

**UNIVERSITY OF KWAZULU-NATAL**

**EFFECTIVENESS OF TUBERCULOSIS MANAGEMENT AT KWAMSANE  
CLINIC**

**BY**

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## DECLARATION

This research has not been previously accepted for any degree and is not being currently considered for any other degree at any other University.

I declare that this dissertation contains my own work except where specifically acknowledged

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## **ABSTRACT**

South Africa has the highest Tuberculosis (TB) incidence in the world. In 2006 it was estimated that in South Africa, with only 0.7% of the world population; some 28% of HIV positive adults had TB. To treat one patient with ordinary TB costs the Health Department approximately R310 and a patient with multi-drug TB (MDR-TB) more than R2000. TB has added to the burden of a country which is struggling to cope with the HIV/AIDS pandemic. TB is one of the national health priorities of the Department of Health (DoH). KwaMsane Clinic is located at Mtubatuba, in the UMkhanyakude district. The uMkhanyakude district has the highest prevalence of HIV and the highest number of cases of TB in South Africa. The UMkhanyakude district stretches from the Umfolozi River, which is south of Mtubatuba, to the Mozambique and Swaziland borders. The clinic is a Primary Health Care centre and is open 24 hours a day. UMkhanyakude has a population estimated at 614,046. According to the DoH National Tuberculosis Management Guidelines (2009), the greatest challenge that the TB programme faces are inadequate financial and human resources for TB control, resulting in poor case detection, increasing numbers of multi-drug resistance TB, extensively dry-resistance TB and poor quality data collection and data analysis.

The study set out to identify the challenges that KwaMsane clinic faces in terms of TB management. It was found that the problem facing KwaMsane clinic's effectiveness was largely due to two factors. The first is the delay in patient diagnosis and the second is the negative nurse/patient ratio which affects the workload and compromises levels of service delivery. The population was sufficiently small, but statistically adequate and all 31 employees were surveyed. Of these, 61% or 19 of the employees agreed that there is a delay in patient diagnosis. The recommendations for KwaMsane clinic include more effective recruiting of staff; attracting and retaining qualified and experienced health personnel; equipment and resources need to be more available; and the clinic management should ensure that they have enough personnel to cope with high number of patients. More research is needed on issues such as recruiting attracting and retaining qualified and experienced health personnel; provision of skills training for clinic management and other health personnel to improve service delivery; management of information systems at primary health care clinics for record keeping and data analysis; and integrating TB and HIV/AIDS management.

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# CHAPTER ONE: INTRODUCTION TO THE RESEARCH

## 1.1 INTