical technician available to provide the basic clinical services that would usually be the responsibility of a doctor (for example, conducting outpatient consultations and providing inpatient treatment and antenatal care).

1.2: The Research Problem

There are currently 26 medical technicians and 6 medical doctors in Beira's Health Centres who are responsible for rendering health care to approximately 462,052 inhabitants. Between 2006 and August 2012 there were 24,646 patients on ART in the district of Beira (Serviço Distrital de Saúde, Mulher e Acção Social da Beira, 2012).

In line with the national norm, in Beira the HIV/AIDS and ART programmes are now located in *Centros de Saúde* or Health Centres – the same facilities where primary-level health care services are provided. As part of the ART decentralization process, all the medical technicians in Beira were trained in the provision of ART. However, notwithstanding their initial training, they needed to be closely monitored and supported as to ensure the delivery of an effective service. It has also been suggested that in addition to the clinical skills the medical technicians have acquired to manage the delivery of ART and other HIV/AIDS-related services, they also need to be trained to manage high workloads - given that with decentralization and with the integration of HIV/AIDS services into their portfolios, their workloads will be significantly increased. Without strong support and guidance and without the skills to manage these increased workloads, the quality of care rendered to HIV-positive patients could be compromised (GHWA [Global Health World Alliance], 2010).

The decentralization and the subsequent integration of HIV/AIDS services into the regular PHC services have had many positive results. For example, as the study by Pfeiffer et al. (2010) noted, it enabled more patients to be tested for HIV; patients were put on ART more quickly and efficiently; and greater coverage of HIV-care was achieved (Pfeiffer et al., 2010). However, such a process is also likely to reveal gaps in the capacity of the health system – specifically in terms of human resource management, quality and performance (GHWA, 2010). For example, the integration of the original vertical and separate HIV/AIDS services (and specifically the ART

programme) into general health services can place additional pressures on an already overburdened health system. In relation to the workforce, it has been suggested that the increased workload (resulting, it is assumed, from the integration of ART into general health services) results in the health workers being stressed, burned out and demotivated, with a negative effect on job satisfaction (George et al., 2010)

To date, only one study has documented the process of ART decentralization and integration in the Mozambique public health services. This was conducted by Pfeiffer et al. (2010) and entitled 'The Integration of HIV/AIDS services into African primary health care: lessons learned for health system strengthening in Mozambique – a case study'. Whilst focusing on the process of decentralization and its impact on the health system, this study did not focus on the unique role that medical technicians play in the integration process.

The researcher, a psychologist working as the Head of Human Resources within the Provincial Directorate of Health in Sofala Province, wanted to conduct a study that would provide deeper insight into the experiences of medical technicians of the decentralization process. In so doing, she wanted to develop a clear, long-term strategy for their on-going development and support in the District Health Service of Beira.

This current study is aimed at exploring the perceptions and views of medical technicians with regard to the impact of the additional HIV/AIDS-related services (and particularly ART) on the nature and quality of the health services. It also examines the impact on their working and/or personal lives.

1.3: Study Setting

The setting of the study was Beira, the second largest city in Mozambique. It lies in the central region of the country and is located in Sofala Province. The Port of Beira is regionally significant: it acts as a gateway for both the interior of the country as well as for the land-locked nations of Zimbabwe, Zambia and Malawi.

The city functions as a corridor for trade and generates a significant part of the province's income. With the increasing trade taking place between the countries along this corridor, commercial transport and long-distance trucking has increased – bringing with it an increase in

the number of commercial drivers. Travel along the corridor is recognized as an essential for the socio-economic development of the city of Beira and the province of Sofala. However, it also creates greater opportunities for the transmission of HIV and other communicable diseases (ILO [International Labor Organization], 2004).

There are six primary-level health-care centres (hereafter referred to as *Centros de Saude Urbanos Tipo II* in Beira in which the 26 medical technicians work. All of these health care centres provide treatment for common illnesses, as well as antenatal care and care at childbirth, health promotion services and HIV-related services (including ART).

Interestingly, a recent study that explored health workers' practices, attitudes and knowledge regarding HIV/AIDS treatment and prevention was conducted in Sofala (the province in which Beira is located) and Nampula Provinces. It showed that 61, 3% of health workers interviewed perceived that they were facing a high risk of HIV infection resulting from exposure in the workplace (MISAU [Ministério da Saúde], 2009). It is important to recognize that many of the health facilities do not have sufficient supplies of gloves and other bio-safety materials (MISAU, 2009).

In most countries affected by HIV/ AIDS, such as Mozambique, a great deal of work is needed to significantly increase the country's health programming capacity and to clear blockages and bottlenecks in the health care system (UNAIDS, 2009). This may include addressing staff shortages and providing the necessary support to staff to enable the health service to deliver the necessary quality of health care. It is well known that limited human resources coupled with stressful working environments result in over-work and burnout (Shisana et al, 2002).

With the integration of anti-retroviral treatment (ART) into the services offered by the Health Centres, and the critical new role played by the medical technicians in the country's HIV/AIDS programme, there was some concern amongst stakeholders that medical technicians might experience over-work and burnout.

This is context for this study of the perceptions and experiences of medical technicians in the ART programme in Beira.

1.4: Organization of the report

The report of the study consists of the following six chapters:

Chapter 1: This first chapter introduces the study. It formulates the problem and describes the study setting.

Chapter 2: This chapter focuses on the review of relevant literature. The literature review will explore issues related to HIV/AIDS and its ART programme, and to the decentralization and integration health care provision in the public sector.

Chapter 3: This chapter explains the research methodology used; it describes the aims and objectives of the study, the study design, the sample study, the procedures for data collection and data analysis. It also discusses the limitations of the study, as well as relevant ethical considerations.

Chapter 4: This chapter presents the study results.

Chapter 5: This chapter discusses the results of the study.

Chapter 6: This chapter presents conclusions and recommendations.



CHAPTER 2: THE LITERATURE REVIEW

2.1: Introduction

This literature review focuses on previous studies conducted in sub-Saharan Africa to determine the magnitude of the impact of HIV/AIDS and ART decentralization and integration on the health services – with a particular emphasis on health workers and their perceptions and experiences of these measures. Issues related to human resource development, such as health workforce shortages and task shifting, are also considered.

The review reveals that few studies have been conducted in Mozambique on the specific impact of HIV and AIDS on the delivery of health services: there was little previous research on which to draw. For this reason, the researcher considered and applied experiences and lessons from other Southern African countries.

2.2: The Global HIV and AIDS situation and universal access to ART

HIV and AIDS has become a global health problem. The number of people living with the human immunodeficiency virus (HIV) worldwide was estimated at 33 million in 2007, of whom 67% were in Africa, while 14% were in Asia; 8% were children. 72% of all acquired immune deficiency syndrome (AIDS) deaths occurred in Africa (UNAIDS, 2008a, 2008b).

At the end of 2010 number of people living with HIV globally was estimated to be 34 million. About 68% resided in sub-Saharan Africa, a region with only 12% of the global population. A total of 1.9 million people became infected in sub-Saharan Africa in 2010; this represented 70% of all the people who acquired HIV worldwide (WHO, UNAIDS and UNICEF, 2011). Despite these figures UNAIDS noted that, globally, the number of people newly infected with HIV continued to decline. For example, in sub-Saharan Africa the number of new infections was 16% less than the estimate of 2.2 million people newly infected in 2001. However, not all African regions fit these trends: the annual number of people newly infected with HIV in the Middle East and North Africa rose from 43000 in 2001 to 59000 in 2010 (WHO,UNAIDS and UNICEF, 2011).

Due to the increased availability of antiretroviral treatment (ART), the annual number of people dying from AIDS-related causes globally has decreased from 2.2 million in 2005 to an estimated 1.8 million in 2010 (WHO,UNAIDS and UNICEF 2011).

The World Health Organization's 2009 report on universal access noted that ART scale-up was a priority for HIV/AIDS intervention in the health sector. Since 2003, when the World Health Organization (WHO) and UNAIDS launched a strategy for ensuring treatment for 3 million people living with HIV/AIDS in low- and middle-income countries by the end of 2005 (called the '3 by 5' initiative), coverage of ART in these countries increased from 400,000 to 1 million people (at the end of 2005). This is consistent with the '3 by 5' target (WHO and UNAIDS, 2005). The '3 by 5' target was met in 2007, and by the end of 2010 there had been an increase in the number of people receiving ART in low- and middle-income countries – from 3 million in 2004 to 6.65 million in 2010 (WHO,UNAIDS, and UNICEF, 2011). This has created the hope that, given sustained energy and resources to support this programme, universal ART coverage might be achievable in the future.

In order to make access to care easier for people living with HIV (PLHIV) and also to decrease the burden of providing HIV services at existing facilities, many countries in recent years, particularly those addressing a generalized HIV epidemic, have begun to decentralize HIV treatment to primary health-care (PHC) centres (Mulamba, Fullem, Hirschhorn, Allers, Oser and Rau, 2010). The ultimate goal is to make HIV treatment universally accessible to all who require it. In order to implement this, a range of HIV services such as HIV counselling, testing and care (including ART) have been delegated to non-physician staff.

Driven by the success in increasing access to ART, UNAIDS and the WHO put forward a global plan aimed at eliminating new HIV infections by intensifying country-led action and resource mobilization (WHO, 2011). In 2011 a five-year strategy (for 2011 to 2015) was released, setting new global targets for 2015: these were zero new infections, eliminated discrimination and zero AIDS-related deaths (WHO, 2011).

However, in the above report the WHO emphasized that there were many challenges associated with delivering ART to scale. One of these challenges mentioned was the lack of sufficiently skilled staff to manage the delivery of ART on the ground. Another challenge was the potentially negative effect of HIV and AIDS on the health workforce in resource-poor countries. The provision of ART is likely to impose heavier workloads on staff and increase the complexity of the care that required by those living with HIV. This might mean additional psychological stress levels for health workers, leading to low morale, burn-out and absenteeism among staff (Tawfik and Kinoti, 2003; Uebel et al., 2007; Marshal et al., 2005).

In addition, one of the most critical challenges to scaling up access to HIV prevention, treatment and care is the shortage of adequately prepared medical work force (WHO, 2010b). The realization that the achievement of the agreed-upon global HIV/AIDS related targets would not be realized without adequate human resources for health (HRH) has led to action being directed at tackling HRH bottlenecks (Wyss, 2007; Nordstrom, 2008). There are therefore potential health system benefits to scaling up HIV/AIDS-related services in countries where there is a lack of HRH and infrastructure: the increased provision of ART programmes might lead to action to ensure adequate HRH and to reduce some of the barriers to accessing basic health care (Fredlund and Nash, 2007).

2.3: HIV and AIDS in Sub-Saharan Africa

The HIV epidemic has had its greatest impact in sub-Saharan Africa. Of a population of 836 million, 23 million live with HIV/AIDS, with a prevalence of 5% in the adult population (UNAIDS, 2010).

The epidemic exhibits different patterns in the three regions (East, West and South) of sub-Saharan Africa. Southern Africa is still the region most severely affected by the epidemic (UNAIDS, 2010). In 2009, 34% of all people in the world living with HIV (PLHIV) resided in 10 countries in Southern Africa. These were Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe (WHO, UNAIDS and UNICEF, 2011). In the same year 31% of new HIV infections occurred in these 10 countries, as did 34% of all AIDS-related deaths. It is estimated that about 40% of all adult HIV-positive women live in Southern Africa (WHO, UNAIDS and UNICEF, 2011). South Africa is the country with the

most serious epidemic: it had an estimated 5.6 million people living with HIV in 2009 (WHO, UNAIDS and UNICEF, 2011).

Because of improved access to ART and health care, people in sub-Saharan Africa tend to live longer. The total number of people living with HIV in sub-Saharan Africa is increasing: it reached 22.9 million in 2010, which is 12% more than in 2001 (WHO, UNAIDS and UNICEF, 2011). The 2011 UNAIDS report on increased access to ART (WHO, UNAIDS and UNICEF, 2011) noted that number of people dying from AIDS-related causes in sub-Saharan Africa has decreased because ART is now more widely available, free of charge, throughout the region.

This report noted that these findings are supported by a number of local studies, such as a study by Dlodlo et al., based on the adult mortality records from the cities of Bulawayo and Harare in Zimbabwe, conducted in 2011. This showed a 19% decline in the crude mortality rates after the expansion of ART access (WHO, UNAIDS, and UNICEF, 2011). Another study was conducted by Jahn et al (2008) in the rural districts of Malawi, where ART has been freely available since 2005. The researchers noted that the death rate among adults had declined by 10% and AIDS-related mortality fell by 19% between 2002 and 2006 (WHO, UNAIDS and UNICEF, 2011).

Despite these positive figures, shortages of human resources for health care continue to be of great concern in sub-Saharan Africa – especially in light of the need to reach the targets that have been established for the availability of ART and the achievement of universal access to HIV prevention, treatment and care. There has been a considerable increase in the need for skilled health-care workers. Some positive results in this regard were obtained from countries which had engaged to some degree in task-shifting practices, thereby increasing their capacity to provide HIV/AIDS-related services, including ART (WHO, 2010 b).

According to the 2009 WHO report, 'Towards universal access: scaling up priority HIV/AIDS interventions in the health sector', 63% of countries in Sub-Saharan Africa have developed policies to address staff shortages through task-shifting strategies. However there is still not enough evidence for the extent to which task-shifting has occurred, or whether it is an ad-hoc response to acute staffing shortages or the result of formal policy initiatives. It is also not clear whether this is something that can be sustained. There is a further consideration: how much task-shifting can occur without reducing the quality of care in Sub-Saharan Africa (WHO, 2009)?

2.4: The HIV context in Mozambique

In 2009 the HIV prevalence in Mozambique was 11.5% in the adult population (aged 15-49 years), according to the "*Inquerito Nacional de Prevalencia, Riscos Comportamentais e Informacao sobre o HIV e SIDA em Mocambique*" (INS, INE e ICF, 2010). The prevalence was higher in women (13.1%) than men (9.2%), with the highest prevalence being recorded in the youth population (aged 25-29 years), where the prevalence rate was 18.5% (INS, INE e ICF, 2010). The same survey revealed that the HIV prevalence varies greatly between provinces and regions. The estimated HIV prevalence for the adults in the southern region is 17.8%; in the central region the figure is 12.5%, while in northern region it is 5.6% (INS, INE e ICF, 2010).

However, an analysis of trends, based on the projected HIV prevalence among adults across these regions in Mozambique (from 2001 up to 2009) shows that HIV prevalence appears to have stabilized in recent years (between 2007 and 2009) and might even have declined in the central and northern regions (CNCS [Conselho Nacional de Combate ao HIV/ SIDA], 2012).

The provision of HIV/AIDS care and treatment in Mozambique started in 2003 and was aligned with the 2004-2008 national strategic plan to combat to HIV/AIDS (*Plano Estratégico Nacional de combate ao HIV/SIDA-PEN II*, 2005-2009). Treatment was cited as one of the priority areas (CNCS [*Conselho Nacional de Combate ao HIV/SIDA*], 2004).

Geographic coverage of HIV services has expanded significantly since 2003. By the end of 2011, all the districts in the country had at least one health facility providing ART services. However, despite this expansion, coverage still remains low in Mozambique (CNCS, 2012). It

was estimated that by the end of 2011 there were 273,561 people on ART of which 250,508 were adults and 23,053 were children. This was equivalent to approximately 51.7% of the adults and 19.7% of the children receiving treatment (MoH, 2011). Close to 9% of all the patients on ART are children below 15 years of age (MoH, 2011).

The National Strategic Plan (PEN III) for 2010-2014 (CNCS, 2009) significantly improved its focus on certain activities in comparison to the previous strategic plan (PEN II, 2005-2009): issues such as gender, male circumcision and physical or mental disability were highlighted. The Plan for 2010-2014 involved other government sectors and as well as civil society and was more comprehensive in its approach. It also aimed at reducing the HIV prevalence rate amongst adults (aged from 19 to 49 years) from 11,5 % in 2009 to 8,5% in 2014; it aimed to reduce mortality by 5% by 2014 (CNCS, 2012). The national strategy is comprehensive, given that government partners have now aligned their HIV plans with a multi-sectorial strategy: there are clear targets, as well as monitoring and evaluation tools. However, it is also acknowledged that the country still needs to assess the impact of HIV/AIDS on its social and economic development. This is needed for macroeconomic planning and for the appropriate allocation of financial and human resources (CNCS, 2012).

In 2007, the Ministry of Health developed a comprehensive plan entitled “Plano Nacional de Desenvolvimento de Recursos Humanos para Saúde, 2008-2015” (this translates as “The National Human Resources of Health Development Plan, 2008 – 2015”). This plan was developed by Ministry of Health in Mozambique in recognition of the need to address issues such as the lack of training capacity, recruitment, bottlenecks, low salaries, low motivation, inadequate distribution of human resources, limited management capacity and a serious shortage of health workers. The aim was to substantially increase the number of health workers employed, and improve the management of and support for Human Resources for Health (HRH) over the period 2008-2015. The plan includes strategies to focus on pre-service and in-service education, staff distribution, motivation and retention and HR management. The plan also recognizes the importance of increasing salaries, providing incentives, and improving working and living conditions of health workers (Ministry of Health, 2008). The implementation of the National HRH Development Plan will assist in the realization of the national strategic plan for HIV/AIDS, 2010-2014 (PEN III). Without adequately resolving the HRH crisis, Mozambique will not

achieve universal access for HIV treatment, care and support, nor will it be able to offer a more comprehensive integrated health package to all its citizens (GHWA, 2010).

2.5: Impact and consequences of the HIV epidemic on the health facilities and health workforce in Mozambique

Some time ago Tawfik and Kinoti (2006) noted that health systems in developing countries are fragile and are characterized by poor infrastructure, insufficient numbers of services providers, a lack of medical drugs and commodities and (frequently) by poor management. These issues, they suggested, were amplified as a result of the increasing numbers of patients living with HIV/AIDS. Like other Southern African countries, in addition to managing this additional burden of disease from HIV, the Mozambican health system also faces other challenges, such as a human resources crisis.

To help address human resource constraints in Mozambique, certain responsibilities have been transferred to lower-level cadres. One of these measures was an amendment in 2006 to allow for the provision of ART treatment by medical technicians (Brentlinger et al., 2010).

The Africa Working Group of the Joint Learning Initiative (2004) argues that HIV is associated with increased workloads on the part of health-care workers. In Mozambique health facilities normally open from 7:30 am to 3:30 pm but facilities with expanded HIV functions (such as the provision of ART) are now open from 7:30 am to 7:30 pm. Despite this, there are times when patients wait all day and then return home without receiving their ART treatment (GHWA, 2010). Over the past decade the Ministry of Health in Mozambique has had to also face the reality and manage the implications of the fact that many of their staff is HIV-positive. Before ART became widely available it was also acknowledged that many health workers had to deal with on-going stress as they witnessed patients endure pain, disability and even death; this imposed a heavy emotional burden on them (Demmer, 2004).

According to the GHWA Mozambique Report (2010), low job satisfaction and motivation amongst health workers affected their performance. The same report revealed that because of demotivation and the need to supplement their low salaries, health workers often took more than

one job. This may mean that in some cases health workers were not working in the public health facilities for the required number of hours, resulting in reduced access to health care.

Another factor contributing to stress among health workers is the occupational risk of HIV infection. A study, referred to in the previous chapter, and conducted in the provinces of Sofala and Nampula in Mozambique, revealed that 61.3 % of health workers interviewed perceived themselves to be at high risk of HIV infection in the work place (MoH, 2009). The study suggested that because health workers in Mozambique have high levels of knowledge about HIV transmission and prevention, their concerns about their vulnerability to HIV infection were primarily related to their working conditions: many health facilities did not have a sufficient supply of gloves and other bio-safety equipment, such as masks (MoH, 2009).

2.6: The Human Resources for Health crisis in the era of HIV/AIDS in Southern Africa

The 2006 World Health Report (WHO, 2006b) notes that human resources are the foundation of a health system and a key prerequisite for improving health outcomes. The report suggests that for a health service to function effectively, the right health workers need to be in place, *and* they need to be sufficiently skilled.

Among the many factors that affect a country's ability to provide HIV/AIDS services, the presence of a strong, motivated and diverse health workforce is a leading requirement. The availability of sufficient skilled health-care providers who are accessible to all segments of population is a key programmatic need in all African countries. Often there are not enough health care workers to provide basic health services (GHWA, 2010). This is due in part to the fact that many of the health workers are HIV-positive themselves and may develop AIDS, and perhaps die as a result.

2.6.1 Morbidity, mortality and attrition

The impact of HIV and AIDS on human resources has long been recognized as a serious issue. Prior to the availability of ART health service delivery was seriously affected, particularly since those who were most infected and affected were often part of the skilled health workforce (Tawfik and Kinoti, 2006).

The World Bank Handbook for Local Government Responses to HIV/AIDS (World Bank, 2003) emphasized that in areas most affected by HIV and AIDS, the epidemic will have a marked effect on local economic development and service delivery. This is as a result of the deaths of workers from AIDS-related illnesses. Health services have obviously also been affected by the epidemic: they will experience a loss of productivity due to increased absenteeism and the loss of technical skills due to AIDS-related deaths. In addition, AIDS-related deaths often leave little time for a Department of Health to plan a recruitment strategy, and this has obvious consequences for human resource planning and management.

Where there is a generalized HIV epidemic (as in many African countries), health care workers are infected by HIV as they are part of the adult, sexually active population. In the early 2000s it was estimated that AIDS was the cause of between 19% and 53% of all deaths of government health employees in African countries (Tawfik and Kinoti, 2006). HIV/AIDS has a marked effect on health worker absenteeism: Tawfik and Kinoti (2006) suggest that, in their final year of his or her life, a person living with HIV/AIDS may be absent from work for up to half their working hours (Tawfik and Kinoti, 2006). Caring for ill family members or dependents and attending funerals also contributes to employee absenteeism.

In Zambia before ART was available, death from AIDS-related causes was a common cause of mortality among district health-care workers (Buve et al, 1994; Feeley et al, 2004). In Malawi, the death rate among health care workers was 2%; the most common causes of death were TB and other chronic illnesses attributable to AIDS (Harries et al, 2002). Increasing death and illness from the AIDS epidemic continues to contribute to the HRH shortages in Malawi (World Bank, 2004).

In addition, in a study of the impact of HIV and AIDS on the health workforce in Kenya, data collected from six hospitals between 1996 and 2002, showed that among the sampled facilities, death was the primary reason for the loss of health personnel (with 31.4%)(Cheluget et al, 2003). Of the deaths where the cause was recorded, 45% of these deaths were attributed to AIDS-related illnesses. These deaths mainly occurred among relatively young people (aged 15 to 49) (Cheluget et al, 2003).

A 2002 study was conducted in South Africa on the impact of HIV and AIDS on the health workforce. It found that in sample of 595 respondents, an estimated 15.7% of health workers (employed in both public and private hospitals and drawn from the then four provinces of the country) were-HIV positive. Younger health workers (aged between 18 and 35 years) appeared the most vulnerable to HIV infection: their estimated prevalence was 20% (Shisana et al., 2002). As a result of the high HIV prevalence rates found in the health workforce, the authors called for a vigorous human resource planning strategy to provide for the replacement of health workers (Shisana et al., 2002).

Another study, conducted in two hospitals in Gauteng (South Africa) in 2007, found an HIV prevalence of 11.5% from a sample of 2,032 health-care workers and support staff. The group most affected by HIV was the group aged between 25 and 34 years, where there was a prevalence of 15.9 % (Connelly, 2007). Among the HIV participants that provided blood samples, 19% had a CD4 count less than or equal to 200 mg; 28% had counts of 200-350 mg, 18% had counts of 351-500 mg, and 35% had counts above 500 mg. The findings showed that 19% of HIV-positive nurses (i.e. those with a CD4 count of less than 200 mg) were eligible to receive ART at the time of the study (Connelly, 2007).

In Mozambique it has been estimated that of the 34,525 health sector employees (i.e. the healthcare workers and the administrative and support staff), 17% are HIV positive (MoH, 2010). It is difficult to establish trends in relation to health worker mortality in Mozambique as there is a lack of data but it appears that total attrition as a result of death declined from 82% in 2003 to 25% in 2009 (MoH, 2010). The decline in deaths may be a result of increased access to ART within the country.

2.6.2 Workloads

There has been a greatly increased demand for preventive and curative services in response to the epidemiological and clinical impacts of the HIV/AIDS epidemic. Greater pressure has been placed on the health services to respond to the increased service needs associated with caring for these HIV/AIDS-related illnesses (Tawfik and Kinoti, 2006).

With the advent of HIV/AIDS, health workers have been called upon to assist in providing additional services required for the prevention, diagnosis, care and treatment of HIV and AIDS. Paradoxically, with this increasing demand, there has been a decline in the supply of health workers. As described in the previous section, this is explained by such factors as morbidity and mortality, absenteeism due to illnesses, and attrition due to employment changes which impose high workloads on the remaining health workers (Tawfik and Kinoti, 2006).

As Jackson (2002) has stated, HIV/AIDS affects the health sector by increasing illness and death amongst health workers and by increasing the demands placed on service providers as people become sick.

A study conducted in South Africa by Shisana et al. (2002) focused on the impact of HIV/AIDS in the health sector and revealed that 94.6% of health facilities reported an increase in the number of patients seeking HIV/AIDS related care. The same study revealed that 73% of the health workers interviewed experienced an increase in their workloads, compared to previous years (Shisana et al, 2002).

Another study conducted on the impact of HIV/AIDS on staff in Uganda revealed that the epidemic placed both physical and emotional demands on health workers: 86% of respondents reporting an increase in their workloads and 48% reported regularly working overtime (Dieleman et al., 2007).

The scale of HIV/AIDS treatment in the developing world has also placed pressure on already inadequately trained health-care personnel (South African Medical Association, 2007). The availability and expansion of HIV/AIDS treatment services in remote areas, while welcome, has no doubt also led to the need for health-care providers to develop new skills to care for HIV/AIDS patients (Jackson, 2002).

In Mozambique, the HIV/AIDS situation seems to be critical with a current prevalence rate of 11.5% in the adult population (INS, INE e ICF, 2010). A study conducted in Mozambique on workforce planning using a projection of demand for HIV/AIDS care indicated that the ratio of physicians to HIV patients is 1 to 2,155 patients. This is extremely high compared to a full-time

HIV provider in United States of America which carries a patient load of about 350 patients per physician (Hagopian et al., 2008).

In Mozambique more than 170,000 people were receiving ART at the end of 2009 – a dramatic increase from the 7,000 receiving ART in 2004 (Ministry of Health, 2011). As the number of people receiving ART has rapidly increased, more strain has been placed on the health system and its workforce in Mozambique. This has overwhelmed clinicians and the staff at pharmacies; it has contributed to longer waiting times and shorter and lower-quality patient-provider interactions. This has led to increased patient dissatisfaction and to an increased drop-out rate from the ART programme (MoH, 2011).

2.6.3: Job Satisfaction

It has also been noted that HIV and AIDS impacts on health workers' job satisfaction, as a result of increased workloads, resource shortfalls and increasing patient mortality (Unger, Welz and Haran, 2003). However, the emotional intensity of caring for HIV positive patients, along with the high patient volumes seen at many ART centres, also place health workers at risk of burnout (Bennet, Michie and Kippax, 1991). The consequences can be severe, and can include exhaustion, reduced productivity, decreased empathy for patients, absenteeism and the desire to search for other occupations (Kruse et al, 2009).

The roll-out of ART programmes resulted in HIV/AIDS being considered a chronic rather than a terminal illness. Prior to this research studies drew attention to the impact that caring for HIV-positive and sick patients was having on health workers. For example, the Joint Learning Initiative (2004) noted that caring for the sick is not only demanding. In a context such as Southern Africa's, health workers must not only cope with the psychosocial stress of offering palliative care to increasing numbers of dying patients, but are also likely to have to care for their own sick family members and relatives. Nurses in Botswana reported that HIV/AIDS affected them negatively at their workplaces as well as at their homes, as they had to care for their family members when they arrived back at home (UNAIDS, 2003).

It was found that managing an increasing number of HIV-positive patients, along with the other challenges health workers have to face in dealing with HIV, led to lower morale, burnout,

absenteeism, fear, stigma and discrimination – all of which were likely to affect motivation and performance (Tawfik and Kinoti, 2006).

In addition, health workers in poorly resourced settings often faced difficult working environments, poverty-level wages, unsupportive managements, insufficient social recognition and weak career development paths (WHO, 2006 b). Many studies in Africa link these problems to the migration of health workers between departments and organizations as they look for better working conditions (Schneider et al, 2006; Hardon, 2007; Van Damme et al, 2008; Gencianos, 2008; Dambisya et al, 2009). Such migration is likely to lead to a decline in the quality of care provided to patients (Dambisya et al., 2009; George et al., 2010).

A major concern among clinical service providers and other support staff in developing countries is the risk of contracting an infection (such as HIV) in the course of performing their regular duties. This may be caused by the non-availability of protective materials. Such fears lead health providers to avoid performing certain tasks or to seek other work (Kinoti and Livesley, undated).

2.7: Task Shifting for HIV treatment and care in Mozambique: the role of the Medical Technicians

Shortages in the health workforce have become a matter of widespread concern within the health arena and represent one of the main impediments to achieving the health millennium development goals and to providing universal access to HIV services (Scheffler et al, 2008). The clinical demands that accompany rapid expansion of HIV care and ART treatment have exacerbated the workforce shortages. This increases the demand for trained clinicians, often in countries with an already struggling health workforce (WHO, 2006 a).

More recently the call for increased provision of ART has not only been accompanied by a call for the setting of *realistic* targets for the millennium development goals; it has also been accompanied by a call for the development of comprehensive health systems and the upgrading of human resource capacity development (Marchal, Browere and Kegels, 2005). To accomplish the scaling up of ART programmes, policy makers and managers in countries with high HIV-related disease burdens have had to devise new strategies (and make a paradigm shift) to deal with the human resources challenges. They must either explore new ways of developing human

resources capacity or they must manage the existing pool of health personnel more effectively (Schneider et al., 2006).

As an example of such a shift in thinking, task shifting has increasingly been promoted as a way of rapidly expanding human resources capacity. This refers to the delegation of medical and health service responsibilities from higher- to lower-ranking cadres of health staff (Zachariah et al., 2008).

The concept of task shifting is not new in Southern Africa; it has been employed in the past to support a range of health service demands. Examples include the delegation of tasks from physicians to mid-level surgical technicians in Mozambique and to clinical officers in Malawi, Ghana, Tanzania and Zambia (Dovlo, 2004; WHO, 2007).

The potential for task shifting in HIV care was elaborated on in the World Health Organization's publication *'Integrated Management of Adults and Adolescents Illness guidelines'* (WHO, 2004). This recommended that nurses and clinical workers be trained to provide primary care for HIV. This was expanded and formalized in 2008 by a set of joint guidelines from the WHO and UNAIDS. These focused on the implementation of task shifting as an immediate way of addressing staff shortages while delivering good quality HIV/AIDS care (WHO, 2007).

The health workforce coverage in Mozambique has for some time been among the lowest in the world: there are fewer than three physicians and 21 nurses per 100,000 inhabitants (WHO, 2006b).

In 1980 the training and placement of medical technicians was expanded to support the government's efforts to rapidly expand PHC. The emphasis was on providing equitable access to basic preventive and curative services (Audet et al., 2010).

Since the creation of this position, medical technicians have proven to be a stable component of the health system. In particular, they have helped to staff rural and underserved areas by undertaking a significant share of the clinical and management duties within a primary-level health care facility (Audet et al., 2010).

Due to an intensifying civil war, the training of medical technicians was curtailed in Mozambique after 1986. However, with the national commitment to provide universal ART by 2003, there was renewed interest in medical technicians. Since the medical technicians' original curriculum lacked HIV and AIDS content, the Ministry of Health developed a new in-service training course in 2006, in which two weeks of content was focused on the ART. This enabled medical technicians to initiate first-line ART without consulting a physician (Brentlinger et al., 2010). The Ministry of Health is currently integrating HIV and AIDS content into the core curriculum for medical technicians to ensure that they acquire the necessary competencies (Brentlinger et al., 2010).

The Government of Mozambique has effectively used task- shifting as one way of increasing the access of PLHIV to ART in the country (WHO, 2009). To redress human resources shortages and workload issues while scaling up HIV/AIDS services, the Ministry of Health in Mozambique has agreed to progressively delegate HIV treatment, care and support responsibilities to other cadres. These services include prescriptions for first-line ART, ART follow-up for nurses, and the provision of counselling and testing services by nurses and lay workers (GHWA, 2010).

2.8: The Impact of ART Programme Decentralization on HRH: some examples from practice in Mozambique and South Africa

With the focus on ART scale-up, task shifting (and specifically, shifting the provision of HIV care and ART to medical technicians) was not the only strategy the MoH used to achieve its vision: another of its aims was the decentralization and integration of ART into PHC.

As Southern African countries, including Mozambique, continue to scale-up ART, there has been an increased emphasis on moving the provision of ART from hospitals to PHC clinics. Decentralization is particularly important in rural areas. Decentralization is defined as the process of moving delivery of ART from hospitals to clinics, thereby improving access to care and encouraging greater adherence to treatment (Mulamba et al., 2010).

Despite the benefits of ART for patients, it has been argued by some that the increased provision of ART is a burden for countries with limited resources and under-funded and poorly staffed health systems (Joint Learning Initiative, 2004). In addition, concern has been raised that the

process of ART scale-up may deflect the much needed technical and human resources away from other health care needs and services, leading to the co-existence of separate streams of care, with patients receiving ART in one stream, alongside those receiving mainstream PHC services (George et al., 2010).

Researchers examining the impact of ART scale-up on HRH, generally suggest that ART programmes put further pressure on already overburdened health systems. This is felt by health care workers in particular, whose increased workloads lead to stress, burnout and job dissatisfaction (George et al., 2010).

In addition to the extra workload, staff in front-line PHC facilities may feel uncomfortable at taking on these new responsibilities, particularly if mechanisms for training and supervision are not in place (Decroo et al., 2009). As an example of this, in South Africa the decentralization of ART to existing PHC clinics in Khayelitsha (from 2007 to 2010), resulted in dramatically higher patient loads. This resulted in longer waiting times during visits, and less time for counselling poorly adherent patients (Medecins Sans Frontieres, 2010).

As has been previously mentioned, ART scale-up in Mozambique was initiated in 2003 and provided through the vertical “Day Hospital” approach. It was supported by international funding, designated specifically for HIV/AIDS programmes (Pfeiffer et al., 2010). Recognizing this model’s limitation, in 2005 the Ministry of Health initiated a systematic effort to decentralize HIV services to sites across the provinces through the already existing public sector primary health-care network. The aim was to bring these services closer to the population, reduce failures to follow-up and achieve greater coverage of HIV care (Pfeiffer et al., 2010). Since medical technicians were already allocated to work in all PHC facilities, and assume many of the clinical responsibilities of a physician, it was logical that medical technicians should take on the frontline HIV/AIDS care and treatment services.

Given the experiences of those countries mentioned above, it is clear that there are on-going challenges to successful ART integration in decentralized sites. This shows that rapid ART scale-up and system-wide strengthening must go hand in hand.

In Mozambique, despite the fact that the decentralization and integration of HIV services into PHC has improved patients' access to care and increased health system efficiency (by linking services and improving referrals), workforce shortages continue to be one of the greatest challenge to ART scale-up (Pfeiffer et al, 2010; GHWA, 2010).

2.9: Summary

Most of the studies included in this literature review show that health workers are negatively affected by the HIV epidemic. The studies included in this review have generally found that health workers report an increase in their workloads. This was due to the increasing number of patients requiring care and to shortages in the health workforce. Some studies suggest that this in turn has had a negative impact on the standard and quality of care. Inadequate infrastructure and supplies were also reported as one of the key challenges facing health workers in the era of HIV/AIDS.

Mozambique is facing many challenges in its efforts to enhance the health of its citizens. With an increasing population, served by an ever-diminishing number of professional health care workers, the role of the medical technicians has become increasingly important – both in relation to issues of general health and with respect to HIV/AIDS in particular. To date there have been no studies of the impact that the ART decentralization process has had on medical technicians in Mozambique – hence the need for this study. The research methodology is discussed in the next chapter.

CHAPTER 3: STUDY METHODOLOGY

3.1: INTRODUCTION

This chapter describes various aspects of the research methodology used in this study and, where appropriate, provides an explanation about the choice and use of such methods.

3.2 The objectives and purpose of the study

3.2.1 Aim

The aim of the study was to explore the perceptions and experiences of medical technicians with regard to the decentralization and integration of the ART programme in primary-level care services in public health centres in Beira, Mozambique.

3.2.2 Objectives

1. To explore the perceptions and experiences of medical technicians with regard to how the decentralization and integration of the ART programme has impacted on their work loads, responsibilities and workplace environments.
2. To explore the perceptions and experiences of Medical Technicians with regard to their levels of job satisfaction following the additional responsibilities which have been added to their workloads as a result of the ART programme.

3.2.3 Purpose of the study

It is hoped that this study insight will provide insights into the way the decentralization and integration of the ART into PHC services in Beira is affecting medical technicians. This information will in turn will be used to guide the development of support strategies for this cadre of health worker.

3.3 Study design

An exploratory, descriptive study was conducted in order to investigate the perceptions and experiences of a sample of 15 medical technicians with regard to the implementation of the ART decentralization process.

In attempting to understand the impact of this process in greater depth, it was felt that the use of a qualitative research approach would be appropriate for this study. Qualitative research methods are particularly useful when exploring the perceptions, beliefs and feelings of respondents. According to Pope and Mays (2000) the strength of qualitative research is its ability to describe how people experience a given research issue. In addition, a qualitative approach provides the opportunity for a researcher to explore different opinions and perceptions of a phenomenon (Marshall, 1996; Katzellenebogen et al., 1997). Given that this study aimed to explore and describe the experiences, opinions and perceptions of the interviewees in relation to the research questions, a qualitative approach was considered to be the most appropriate choice.

3.4 Study population, sample size and sampling procedure

The population for this study included all Medical Technicians with a minimum of three years' experience of working in the six public health centres providing ART in Beira. Three years of experience was an important consideration, as the medical technicians needed to have been working long enough in their positions to have experienced the effects of the decentralization and integration of ART into their workplaces. ART decentralization took place four years ago and its integration into general health services at a PHC level took place in Beira two years ago. Fifteen of the 22 Medical Technicians currently working in the six primary-level public health centres in Beira had worked for three or more years in their posts, and they constituted the study sample.

In addition, three key informants were chosen for their experience and responsibility for district health planning and management in Beira. They were interviewed so as to obtain the necessary contextual information related to the ART decentralization and integration initiative. These key informants were: the head of the district ART programme; the head of one of the six health centres from which the Medical Technicians were drawn; and the medical head in the Beira district.

3.5 Data collection methods and procedures

Three data collection methods were used, namely: (i) focus-group discussions; (ii) in-depth interviews; and (iii) key informant interviews. In terms of process, the three key informant

interviews were held first to allow the researcher to obtain an overall understanding of the history and context of the ART decentralization process and the research setting, and to get additional input about what ought to be the focus of the Focus Group Discussions (FGDs). Thereafter, two focus group discussions with the sample of 15 Medical Technicians were held – one with eight interviewees, and the other with seven interviewees. The allocation of the medical technicians between the two focus groups was done in such a way as to ensure that there was a reasonable distribution of professional experience, with a balance between males and females; the type of sites in which they worked was also taken into account.

Focus group discussions were chosen as the initial data collection method in order to access the experiences, group opinions and the views of the interviewees. Focus groups stimulate discussion, and enable the researcher to gain a more in-depth understanding of perceptions, beliefs, attitudes and experiences of the interviewees in a very short time (Vaughn, Schumm and Sinagub, 1996).

Four of the 15 Medical Technicians were then invited to participate in follow-up, in-depth individual interviews, based on their potential to provide the researcher with richer descriptions and further insights regarding key issues that had been raised during the FGDs. The four medical technicians (3 males and 1 female) were selected on the basis of their active participation in the FGDs and their potential to provide further insights. As Boyce and Neale (2006:90) asserts, “in-depth interviewing is a qualitative research technique that involves conducting small numbers of respondents to explore their perspectives on a particular idea, programme, or situation.” These individual follow-up interviews with the four medical technicians gave the interviewer an opportunity to explore some of the key issues raised in the focus groups in greater depth.

Data collection commenced in September 2011 and ended in October 2011. There were approximately two weeks between the key informant (KI) interviews and the FGDs and there was one week between the FGDs and the in-depth interviews.

For the key informant interviews, the focus group discussions and the follow-up interviews, separate semi-structured interview guides were developed (see Appendices C - E). To ensure sufficient privacy, all the FGDs and individual in-depth interviews were conducted in a private room in one of the health centres. All the interviews were tape-recorded and conducted in

Portuguese, the official language of the research setting. They were then transcribed verbatim and then translated into English by the researcher. The researcher conducted the KI interviews. However, the researcher is working as the Human Resource Manager in the provincial offices of the Ministry of Health in Beira and is thus a colleague of the study participants. For this reason a local psychologist who works at the Provincial Directorate of Education and Culture, with experience in conducting interviews and facilitating group discussions, was asked to conduct all the FGDs and in-depth interviews. This was done to ensure that the interviewees felt comfortable discussing their experiences. It might have been inhibiting to have a colleague, involved in HR issues in their workplace, conduct the interviews. At the end of each interview the interviewer met with the researcher and shared the content and process of the FGDs and interviews. On the basis of this joint reflection, the interviewer and the researcher then planned for the next interview.

3.6 Rigour

Rigor refers to the set of criteria used to judge the credibility or trustworthiness of a qualitative research project. Rigor is meant to guard against bias and ensure the validity of a qualitative study (Sandelowski, 1986). Qualitative research is said to rely heavily on the interpersonal involvement of the researcher and on his or her interpretative and subjective judgment of the data (Kvale, 1989). To enhance the rigour of this study, the interviewer and the researcher were consciously aware of their own attitudes, values, biases and preconceptions regarding the study topic and the participants, and they were mindful of their engagement and roles within the study context— a process which is referred to as ‘researcher reflexivity’. At the end of the FGDs and in-depth interviews a process of peer debriefing took place between the researcher and the interviewer (the ‘interviewer’ was the psychologist employed to conduct the interviews). In addition, attention was paid to adhering closely to the interview guides so as to ensure a measure of consistency. Data triangulation was used to compare and contrast the data obtained from the three different data sources (i.e. the in-depth individual interviews, key informant interviews and the FGDs) (Guion, Diehl and McDonald, 2011).

Lastly, the researcher ensured that all the steps she undertook in conducting the research were described in detail. A description of the research setting – which included the context, the

stakeholders and the processes relevant to the study – was developed by the researcher and used to introduce the study.

3.7 Data analysis

Data analysis is the process of bringing order, structure and meaning to the mass of collected data (Marshall and Rosman, 1995). The purpose of qualitative analyses is to produce a systematic recording of the themes and interviews using a system of categories to maintain the integrity of the data (Patton, 1990). The data from the FGDs and the in-depth interviews was analysed using thematic analysis. This was done initially by the researcher as she listened to the audio-taped interviews, transcribed and translated the interviews and read through the transcripts several times. She wrote down her initial impressions of the specific issues that seemed to be emerging from the data. The transcripts from the two FGDs and the follow-up in-depth interviews were also independently reviewed by the researcher's supervisor who provided her own suggestions with regard to the emerging themes and sub-themes. Thereafter, taking these two interpretations into account, key themes relating to the experiences of the interviewees regarding the ART decentralization process and its impact on their workloads, responsibilities and job satisfaction were identified and categorized by the researcher – along with any other significant themes that emerged from the data. The connections and relationships between these themes, and their related categories and sub-categories, were explored – and along with the contextual information provided by key informants, the preliminary analysis was then shared and discussed with the interviewer (the psychologist who conducted the 2 FGDs and the four individual follow-up interviews). This provided the researcher with a second opinion with regard to her analysis of the data. The interviewer approved the researcher's interpretations of the data she had collected during the set of six interviews.

3.8 Study limitations

This study was limited in that it only described the reported experiences and opinions of the ART decentralization process of *one* category of health workers (the medical technicians) working in *one* part of the district (i.e. in six of the 13 health centres in Beira). The findings of this study were thus limited to the experiences and perceptions of 15 medical technicians, and do not

include other medical technicians and health workers working in other health centres in Mozambique.

Another limitation was that the researcher, who is a Human Resource Manager in the study setting, felt that it, was inappropriate that she conduct the FGD and in-depth follow-up interviews herself, for reasons that have been explained. A psychologist was employed to conduct these interviews, and this obviously limited the researcher's direct engagement with the interviewees themselves. In order to compensate for this, a peer debriefing session was held after each interview. This assisted the researcher to gain an understanding of the tone of the discussion and the processes occurring within each interview. This was essential for her understanding of the interviews that she then transcribed and translated.

3.9 Ethical considerations

Once the research protocol was approved by the University of the Western Cape it was submitted for local approval to both the head of Beira's Health District Service and the Provincial Health Directorate of Sofala Province. After approval by these two institutions had been obtained, the researcher then introduced the proposed study to the managers of the six public health centres in Beira for their review. Once they had all discussed and approved the study, the proposal was introduced to the medical technicians within their respective facilities by the researcher.

All of the potential participants (i.e. the 15 Medical Technicians in the six health centres) were informed through meetings conducted by the researcher in each health centre, that their participation in the study was voluntary: if they decided to participate they could withdraw from the study at any time without any negative consequences arising from this decision and without the need to give any reasons for their withdrawal. The interviewer was introduced in these meetings and dates were set for the initial interviews. Each of these potential participants was provided with written information about the aims of the study (see Appendix A) and was informed that a code would be used to identify them in order to keep their identities confidential and the data secure. Potential participants were also informed that the study was to be used by the researcher to obtain a Master's Degree in Public Health. Signed consent forms were obtained from those who expressed an interest in participating in the study prior to the

commencement of the interviews (see Appendix B – these forms were translated into Portuguese).

It was anticipated, given these precautions, that none of the participants would be placed at risk in any way during the research process. However, should the interviewer (a psychologist) felt that a participant required counselling at any point during or after the interview process, the necessary arrangements would be made for a health centre counsellor to provide counselling. This support was not, however, required during the process of data collection.

Finally, all the signed consent forms, interview tapes and the transcribed transcripts (none of which contain the names of the interviewees) have been (and still are being) kept in a locked cabinet in the office of the researcher.



CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the main findings of the study. A profile of the study participants is provided first. Thereafter, an account is provided of the various ways in which the medical technicians feel that the decentralization and integration of the ART programme has impacted on their work activities and working environments. The implications for their levels of job satisfaction are described.

More specifically, the results are presented according to a number of key themes which emerged during the data analysis process. The key themes were: (i) the material and management constraints within the health service that the medical technicians felt impacted on their job responsibilities; (ii) their reported levels of job satisfaction; (iii) their work responsibilities; (iv) the kinds and extent of supervision and support that they should receive from the health services; and (v) the consequences of decentralization.

4.2 Demographic characteristics of the study participants

The study participants were 15 medical technicians practicing in one of the six health centres providing ART in the city of Beira, Sofala province. Six of the medical technicians were female and nine were male. All the participants were responsible for providing clinical care to HIV positive patients, initiating patients onto ART, and ensuring their ongoing care. Apart from dealing specifically with clients living with HIV (including those on ART) the medical technicians also conducted regular inpatient and outpatient consultations within each health centre for other clients – ie. those not living with HIV.

The majority of the medical technicians (nine of the 15) had more than five years' experience of working in public health centres in Beira – while two of the nine had ten or more years' experience. The remaining six participants had between three and four years' experience of working in public health centres in Beira. Given that the management of ART was decentralized to the health centres in 2007 and integrated into general health services in 2009 (i.e. three years

ago), most of the participants had a reasonable number of years of working experience in the PHC health centres, both before and after the decentralization and integration process.

In terms of age, the 15 participants ranged from 24 to 47 years of age. This is outlined in Table 1 below:

Table 1: The Age of Study Participants

Age in years	Number of participants
24 – 30	3
31 – 36	7
37 – 43	3
43 – 47	2

The 15 medical technicians interviewed as part of this study were evenly distributed across the six PHC centres in Beira. This is illustrated in the table below:

Table 2: PHC Health Centre Allocation of Participants

Name of PHC Health Centre	Number of participants
Ponta-Gea	3
Munhava	3
Macurungo	3
Chingussura	2
Mascarenha	2
Nhaconjo	2

4.3.1 The effect of the decentralization process on the medical technicians' workloads, responsibilities and the quality of care they provide.

From all the interviews conducted it became clear that study participants believed that the decentralization and integration of the ART programme into the PHC health centres had a significantly increased the workloads of the medical technicians.

The participants suggested this was because there had not been an increase in the number of medical doctors and medical technicians made available to manage the increasing number of HIV-positive patients that were referred to the primary-level health centres for HIV care and ART:

We have a problem of human resources shortage (that are required) to face a high demand. The patient load has increased but the human resources capacity to face the demand is still low. This brings more to our work load.

(Participant 5, FGD1)

Day after day the number of HIV- positive patients is increasing, the number of new cases for ART is increasing; daily, we receive 7 to 8 new patients to initiate the ART and the number of clinicians for ART management don't correspond with the number of patients for each clinician.

(Participant 4, FGD2)

Participants also suggested that the workload of the medical technicians had increased because the process of initiating and maintaining patients on ART required them to undertake more work in the health centres. This is illustrated by the following two quotations:

Decentralization has a negative impact in the way that I [now] feel [that I have] a high workload. It's true, seeing [HIV-positive] patients at normal consultations [i.e. the general consultations that medical technicians conducted, prior to ART decentralization, which did not include consultations with ART patients]... is (now) another integrated activity, taking into account that the patients' flow is being so high, so, there is a high workload. We assume our activity that was given to us as an integrated activity with dedication, but we feel a pressure in our skin and blood, a very high workload.

(Participant 1, FGD1)

I think that now with ART the responsibility becomes high, because ART is not just a matter of giving medicines to patients. A patient on ART needs more attention: we have to verify more aspects of the disease, we have to control the effects of the medicines on the patients, we also have to control whether they are getting better or not, so a patient on ART is equal to daily control of the disease on him.

(Participant 2, FGD 1)

All the participants suggested that the increased workload with the decentralization of ART was a consequence of the growing number of patients seeking HIV/AIDS-related assistance and that there was a shortage of health personnel to assist them. In all the interviews conducted in this study (i.e. both the FGDs and the follow-up interviews) interviewees talked specifically about the lack of human resources to manage the HIV and ART programme at the primary care level:

I can say that the workload is very high for the medical technician with ART decentralization. So I have to work for (the equivalent of) two or three technicians now to cover the patients' demands.

(Participant 4, FGD 2, Follow-Up Interview)

When we received patients from central hospital the number of patients on ART doubled or trebled in the health centre. [Before the decentralization] the new cases ...were not too high as it is now. I think that the workload has increased. But the number of human resources to face this increasing number of patients has not increased.

(Participant 2, FGD 2)

Some participants also attributed their increasing workloads to the many other responsibilities that had also been delegated to medical technicians. For example, not only were they responsible for inpatient and outpatient consultations with other patients (i.e. consultations that were unrelated to HIV/AIDS or ART), but they were also responsible for administrative tasks associated with the management of the PHC Centre in which they worked:

The negative aspect [of decentralization] consists of a high workload. In fact, because apart from our normal consultation, caring for patients on ART is another heavy luggage.

(Participant 4, FGD 1)

Even statistic we have to elaborate (on): now we also have to test the patients, so, despite the high number of patients we have other activities added to our consultations and treatment – such as health centre management.

(Participant 7, FGD 2)

Apart from the increased workload medical technicians also shared how, with the integration of ART services into their routine activities, they felt they now had to carry a greater sense of responsibility. They felt that now, more than ever before, they were called upon to assist with a variety of diseases – and that just caring for patients on ART brought with it more work, given the greater attention that needed to be paid to their clinical care. One of the medical technicians explained:

I full agree with my colleagues in relation to work load because in each 10 minutes as example, it's possible to attend 3 different cases and the technicians have to think quickly on how to address each case. There are patients with simple cases; others are positive of HIV, others on ART and others with TB; so, the attention ought to be different. These changes of attention in each 10 minutes, for just one medical technician, asks for much brain activity and coupled with a long queue of patients take place to daily high workload and tiredness.

(Participant 5, FGD 1)

As another participant put it simply:

It imposes a heavy responsibility.

(Participant 3, FGD 2)

To illustrate these points one of the medical technicians described the typical routine of a medical technician:

[The medical technician] initiates his activities at 7:30 am. He can't rest because the health centre is crowded. He has to be flexible in attending all the cases until the time of leaving. He can't take at least a tea. He is hungry. One has to remember that this technician sometimes can be sick and sometimes works sick because there is a lack of personnel and the patients have to be satisfied and the medical technician feels this as his responsibility. He thinks if I go home what will happen with those patients? I think that something has to change to motivate the medical technicians to work in a happier environment.

(Participant 4, FGD 2)

Participants also pointed out that because of the increased numbers of patients they have to see every day, the quality of the care they provide as medical technicians has declined:

Daily, just in ART we attend 20 to 25 patients and we have to also attend to patients in other consultations. I believe that it's difficult to provide good quality care if we also have to (attend to) emergencies at night. When we add the patients on ART and all other cases, I think that per day each medical technician assists 45 to 50 patients [laughs] – with those numbers it's not possible to give services of quality.

(Participant 5, FGD1)

Along with having to manage the high volume of patients they are also aware that patients do not want to wait too long before being attended to. The number of patients they need to get through and the pressure from patients to speed up their services placed the medical technicians under more pressure. As a result they said that they felt that they did not have sufficient time to follow the necessary protocols– something which they felt uncomfortable about:

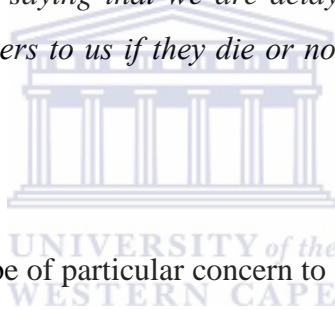
The impact is negative, it affects the quality of attendance, because I have to attend to patients with various diseases and the number of them is very high. Every day I get tired

and when I am tired and hungry it really affects my performance. On the other hand because of the long queue of patients we don't take as much time as required to attend to the same patient - we limit some protocols of attendance, because the patients complain about the waiting time. In terms of quantity, we attend to very high numbers of patients but the quality of our attendance is questionable.

(Participant 1, FGD1)

I am not satisfied because I can't use all the knowledge I get from pre-service training, because the number of patients is too high. I feel pressured to attend to [patients] quickly [so as] to reduce waiting times and as my colleagues said I can't follow the protocol of assistance and sometimes I feel guilty because of that. Sometimes we don't observe the patients carefully because other patients outside complain of the delay. We can hear them from inside saying that we are delaying because we are chatting when others are waiting. It matters to us if they die or not, so, it is too difficult for me... the workload is very high.

(Participant 3, FGD 2)



The long waiting times seemed to be of particular concern to a number of medical technicians:

Waiting time is so high and it becomes difficult to organize the patients and ourselves.

(Participant 4, FGD 1)

With the long queues of patients we try to run against the time: trying to reduce waiting time, and sometimes (because of this) we don't follow the steps of attendance...we limit some protocols to reduce waiting time. And [because of this], I believe that the quality has dropped down.

(Participant 2, FGD 1, Follow up Interview)

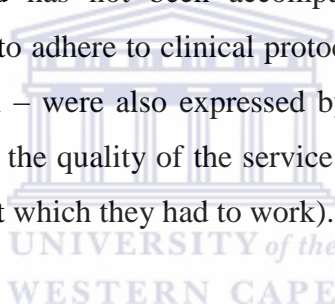
The medical technicians appear to be acutely sensitive to the needs of their patients awaiting consultation. For example they are aware that, with ART patient consultations are requiring a

longer time, other patients waiting in line become irritated – something which must put a medical technician under increased pressure:

Patients complain due to [the] waiting time for [their] consultation. Because I am a medical technician I have to assist two groups of patients in the same queue, with different problems – both of which require different ways of attention. And the patients don't understand the reason why some patients [ART patients] take a long time in the process of consultation and the others [non-HIV/ART patients] do not.

(Participant 5, FGD 1)

In essence, the interviews highlighted how overwhelmed the medical technicians feel by the number of patients they are required to see. Although they have taken on more HIV-positive patients, this additional workload has not been accompanied by additional staff support. Feelings of guilt at not being able to adhere to clinical protocols– in order to be able to offer all the waiting patients a consultation – were also expressed by some of the medical technicians. Accompanying concerns were that the quality of the service they were offering was less than it ought to be (because of the speed at which they had to work).



4.3.2 Issues related to management and the decentralization of services.

When asked about their perceptions regarding the management of the ART decentralization process within the health service, all participants said that they are facing management problems in their health centres. Some felt that the primary-level health services were not adequately prepared beforehand to accommodate the decentralized ART services.

One of the interviewees suggested that it was likely that someone within the Ministry had advocated for this new approach (i.e. the comprehensive and decentralized approach to ART management) – and this would then have been adopted by the Ministry. However, no consideration was given to the required infrastructure that should have been put in place to accommodate the increasing number of HIV-positive patients seeking PHC:

I think that this comprehensive approach is better than selective; the decentralization and integration of ART services is good because it reduces stigmatization but we have to

improve the logistical [aspects], [such as] build adequate infrastructure and increase the number of human resources.

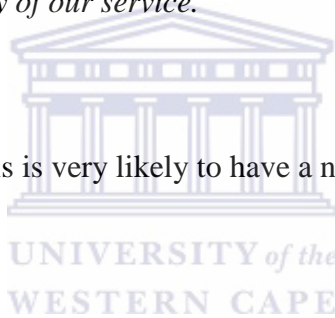
(Participant 1, FGD 1)

One of the examples given to illustrate the lack of planning or preparation for the decentralization process was that there were often inadequate stocks of medicine at the Centres. As one of the participants elaborated:

When those patients [HIV positive and ART patients] were transferred to primary health care [centres and this] became a comprehensive approach, some issues ceased to be observed. As example, the issue of the provision of some medicine to ART patients: we always have a disruption of medicine. Sometimes putting at risk the life of the patients and undermining the quality of our service.

(Participant 5, FGD 1)

As the above interviewee noted, this is very likely to have a negative impact on the health worker - patient relationship:



The lack of medicines is compromising the quality of our service, because after a delayed consultation, more counselling, the patient goes to the pharmacy and don't get medicines and if this happens for two times the patients don't trust in us.

(Participant 5, FGD 1)

Problems with patient attendance at a primary care level, along with the additional pressure being placed on the existing infrastructure and staff, were identified as another problem area that required greater management intervention in the process of decentralization:

I think when the patients were decentralized to PHC nothing was done in terms of logistics to ensure the patients' attendance in the setting where the decentralization happened. This is my view. Sometimes we face a pressure for infrastructure and for the health personnel because of the patient demands due to the high incidence of the [HIV] disease. I think that something needs to be done to change this scenario.

(Participant 4, FGD2, Follow-up interview)

One participant noted how interwoven the addition of more health personnel was with the need to change and expand the health infrastructure. Simply put: one could not have more staff without considering the need to expand the health facilities themselves:

I can't assume that the work load is related to insufficient personnel, because there we have another problem: that is, related to infrastructure. If I assume that we need more medical technicians and the Ministry of Health decides to send more technicians, the health centres don't have the (necessary) infrastructure to accommodate new cadres in this category. So, if we have to receive more technicians we have to widen our health centres.

(Participant 4, FGD2, Follow-up interview)

The inadequacy of the health facilities to physically accommodate the additional and new HIV and ART services was clearly described by one of the participants as follows:

I think that a lot still have to be done, because if we look for example, at Beira city, the health infrastructures we have today was not restructured to receive the new activities. What happened was that ... (for) the ART programme, we can see at some health centres that a storage cabinet (was used), where if you put the desk it is not possible to also put the patient's bed and the [medical] technician needs to examine the patient and there is no bed to do that – so we have a limitation to do a complete examination of the patient because in the cabinet we just have the desk, the clinician's chair and the patient's chair and there is no space to put the patients bed.

(Participant 5, FGD 1)

The lack of physical space, apart from being uncomfortable and inappropriate for clinical consultations, also gave rise to other problems, such as lack of confidentiality in the interactions between health worker and a patient and a lack of sufficient airflow to prevent the transmission of respiratory diseases like TB:

For me, at my health centre, the rooms are too squashed. There is no space for the beds of patients and when you talk (in) there your colleague in the other room, including the patients outside, can hear everyone talking, so, there is no confidentiality. In other rooms the problems is related to ventilation and because of that the technician runs risk of respiratory infections.

(Participant 4, FGD 1)

One participant even noted that, due to the insufficient number of cleaners, the consultation rooms were even dirty:

Our ...offices are not adequate for our work: the rooms don't have ventilation, and due to the insufficient number of cleaners the conditions of hygiene are low. Sometimes we work in dirty rooms because we don't have cleaners in our offices.

(Participant 3, FGD 1)

4.3.3 Lack of adequate supplies to support their ART-related responsibilities

The other factors exacerbating the situation were a lack of basic medical supplies to support the work of the medical technicians. The most critical problem appears to be the lack of bio-safety materials (such as masks, gloves and alcohol), and paper for writing down prescriptions and referrals for the patients:

In relation to supply of other bio-safety and medical materials, I think that nothing [has] changed in relation to the supply of these materials with the integration of ART management. We feel day after day there is a disruption of [the supply of] basic bio-safety materials such as masks and gloves.

(Participant 5, FGD 1)

This is another problem we face frequently [and that is] there is an interruption of supplies of bio-safety material. Today for example, we don't have all the materials available. Thus the supply of materials doesn't follow the protocol of bio-safety.

(Participant 7, FGD 2)

As can be seen from the above two quotes, these medical technicians felt that there had been no change regarding the provision of important medical supplies to accompany the integration of ART services and that the lack of these materials did not support adherence to the necessary protocols.

Another medical technician in the second FGD described the problem in a very similar way:

When the decentralization happen the logistic issues were not observed, therefore, we face this problem of lack of materials. Before ART we already faced problems of supply of materials and now with ART nothing changed – we still receive the same quantity as last time and with deficient supply. The number of patients is increasing and the amount of materials remains the same.

(Participant 5, FGD 2)

The lack of supplies was obviously not limited to those in need of HIV/AIDS care. As one medical technician pointed out, there was an inadequate supply of even the most basic equipment, and this increased the waiting time for patients:

Even alcohol for hand disinfection – we don't have – and gloves, masks....etc. They are in infrequent supply. At my health centre all the patients suspected to have high blood pressure have to go to the emergency service because only there we have the equipment to measure blood pressure; [the] other offices don't have. The time patients take to go there could be reduced if the equipment exists in our offices. So, we work with deficiency, (the same) is for papers to prescribe medicine or exams- [they] don't exist.

(Participant 3, FGD 1)

The problems of the physical infrastructure and the supply of materials and medicines are clearly matters of concern for the medical technicians: there is limited space to accommodate the

necessary equipment and staff. In addition, the lack of medicine could reduce the patients' belief or faith in the efficacy of the health services in Beira.

4.4 The medical technicians' sense of job satisfaction

Medical technicians were – and still are – experiencing considerable challenges in assuming responsibility for the management of ART at the level of primary care level. These challenges often lead them to describe their work and responsibilities as being 'heavy' and extremely 'pressurizing' – at the end of the day they feel tired.

[I feel] ...the tiredness at the end of the working day. Because of the work, I don't manage to take a break for a snack as recommended by the working norms - because I don't get time for a break because of a long queue of patients; therefore, at the end of the working day I am very tired and every day I face the same routine.

(Participant 1, FGD 1)

Some of the medical technicians pointed out that they also feel guilty with the way they attend to the long queue of patients because they have to rush to attend to all the patients they felt that the quality of care suffered. They are also demotivated due to their working conditions; they feel under pressure and feel that they are not assisting the patients in the right way:

I can't say that it affects my motivation, because I am psychologically prepared for this, I like my job, but some conditions of work demotivate me. I was trained to assist patients following all the protocols of assistance, but with the high number of patients I can't manage to do that. I struggle to reduce the waiting time for the patients, so to achieve that I take up procedures, and I feel that my work is losing quality and this disappoints me. On the other hand, our logistics have weaknesses – sometimes there is no material and no medicines– so all this situations make me sad and depressed.

(Participant 3, FGD 2, Follow up interview)

In terms of [job] satisfaction - we do feel dissatisfied - just because of the workload. We like too much our job and we also like our new responsibility of ART management, but

due to the shortage of resources to attend to the patients as recommended and required we become disappointed. We attend to a high number of patients per day; we are struggling to reduce the waiting time, and the quality of our care is poor. Yes, I say that it is poor because I know how I work and I am conscious that I am not following the protocol (as required) and this affects my performance. In terms of the number of patients attended per day - we have upgraded the quantity but not the quality.

(Participant 3, FGD 2)

One of the participants felt that there is no equity in the job descriptions as they felt they worked more than other health professionals:

I like my job, but things need to change to make me feel happy: firstly by increasing the number of medical technicians to reduce our workload (so as to get more) equity in the job descriptions.

(Participant 8, FGD 2)

One of the medical technicians felt that they have been forgotten by their supervisor since it appeared that when there was ongoing training the same people were privileged to receive it:

We get training (as a profession) but now the same people benefit from continuous training, and (some of us others) are forgotten.

(Participant 7, FGD 1)

Another medical technician pointed out that they believed the system of performance evaluation was not fair since they felt that the good things they did were not noticed by their supervisors and that this affected their performance assessments and 'classification':

We work hard but in the final [assessment] one gets the same classification of performance: even if you do everything as required the classification doesn't change. But we see other colleagues with poor performances getting high classifications. I think that

it is the same if you work hard or not: no one notices you, so I become demotivated because of that.

(Participant 3, FGD 1)

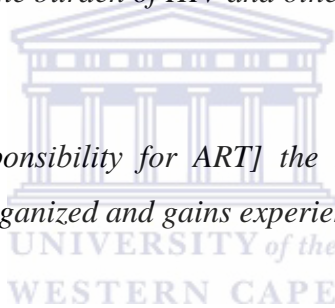
However, despite all these difficulties, the medical technicians also expressed a sense of great satisfaction with their new responsibility for managing the ART programme in the health centres. They suggested that this had provided them with a new opportunity to learn and gain experience:

Well, for me, I am acquiring a good experience now; last time ART was taking place in big hospitals [and provided by]by medical doctors, now I understand what can be done by medical technicians apart from assistance to patients in normal consultations. There is a big impact in terms of higher workloads, but ART programme management is a great experience for me, despite the burden of HIV and other opportunistic diseases.

(Participant 2, FGD 1)

...with this situation [responsibility for ART] the medical technician becomes more social, dynamic and well organized and gains experiences and improves skills.

(Participant 4, FGD 1)



One of the participants suggested that medical technicians were an important cadre of health worker because they were able to handle activities which were normally the responsibility of medical doctors. In a setting without a medical doctor they have assumed some of the responsibilities of the doctor – responsibilities that made the participants feel proud and resourceful:

On the other hand there is a positive aspect, despite of all the difficulties we face daily; me as medical technician, I think that I am the privileged one in my profession because I am in a group of professionals who do more than other professions to improve the health of the population. So this motivates me and I therefore learn as a person and also I contribute to improving the health of the (Mozambican) people.

(Participant 5, FGD 2)

The additional skills they had acquired in taking on more responsibility were considered to be a valuable part of their on-going learning process:

I can say that, despite ART programme workload, I am satisfied because it makes me very wise. Every day we improve our knowledge and skills because the ART programme calls for more attention and demands very much from the medical technicians. So because of that we try to investigate all the issues regarding ART management.

(Participant 3, FGD 2)

Similarly, another medical technician noted that:

When the medical technicians took responsibility for ART management, despite the high workload they had the opportunity to expand their field of action, learning more about other diseases.

(Participant 6, FGD 2)

The idea that the medical technicians were playing a vital role to support the health of the citizens of Mozambique, thereby assisting the country, was also raised as an important consideration by two other participants:

...here in Mozambique, where the HIV incidence is high and the mortality due to AIDS is becoming so high, the medical technicians are called to assist patients on ART with dedication and responsibility. If we don't do it our society will fall down as more people will die due to inadequate health care.

(Participant 4, FGD 1)

With this entire [work] the medical technician acts a social worker because they attend to different problems and have a sense of humanity. If one is not patient one can be stressed with this kind of work (like running to attend to different situations every day and every

time). Being a social worker (as well as a medical technician) we achieve our objective of saving lives. When we keep patients alive we feel very happy.

(Participant 3, FGD 1)

On a practical level, two of the medical technicians suggested that the ART decentralization process had benefitted the patients in a very tangible way by reducing their waiting times:

Maybe I can say that with the ART decentralization to medical technicians [on the one hand] it brought [with it a] positive impact because it reduced a bit [the] waiting time for the patients. Because when the medical technicians were not allowed to assist patients on ART, the patients were waiting [for a] long time to be attended.

(Participant 6, FGD 2)

And similarly:

When ART started it was relegated just to medical doctors and the number of medical doctors was too limited to satisfy the demand of patients; now with medical technicians also doing this the number of cadres to meet the demand has increased, helping to reduce a bit the waiting time.

(Participant 3, FGD 1)

4.4.1 Potential incentives: salary and training

Apart from their drive and commitment to assist the patients, some of the medical technicians suggested that, given their high workloads, they did not feel they were sufficiently remunerated. They felt that they were not recognized for their efforts in managing a high patient load every day and that their level of responsibility and the accompanying workload did not correspond with what they were paid. Three of the medical technicians expressed their feelings in this regard:

The medical technicians work too hard and their remuneration are very low – less than expected. This situation make them dissatisfied and (they feel) demotivated sometimes. We know that we chose this profession and we were expected to work hard to save lives,

but sometimes our motivation falls due to the problem of [our] salary. This is my opinion, so the remuneration could be a big way to motivate the medical technicians to face this problem.

(Participant 1, FGD 1)

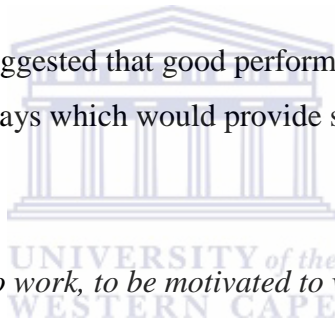
We don't have almost anything from our employees - we just have work to do.

(Participant 3, FGD 2)

Our morale is down because of the workload: we work like slaves, we are dissatisfied, we don't have materials to [do our] work, and in the final part of the year there is no incentives. We work hard but [there is] no incentive for that – the salary is so low.

(Participant 4, FGD 2)

Some of the medical technicians suggested that good performance ought to be rewarded and that this could be done in a variety of ways which would provide some motivation or incentive for them:



We need other incentives to work, to be motivated to work despite all the difficulties. For me, if someone has a good performance they could get a scholarship to continue their studies – as happens in the Ministry of Education, where the teachers with good performances win a scholarship. I think that this is one way to motivate the [health] workers.

(Participant 3, FGD2, Follow up interview)

I would like to be a medical doctor but I don't have enough money to pay the fees in the private university. Here in Beira we just have a private Faculty of Medicine.

(Participant 8, FGD 2, Follow up interview)

I think that the Ministry of Health could create a policy of incentives to motivate health workers – and consider (for example) career progression, scholarships, promotions, to

decorate someone for good performance. These could be some of the ways to motivate us improving our motivation toward our job.

(Participant 2, FGD 1)

In-service training for the medical technicians could be an incentive. What happens is that the medical doctor has in-service training and then comes to the health centre to teach us what he learned. Why not us?"

(Participant 8, FGD 2)

Lack of career progression for medical technicians was a concern of those who were interviewed. There is no such position as a senior medical technician – as exists for other professions such as for nurses or doctors. As one medical technician noted:

I am too disappointed with our policy. Wedon't have an opportunity to improve our knowledge and skills. The medical technicians don't have the opportunity to be a medical doctor or a superior medical technician. This will (lead to) a brain drain to another sectors because many medical technicians are studying, but doing courses out of [unrelated to] their career of being a clinician.

(Participant 5, FGD 1)

The findings suggest that some non-monetary incentives could be put in place to motivate the medical technicians, such as scholarships for those who perform well; or providing them with opportunities to become a medical doctors. Alternatively, the Ministry of Health could create a career path by developing a more senior post (such a senior medical technician); such career paths exist for nurses, laboratory personnel and pharmacists.

4.4.2 On-going or follow-up ART-related training

When asked about ongoing training on ART management, many of the medical technicians had a similar response: pointing out that they appeared to have been forgotten by their supervisors, since they did not appear to benefit from on-going or follow-up training to improve their skills:

Medical science is dynamic; something changes every time, and we don't have training to follow these changes. The same people are selected for training. What about us? We don't need an update? I think that these problems have to be overcome.

(Participant 1, FGD1)

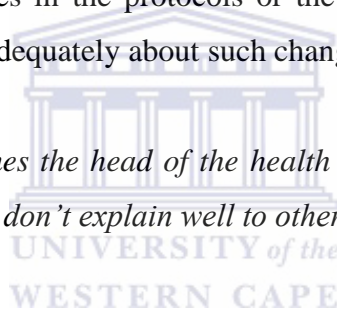
We get training, but now the same people benefit for continuous training, and we are forgotten. As example is when there is a follow-up training on the prevention of vertical HIV transmission – prevention of Mother-to- Child Transmission (PMTCT) – just the nurses benefit. Yet if there is a problem to be solved related to the patients, the nurses call for the medical technicians' assistance.

(Participant 4, FGD 2)

Another participant pointed out that they also did not always get to go to meetings or training sessions to be informed of changes in the protocols or the introduction of new interventions. This meant they were not briefed adequately about such changes:

I say that because sometimes the head of the health centre goes to meetings about new protocols of assistance and don't explain well to others.

(Participant 3, FGD 2)



When asked in which areas specifically there was a need for further training, one of the medical technicians responded as follows:

PCR [assistance to children at risk], prevention of vertical infection, AIDI[Integral attention to childhood's diseases]; these areas have a new approach of assistance and we have not benefited from training in this new approach.

(Participant 8, FGD 2)

Another participant pointed out the need for training to deal with adverse reactions on the part of patients to ART:

I think that we need more in-service training to improve our skills. We do the same every day. We also need training about the adverse reactions to (ART) medicine.

(Participant 4, FGD 1)

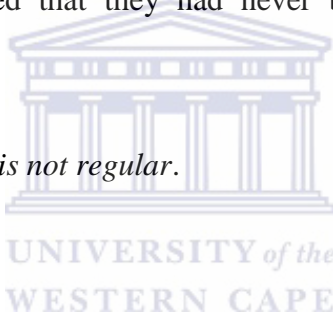
The statements made by those interviewed suggested that there is limited attention paid by the Ministry of Health to the in-service training needs of medical technicians; they have identified specific areas in which they require further input and training to support their work in the health centres.

4.5 Supervision and Support from the Health Service

When asked about the level of supervision and support they were provided with, medical technicians seemed to have different opinions. Some pointed out that they are supervised, but not regularly enough; others suggested that they had never been supervised since they began working as a medical technicians:

We have supervision but it is not regular.

(Participant 4, FGD 1)



...previously we attended meetings to discuss issues related to our work. But now this is not happening for all [of us]; just the head of clinicians benefits from this. I think that we need to go back to that kind of meeting, because it facilitates us to share experiences looking for the best ways for solving our difficulties.

(Participant 5, FGD 2)

Some medical technicians believed that the lack of supervision and technical support provided by more experienced colleagues also had a negative effect on the patients they served:

We don't have support from supervisors. I am working as medical technician, but I can't remember receiving supervision for technical assistance. This [supervision] doesn't happen here. I think that this makes things confusing for the patients, because I attend (to patients in) different ways [compared] to my colleagues [when] solving the same

issue, so the patients don't know what the right procedures are. This diminishes the patients' trust in our services, and contributes to patients not returning.

(Participant 4, FGD 2)

As a result of the many management challenges they faced (such as the inconsistent supply of medicines), one of the medical technicians suggested that their lack of supervision and follow-up training ultimately had a detrimental effect on the way he was able to problem-solve in difficult circumstances:

For me (the lack of supervision) has a negative effect. For example, I have difficulties to act in cases of adverse reaction of the medicine to the patients [I need to think about what] which could be another medicine to prescribe to the patient. This happens with my patients and I don't know how to overcome this. What happen is that the medical technicians become the most important professionals in the health centre because the medical doctor sometimes leaves for a month and all the complicated cases come to the medical technician. Sometimes there is no ambulance to refer the patient to the central hospital and I don't know what to do. I believe that if I get training [from the] service regarding this I could manage this kind of problem.

(Participant 4, FGD 1)

Thus, whilst it appears that ART decentralization and integration into PHC facilities has brought about many positive things for medical technicians (such as providing them with a greater skills set and a sense of being able to support those living with HIV), it has also placed them under considerable pressure. Unfortunately the additional workload and set of responsibilities that they have had to take on board appear not to have been matched by the provision of regular and supportive supervision, by follow-up training or by a confidence that the necessary medical supplies and logistics required for the effective management of PLHIV, including assisting with ART, will be available.

CHAPTER 5: DISCUSSION

5.1 Overview

The purpose of this chapter is to explore the relationship of the study findings to existing literature, guidelines and policies regarding human resources for health generally. More specifically, it looks at the impact the decentralization and integration of the ART programme has had on the work of medical technicians in the public health sector in Beira, Mozambique.

The study aimed at obtaining a more in-depth understanding of the perceptions and experiences of medical technicians of how the decentralization process had impacted on their workloads, responsibilities and working environments – and on their overall level of job satisfaction.

Apart from a cross-sectional study by Brentlinger et al. (2010) that focused on the quality of care provided by medical technicians after an in-service ART training course, this is the first Mozambican study that the researcher is aware of that specifically explores the perceptions, beliefs and experiences of the Medical Technicians regarding the ART decentralization process.

The study by Brentlinger et al. (2010) pointed to common errors made by the respondents in the assignment of the patient's clinical HIV stage (that is, before completing the relevant patient evaluation) and to a lack of sufficient observation of indications or contra-indications before initiating treatment with the drug co-trimoxazole. This finding is in line with the suggestions made by the medical technicians in the current study regarding the difficulties they faced in properly evaluating their ART patients. This was as a result of their heavy workloads (and their awareness of the other patients in need of their assistance). They felt that, in the absence of proper supervision, they lacked the knowledge needed to address some of the problems arising from adverse reactions to ART. The Medical technicians felt that the ART training they received was insufficient. As Melby, Boore and Murray (1992) assert, an inadequate knowledge of the treatment of HIV/AIDS patients may lead to inappropriate medical interventions.

5.2: Constraints encountered by medical technicians in managing the ART programme

5.2.1 Inadequate health infrastructure, equipment and supplies

From the interviews it is clear that the physical infrastructure of the primary-level health care facilities does not enable the medical technicians to perform their duties effectively. Appropriate infrastructure is an important prerequisite for the effective integration of an ART programme into existing services. However, as Topp et al. (2010) suggest, integration is not possible without significant renovation of the existing infrastructure or the provision of new infrastructure. The present infrastructure in Beira often dates from the colonial period (before 1975); it was reconstructed after independence, following the expansion of the public health services. At this time there was little or no demand for some of the services that are now provided at the health centres in Beira – such as the ART services, which now account for a significant number of the patient visits. Obviously as the number of people receiving ART has increased, this has placed additional strain on the health system and its workforce: the larger patient population causes bottlenecks in the system, places strain on the existing infrastructure and threatens to overwhelm the health service providers (Lambdin et al., 2011).

With the emergence of HIV and the advent of ART services, there is a need for greater patient privacy and confidentiality. However the study revealed that there are a limited number of consultation rooms, and that some of the existing rooms do not even have sufficient space for a bed (for patient examinations). There is also a problem with ventilation: some medical technicians felt they were at risk of contracting communicable diseases, such as tuberculosis. Some of the consultation rooms had been constructed in an ad hoc manner (for example, by using low-cost building materials or temporary partitions that provide little privacy). Other patients and staff members were able to overhear the patient/health worker consultations in some of the facilities. In addition, some of consultation spaces did not have curtains, which meant that someone outside could see what was happening inside. Given these physical arrangements, some medical technicians suggested that there was a need for additional, appropriately constructed consulting rooms; this would ensure greater confidentiality and provide adequate space for physical and psycho-social consultations with patients.

Other aspects of their working conditions were also of concern to the medical technicians. For example, there were shortfalls in the supply of medicines and bio-safety materials; there was often a lack of writing paper for prescribing medicines; dirty rooms within the facilities were also a major concern. Mathauer and Imhoff (2006) suggest that these physical working

conditions are an important motivational determinant, and should receive attention from human resources management. According to Mulamba et al. (2010) if ART services are to be introduced at PHC centres, the working conditions should be improved. There must be adequate space with proper ventilation (to control the spread of airborne pathogens), and to ensure privacy within consulting rooms; there must also be a continuous and secure supply of medicines and other commodities. The study findings show that these conditions were not necessarily observed when ART was decentralized and integrated into PHC facilities in Beira. The Mozambican health sector has increased the coverage of ART by, for example, increasing the number of sites at which ART is available countrywide, from 60 in 2003 to 211 in 2007 (Macumbe and Shikhani, 2008). However, in order to make these much-needed services generally available, there is also a need to ensure that the infrastructure and equipment to run such services effectively is provided, along with the roll-out of the ART programme.

5.2.2 The shortage of HRH in the face of increased responsibilities and workload

According to (Van Damme, Kober and Kegels, (2008) the lack of HRH in Sub-Saharan Africa has been identified as the main constraint to the scaling up of ART programmes. Their study revealed that medical technicians have to perform a wide range of clinical services for their HIV-positive clients, while also attending to the health needs of other patients. Many of the participants in this study felt that there are not enough health workers to support them in carrying out their duties. For example, the medical technicians interviewed suggested that, with the introduction of ART programmes, their responsibilities had increased –they also had to provide specialized care to HIV-positive patients (particularly those on ART). Apart from taking on the HIV-related workload they continued to assist in the delivery wards and were called upon to assist in cases of medical emergency. They also had to carry out administrative and management tasks (such as reporting on health statistics, managing medical and general supplies, and ensuring that of water and food were provided to patients). As medical technicians, they were also the directors of their respective health centres.

Thus, as a result of the decentralization and transference of the ART services (and patients) from the central hospital to the PHC health centres, the work of the medical technicians has not only

become more varied and complex, it has also become more time consuming: their responsibilities and their patient loads have both increased.

Offering integrated services (i.e. both HIV-related services and general clinical care for other patients) is difficult when there are long queues of patients every day. This is similar to the findings of the Shisana's study: nurses in South Africa pointed out that they were not able to provide holistic care to their patients because of the shortage of staff and the number of patients requiring treatment (Shisana, 2002).

To ensure that they were able to consult with every patient who arrived at the health centre – and in attempt to reduce the waiting times – the medical technicians were not always able to observe the correct medical procedures and protocols. This made them feel 'guilty' and 'sad' as they knew that by trying to assist all their many patients they were offering a less satisfactory quality of care. This supports the conclusion of Lambdin et al. (2011), who argue that an overstrained health system is likely to result in longer waiting times and a less satisfactory interactions with patients. This could in turn lead to increased patient dissatisfaction and to higher rates of attrition from ART programs.

It is understandable that in this situation a medical technician would make the following suggestion:

“I would like that in the future that ART management could be integrated (in the work of) all the health professionals– this would reduce the waiting time for a patient”

(Participant 3, FGD 2).

Unfortunately, medical doctors and nurses are also in short supply in Mozambique and it would be unrealistic to think that the Ministry of Health could afford to pay for additional numbers of nurses and doctors to work at the health centres – especially given the lengthy periods of professional training needed by nurses and doctors (2.5 and 6 years respectively).

However, the possibility of additional HRH will not solve the problem that Medical Technicians are facing in terms of under-staffing. What is needed is to pay more attention to the way in which the various members of the health service are used (Van Damme, Kober and Kegels, 2008). Some medical technicians feel that they are working much harder than other health professionals and that their job descriptions and responsibilities need to be revised. They suggest

that transferring some their tasks to other health personnel might help to reduce their workloads. This suggestion is in line with the finding of a study by Callaghan, Ford and Schneider (2010), who concluded that task shifting was an effective way of dealing with staff shortages in the provision of HIV/AIDS treatment.

One should also bear in mind that medical technicians also have to attend seminars (which can last for a week or more), and that at times they become sick or need to take a vacation; this makes it difficult for the remaining medical technicians at the health centres to attend to all the patients requiring care. It is likely that the positive and altruistic feelings of Medical Technicians with regard to their patients and to specific aspects of their job are constantly at risk of being undermined by all the infrastructural and logistical difficulties.

And as Gueritault-Chalvin et al. (2000) have suggested, the consequences of occupational burn-out may include reduced productivity, absenteeism and higher turnover of staff. One of the key challenges facing the medical heads and the human resources managers within the Ministry is the development of workable strategies to circumvent or counter the crisis that might arise as a result of stress or burnout on the part of medical technicians.

5.2.3 The need for regular supervision and on-going training

The medical technicians interviewed indicated that they believed that they were not getting enough support from the Ministry in terms of managing the clinical and organizational problems they had to deal with. Apart from the problems mentioned above, the interviewees raised the importance of obtaining more supervision in the technical aspects of their work. Interviewees noted that they did not receive regular supervision; they did not even have meetings to discuss the problems they experienced in their work. They believed that regular supervision they would improve their performance and help to solve eliminate some of their procedural errors. In addition, the medical technicians also suggested that it would be helpful to have a forum to discuss the issues arising from their work and to share their experiences with each other.

In line with the policy of the public service in Mozambique, each public servant ought to receive regular supervision and technical assistance from the head of his or her department (Ministério da Administração Pública, 2009). This ought to include guidance regarding the development of

an annual work plan, the monitoring of this work plan, and assistance should an employee experience difficulties with their work plan. While the Health Department in Beira is obliged to provide all health workers with regular supervision and technical support, this does not appear to be happening in the case of the medical technicians.

According to Mathauer and Imhoff (2006) supervision, performance management, training and professional development, and intra-organizational communication processes are some of the core human resource factors that may affect motivation. The findings of this study show that there is little attempt to make use of human resource management processes and tools, and that this likely to undermine the motivation of medical technicians'. To improve motivation (and therefore staff performance) it is necessary to pay more attention to motivating factors that will increase the individual's sense of achievement and provide some recognition for achievement (Dieleman et al., 2003).

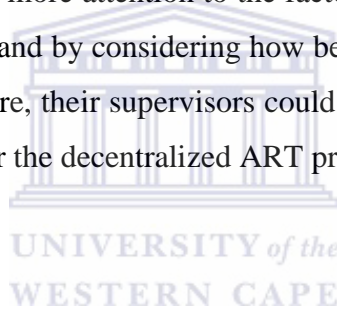
Another issue raised by the medical technicians, which also has a bearing on motivation, was that of incentives. Interviewees suggested that because the salary of a Medical Technician was low, some non-financial incentives, such as recognition for good performance (through offering scholarships and career-pathing) would increase their motivation. This finding is in line with the recommendation of Mathauer and Imhoff (2006) who concluded that acknowledging health workforce professionalism and addressing employees' professional goals through recognition, career development and further qualification must be the aim of human resource management. By offering such support the Ministry would provide a work environment that enabled health workers to meet their personal and organizational goals.

The findings also reveal that some medical technicians feel that there is a lack of transparency and equal treatment in the way they are selected for further training, and that the current performance appraisal is not helpful. As Blackburn and Rosen (1993) suggest, career development must emphasize opportunities for continuous learning and not just assist upward mobility. This could be also implemented at Beira health services and would to give the medical technicians an opportunity to advance their careers and improve their skills. This would also assist the health services to meet their goals, since there will be a more qualified, competent and motivated staff component.

5.3 Medical technicians' sense of job satisfaction

Despite the many challenges that medical technicians have to face, with regard ART provision in particular, this study shows that they are motivated and proud to be part of an important initiative, one which enables them to save lives and that brings hope to patients in need. One interviewee talked about how he felt “privileged” to be given the responsibility for ART management as it allowed him to contribute to *“improv[ing] the health of the population”*; and *in being able to do this it served as an important “motivating” factor to continue with his work.* (Participant 3, FGD 1)

These findings are in line with those of George et al.(2010), who suggested that the impact of ART programs on the health workforce could in fact be positive – in terms of increasing health worker motivation and job satisfaction; this was because of the potential of ART to improve the health of their patients. By paying more attention to the factors that medical technicians suggest *would* motivate and inspire them, and by considering how best to provide them with the training and supervisory support they require, their supervisors could assist the Ministry in achieving the goals that have been established for the decentralized ART programme in Beira, Mozambique.



CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Despite the many socio-economic and political challenges faced by Mozambique after independence in 1975, much work has been done by the Ministry of Health to support the health of the Mozambicans. However, as with other countries in Southern Africa, HIV/AIDS is a major public health concern in Mozambique.

The ART programme was introduced in Mozambique in 2003 and was implemented alongside other health services offered in hospitals. In 2006 the ART programme was decentralized to the districts and offered alongside other services provided by the PHC health centres.

This study aimed to explore the experiences and perceptions of medical technicians of the decentralization and integration of ART services into PHC health centres in Beira. The study found that the decentralization process was viewed by many of the medical technicians as a very positive initiative for the country. However a number of operational and managerial issues still needed to be addressed by the Health Department in order to ensure the effectiveness of the comprehensive approach that was institutionalized and adopted by all PHC health centres in 2006.

Key amongst the issues that need to be addressed, from the perspective of the medical technicians interviewed, was that of the workloads of the health teams at the PHC health centres, and specifically the workloads of the medical technicians: workloads had increased without any corresponding increase in the health workforce to manage the increased patient load. Medical technicians felt that this adversely affected the quality of care that they were able to provide to patients, and specifically to those requiring ART medication. Along with the logistical challenges (such as an interrupted supplies of ART medication and an inadequate infrastructure for private consultations) the medical technicians also received limited follow-up training and supervision. As a result of such factors, and the limited career options available to them, the medical technicians felt under pressure, and were at times were despondent and demotivated.

Putting in place appropriate human resource management and training systems is an essential responsibility of the Ministry of Health: the Ministry needs to ensure that their health workforce is adequately supported and motivated in the workplace. Providing medical technicians with ongoing support and supervision – given that they are one of the critical primary health care providers responsible for implementing the ART programme in Mozambique – is a priority for the future.

6.2.1 Recommendations for future interventions in the health service

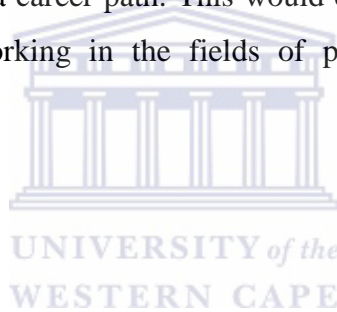
It is recommended that the District Service of Beira and the Provincial Health Directorate:

1. request local government and the Ministry of Health to consider providing scholarships to medical technicians (and specifically to those with good performance records) who are wanting to continue their professional training and become medical doctors;
2. assign the Medical Head to identify gaps in the knowledge and clinical practice of the Medical Technicians (in relation to the provision of ART), with a view to developing an ongoing training programme to address the current needs of medical technicians;
3. assign the Medical Head and the Human Resources Manager to develop and implement, in line with the performance appraisal locally referred to as '*Sistema de Gestão de Desempenho na Administração Pública*', the necessary human resources management mechanisms; this will (a) provide medical technicians with regular supervision, and (b) address some of their concerns regarding workloads and working conditions.
4. request the Medical Head (with the assistance of medical technicians) to find an appropriate mechanism (such as a forum) to enable them to meet on a regular basis as colleagues; with the support of a mentor or supervisor; this would enable them to find ways of dealing with the technical and management problems they encounter in their daily practice;
5. request (via the Provincial Health Department) the National Directorate of Medical Assistance to explore the possibility of shifting the responsibility for first-line prescription of ART to nurses and other clinicians; and

6. liaise with the Provincial Department of Planning and Cooperation to consider ways of restructuring aspects of the existing PHC Health Centres, with the aim of providing medical technicians with a risk-free and confidential environment in which to conduct consultations.

6.2.2 Recommendations for further research in the field

1. The Ministry of Health could consider the possibility of commissioning a more in-depth study of the factors that are currently contributing to low motivation and morale amongst medical technicians. This would enable the Ministry to design human resource management strategies to enhance motivation, increase staff productivity and the improve the quality of care that is provided to patients.
2. The Ministry of Health should commission a study to consider the implications and benefits of creating a new position (e.g. the Senior Medical Technician) which would offer the opportunity to progress along a career path. This would complement the career pathways of other health professionals working in the fields of pharmacy, nursing and in medical laboratories.



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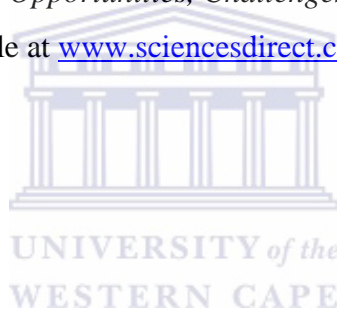
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one or both of my supervisors. My contact details, as well as those of my supervisors, you will find at the end of this letter.

TITLE OF THE RESEARCH

The perceptions and experiences of Medical Technicians on the decentralization of the ART Programme in Mozambique.

PURPOSE OF THE STUDY

It has long been recognized that with the increasing number of people living with HIV/AIDS, the additional clinical and counseling responsibilities associated with the HIV epidemic and a diminishing health workforce health care workers have had to face considerable challenges.

Although Medical Technicians have been responsible for managing HIV/AIDS-related care (including the initiation and management of ART) since 2007 in Beira, no research has been done on assessing the experiences and perceptions of this cadres on the decentralized ART programme in terms of their work load, their professional duties and their level of job satisfaction. These issues form the focus of this study.

It is hoped that your participation in this study will deepen our understanding of some of the experiences of Medical Technicians and the challenges they face in relation to this issue and how best you think the Ministry of Health can provide Medical Technicians with the necessary support in the future. In addition, it is hoped that the results from this research will guide the Ministry of Health on aspects of their implementation of the national HIV and AIDS strategy (2008-2014) and the National Human Resources Development Plan (2008-2015).

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT

The study will be conducted through the use of focus groups discussions and individual interviews. There is a possibility that if you participate in a focus group discussion the interviewer might also request an additional, follow-up but individual interview with you in order to explore some of the issues that you raised in the discussion group in further detail.

A question guide will be used for both the focus group discussions and the individual interviews and will focus on your experiences, observations, opinions and ideas about what impact the decentralization of the ART programme has had on the work load, professional responsibilities and job satisfaction of Medical Technicians – and what support ought to be provided to them in the future by the Ministry of Health. Each focus group and interview is expected to be one hour in length.

CONFIDENTIALITY

Should you decide to participate in this research study your identity and contributions will be kept in confidence and shall not be revealed outside of this study at any time. Records of your participation and signed consent, should you agree to participate, will remain confidential and will be destroyed after the completion of the research.

VOLUNTARY PARTICIPATION AND WITHDRAWAL

Your participation in this research is voluntary and you may accept to participate (or not) and you may withdraw at any stage should you choose to do so. You are not obliged to answer any questions that you do not feel comfortable with and you do not have to discuss issues that you feel you should not discuss in the study.

BENEFITS AND COSTS

You will incur no costs apart from the time you spend in the focus group discussion or interview. There are no monetary benefits for participating but you would have contributed in providing information that will potentially produce a relevant piece of research about the experiences of Medicine Technicians managing the ART programme in Beira – which could in turn guide the Ministry of Health in their future planning.

INFORMED CONSENT

Your signed consent is required before we proceed with the focus groups discussion and/or the interview. The consent form has been included with this information sheet to enable you decide to participate in this study or not.

QUESTIONS

For further clarifications and inquiries about the research, my contact details and those of my supervisors are below.

Ms. Ana Maria M. Joaquim

Student Number: 2974765

Cell phone: 258825837396

E-mail: anamjquim@gmail.com

My supervisors details:

Ms. Nikki Schaay

The School of Public Health

University of the Western Cape

Tel: 27842115544 or 27217884186

E-mail: schaay@mweb.co.za



My co-supervisors details:

Dr. Martinho do Carmo Djedje (MD,Msc,PhD)

National Director of Human Resources

National Directorate of Human Resources

Ministry of Health

Mozambique

E-mail: dgedge@gmail.com

Cell: 258823260650

APPENDIX A:

PORTUGUESE VERSION

Ficha de Informação do Participante

August 2011

Caro Colega

Obrigado por aceitar inteirar-se sobre esta pesquisa. O que segue é uma explicação sobre o projecto de pesquisa e um esboço do seu potencial envolvimento. A pesquisa está sendo conduzida para uma Mini-tese, requisito exigido para a obtenção do grau de Mestrado em Saúde Pública com ênfase no Desenvolvimento de Recursos Humanos de Saúde do qual sou candidata finalista na Universidade de Western Cape, na Cidade do Cabo - África do Sul. Caso exista algo que não entenda ou não esteja claro, por favor não exite em perguntar-me. Dados sobre o meu contacto e dos meus supervisores encontram-se no fim deste memo.

TÍTULO DA PESQUISA

Percepções e experiências dos técnicos de medicina da descentralização do TARV em Moçambique

OBJECTIVO DO ESTUDO

E muito bem reconhecido que com o crescimento do numero de pessoas vivendo com o HIV/SIDA, as actividades adicionais de aconselhamento para o HIV associadas ao numero reduzido de funcionarios de saude tem se revelado um grande desafio.

Desde 2007 os tecnicos de medicina tomaram a responsabilidade de prescrever a primeira linha do TARV; desde entao, nenhuma pesquisa foi desenvolvida com vista a colher as experiencias e percecoes destes quadros em relacao ao volume de trabalho dadas as novas tarefas que lhes foram atribuidas profissionalmente e o seu nivel de satisfacao no trabalho, problemas estes que constituem o enfoque deste estudo.

Espera-se que com a sua participação, uma melhor compreensão seja obtida sobre as experiencias e dificuldades enfrentadas pelos tecnicos de medicina em relacao aos assuntos acima descritos e colher as suas propostas de como o Ministerio de Saude pode apoiar na solucao dos problemas futuramente. Espera-se tambem que os resultados desta pesquisa possam guiar o Ministerio da saude na implementacao do plano estrategico de combate ao HIV/SIDA (2008-2014) e do Plano Nacional de Desenvolvimento de Recursos Humanos (2008-2015).

DESCRIPÇÃO DO ESTUDO E DO SEU ENVOLVIMENTO

A pesquisa incluirá discussão de grupos focais e entrevistas individuais com informantes chaves com reconhecida experiência em lidar com os problemas e preocupações dos tecnicos de medicina. Existe a possibilidade de ser solicitada para uma entrevista individual depois da discussao nos grupos focais tendo em vista explorar com mais detalhes as suas contribuicoes dadas durante os grupos focais.

Um guiaio de entrevistas sera usado para conduzir tanto os grupos focais quanto as entrevistas individuais com maior enfoque nas suas experiencias, observacoes, opinioes e ideaias a cerca do impacto da descentralizacao do TARV quanto ao volume de trabalho, a responsabilidade profissional e satisfacao no trabalho dos tecnicos de medicina – e qual suporte deve ser providenciado pelo Ministerio da Saude no futuro. Cada grupo focal e intrevista individual terao a duracao de uma hora.

CONFIDENCIALIDADE

Seu nome será mantido confidencial em todos os momentos. Serão mantidos os registros de sua participação, (incluindo um formulário de consentimento assinado por si, se concordar em

participar desta pesquisa), guardados em segurança e serão destruídos depois de terminada a investigação.

PARTICIPAÇÃO E RETIRADA VOLUNTÁRIA

A sua participação nesta pesquisa é totalmente voluntária ou seja, você não é obrigado em participar. Se você optar por participar, você pode parar a qualquer momento. Você também pode optar por não responder a perguntas específicas que são feitas no estudo. Se existe alguma coisa que você preferiria não discutir, não hesite em dizer.

CUSTOS E BENEFÍCIOS

Você não receberá qualquer benefício directo deste estudo. No entanto, as informações que colhermos com os participantes neste estudo, podem ajudar na orientação dos profissionais de saúde e do pessoal do departamento de recursos humanos no futuro. Não há custos para participar neste estudo para além do tempo que você vai gastar na discussão em grupo e / ou entrevista.

INFORMAÇÃO DE CONSENTIMENTO

A sua assinatura de consentimento em participar nesta pesquisa, é requerida antes que prossiga com a entrevista. Foi incluído o *formulário de consentimento* junto com esta folha de informação que lhe permitirá rever e em seguida decidir se irá participar ou não.

QUESTÕES

Caso tenha questões adicionais ou desejar saber mais sobre a pesquisa, pode contactar me pelo seguinte endereço:

Ana Maria M. Joaquim

Numero de Estudante: 2974765

Celular: 258825837396

E-mail: anammjquim@gmail.com

Detalhes dos meus supervisores:

Nikki Schaay

Escola de saude publica-Universidade de Western Cape

Tel: 27842115544 or 27217884186

UWC student no: 2974765

Cell: 2585837396

Fax: 21022388

E-mail: anammjquim@gmail.com

Institution: Servico Distrital de Saude, Mulher e Accao Social da Beira, rua Correia de Brito, Beira
Mozambique

Interviewee's pseudonyms:.....

Place at which the interviews will be conducted : Beira's Public Health Centers with ART services.

Thank you for agreeing to allow me to interview you. What follows is an explanation of the purpose and process of this interview. You are asked to give your consent to me on tape, for me to conduct an interview with you and to use this data for my research project for fulfillment of the requirements of the MPH program with the School of Public Health, UWC, South Africa.

1. Information about the interviewer

I am Laiza Muchanga, Teacher of psychology subject at American Board School, I am here to interview you accountable to Ms Ana Maria M. Joaquim, a student at the SOPH, University of The Western Cape, South Africa. As part of her Masters in Public Health, she is doing an operational research project focused on the issue of perceptions and experiences of Medical Technicians on the decentralized ART programme to PHC and I would like your opinion, perception and feelings on this topic. She is accountable to Ms Nikki Schaay who is her supervisor and Dr. Martinho Djedje National Director of Human Resources at the Ministry of Health from Mozambique as co-supervisor

2. Purpose and Content of the interview

The purpose of the study is to explore the experiences and opinions of Medical Technicians in managing the impact of the ART decentralization and integration process into the public health centers of Beira in Mozambique. It is hoped that your participation in this study will deepen our understanding of some of the experiences of Medical Technicians and the challenges they face in relation to this issue and how best you think the Ministry of Health can provide Medical Technicians with the necessary support in the future. In addition, it is hoped that the results from this research will

guide the Ministry of Health on aspects of their implementation of the national HIV and AIDS strategy (2008-2014) and the National Human Resources Development Plan (2008-2015).

3. The interview process

The interview will last for approximately one hour and will be carried out in a quiet place in one of the offices of the Public Health Center. Questions about the issues outlined above, namely, what impact the decentralized HIV service is having on the work load, professional responsibilities and level of job satisfaction of Medical Technicians will guide the interviews.

4. Anonymity of Contributors

Your identity and contributions shall be kept in confidence and shall not be revealed outside this study at all time. Records of your participation and signed consent from which you will complete before the research beginning will be confidential and destroyed after the completion of the research.

5. Things that may affect your willingness to participate

Your participation in this research is voluntary and you may accept to participate or not and you may withdraw at any stage you choose to do so. You are not obliged to answer any questions you do not feel comfortable with and you do not have to discuss issues that you feel you should not discuss in the study.

6. Agreement

6.1 Interviewee's agreement

I-----(full name) do agree to take part in the research interview

Date:-----

Place:-----

Signature:.....

6.2 Interviewer agreement

I shall keep the contents of the above research interview confidentially in the sense that the pseudonym noted above will be used in all documents which refer to the interview. The contents will be used for the purposes referred above, but may be used for published or unpublished research at a later stage without further consent. Any change from this agreement will be re-negotiated with you.

Signed:.....

Date:..... Place:.....

APÊNDICE B

PORTUGUESE VERSION

CONFIRMAÇÃO DE CONSENTIMENTO

Data.....

Nome do pesquisador : Ana Maria M. Joaquim

UWC student no: 2974765

Cell: 2585837396

Fax: 21022388

E-mail: anammjquim@gmail.com

Instituicao: Servico Distrital de Saude, Mulher e Accao Social da Beira, rua Correia de Brito, Beira
Mocambique

Pseudonimos dos entrevistados:.....

Local das entrevistas: Centros de Saude com servicos de TARV na cidade da Beira.

Muito ogridada por concordar que eu o entreviste. O que vem a seguir e a explicacao do processo de entrevista. Voce e solicitado a providenciar-me o seu consentimento em entrevista-lo e usar os dados para a minha pesquisa para o Mestrado em saude publica na Escola de Saude Publica- Universidade de Western Cape, Africa de Sul.

TÍTULO DA PESQUISA

Percepções e experiências dos técnicos de medicina da descentralização do TARV em Moçambique

1. Informacoes do entrevistador

Chamo-me Laiza Muchanga, psicologa, docente da escola American Board. Fui contratada para entrevista-los pela sra Ana Maria M. Joaquim, estudante da Escola de Saude Publica, Universidade de Western Cape, Africa de Sul. Ela esta a desenvolver uma pesquisa para conclusao do nivel de Mestrado cujo tema esta focalizado nas percepcoes e experiencias dos tecnicos de medicina na descentralizacao do TARV.

2. Objectivos e Conteudo da entrevista

O objectivo deste estudo e explorar as experiencias e opinioes dos tecnicos de medicina na gestao do processo de descentralizacao e integracao do TARV nos centros de Saude da Cidade da Beira em Mocambique.

Espera-se que com a sua participação, uma melhor compreensão seja obtida sobre as experiencias e dificuldades enfrentadas pelos tecnicos de medicina em relacao aos assuntos acima descritos e colher as suas propostas de como o Ministerio de Saude pode apoiar na solucao dos problemas futuramente. Espera-se tambem que os resultados desta pesquisa possam guiar o Ministerio da saude na implementacao do plano estrategico de combate ao HIV/SIDA (2008-2014) e do Plano Nacional de Desenvolvimento de Recursos Humanos (2008-2015).

3. O processo de entrevista

A entrevista tera a duracao de uma hora e sera conduzida num ambiente calmo numa das salas do centro de saude. Questoes sobre o impacto da descentralizacao do TARV no volume de trabalho, na responsabilidade profissional e na satisfacao no trabalho para os tecnicos de medicina, guiarao a entrevista.

4. Anonimato dos participantes

As vossas identidades e contribuicoes serao anonimas e confidenciais. As gravacoes das entrevistas e assinaturas de consentimento que irao preencher antes do inicio das entrevistas serao confidenciais e destruidas depois de concluida a pesquisa.

5. Assuntos que possam afectar a sua vontade em participar

Como foi mencionado na *Folha do Participante*: sua participação nesta pesquisa é totalmente voluntária ou seja, você não é obrigado em participar. A recusa em participar ou a retirada do estudo não resultará em penalidade, nem qualquer perda de benefícios aos quais você tenha direito.

Se você optar por participar, você pode parar a qualquer momento. Você também pode optar por não responder a perguntas específicas que são feitas no estudo. Se existe alguma coisa que você preferiria não discutir, não hesite em dizer.

6. Acordos

6.1 Acordo dos entrevistados

I----- (nome completo) concordo em fazer parte desta entrevista para a pesquisa

Data:-----

Local:-----

Assinatura:.....



6.2 Acordo do entrevistador

Manterei confidenciais os conteúdos das entrevistas usando apenas o pseudônimo dos participantes em todos os documentos. O conteúdo das entrevistas será usado para o respectivo propósito referenciado acima, mas poderá ser usado para publicar a pesquisa no estágio final sem o respectivo consentimento. Qualquer mudança que ocorrer neste acordo será renegociada com os participantes.

Assinado:.....

Data:.....Local:.....



APPENDIX C: FOCUS GROUP DISCUSSION GUIDE

Introduction of researcher and participants and outline of the aim (including requesting permission about whether the discussion can be taped or not).

- 1) In your opinion what, if anything, are the key things that have changed about your work since ART programme was decentralized to the public health centres and you were responsible for its management?
- 2) Can you talk a little more about the changes (if any) you have experienced in terms of workload:

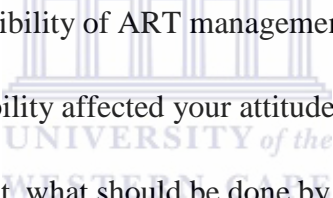
Probes:

- Has there been a change in terms of your workload with your additional responsibility of ART management?
 - If an increased has been experienced, what are the indicators of this change?
 - When (which year) did you notice an increase in the workload?
 - What do you think are the reason for this increase in the workload?
- 3) Can you talk a little more about any changes (if any) you have experienced in terms of your professional responsibilities since the ART programme was decentralized to the public health centres?

Probes:

- What changes has this brought about in relation to your clinical practice: what additional responsibilities did this mean you had to take on?
 - Did you feel you this was within your scope of practice?
 - Do you believe there are sufficient cadres of health workers to effectively deal with HIV/AIDS particularly with the decentralized ART service?
 - Do you have an adequate supply of protective materials at this institution right now (ie. today)?
 - What protective materials are in short supply right now (ie. today) and why?
 - Is this a normal occurrence or just for today?
 - What is your perception of the risk of getting infected by HIV whilst on duty?
- 4) Can you talk a little more about any changes (if any) you have experienced in terms of your job satisfaction since the ART programme was decentralized to the public health centres?

Probes:

- 
- Do you feel that the responsibility of ART management has impacted on your level of job satisfaction?
 - Has this increased responsibility affected your attitudes or morale towards your work? If so, how?
 - If it has had a negative effect, what should be done by the different stakeholders to deal with this – and who should do what?
 - Have you noted an increment in the absence of health staff or your colleagues from duties?
 - What do you think are the main reasons for this absence?
- 5) In what areas do you think you would benefit from more support from the Ministry of Health?
- 6) Is there anything else that you would like to add concerning the ART decentralization to the public health centers and your role in managing this in this city?

Thank the interviewee for their participation and inform them that a summary of the key issues discussed will be returned to them for their consideration and feedback.



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APPENDIX D: FOLLOW UP INDIVIDUAL INTERVIEW GUIDE

1. How old are you?
2. Sex M/F_____ (to be indicated)
3. How long have you worked in public hospital?
4. In your opinion what is the single most important constraint in health service delivery these days?
5. How do you compare workload during the early period of your employment and this time with ART programme?
6. If the answer is “increasing” what do you think is the fundamental reason of increase?
7. Is this increase affect your morale towards your work?
8. If yes, in which ways it affects your morale?
9. Do you feel that with the ART programme additional medical technicians are necessary in your health center? Why?
10. Have you been absent from working any time during the past four weeks?
11. If yes, what was/were the reason(s); Were these HIV/AIDS related?
12. Do you fear the risk of contracting HIV/AIDS virus from HIV positive patients?
13. If yes, why? Please, explain?
14. If No, Why? Please, explain?
15. What do you do to minimize the risk of contracting HIV from the patients?
16. In your opinion, how do you think about the level of availability of supplies and commodities for management of patients?
17. Does this poses any challenge regarding your work?
18. Do you have idea on what could be improved?
19. If yes, explain?
20. If yes, what and how?
21. Do you have a framework where your work related problems can be discussed and solve with your supervisor?
22. If no, how your problem is normally solved?
23. What do you think could be done to solve this problem?

Thank the interviewee for their participation and inform them that a summary of the key issues discussed will be returned to them for their consideration and feedback.



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WESTERN CAPE

APPENDIX E: Guide to Conducting interviews with the key informants

1. Please describe your experience as manager before and after ART Programme decentralization to your service. What are the positive and negative aspects?
2. Do you feel that you have enough workforce to deal with this programme?
3. What complains you receives from Medical Technicians since they took the responsibilities to carry out ART programme at the same time with outpatient and inpatient consultation ?
4. What is your perception about their current performance with the additional responsibility of ART management? If decreased or increased, please, explain why?
5. The health centers have a regular supplies of bio-safety materials and other commodities?
6. What materials are in short supply in the health centers? Could you explain why?
7. What does the district do to support Medical Technicians to make sure that they are providing the best services possible?
Probes: Training, opportunities for further studies, promotions, support to supervisors/managers
8. Can you suggest any other strategies/solutions to overcome these issues?

Thank the interviewee for their participation and inform them that a summary of the key issues discussed will be returned to them for their consideration and feedback.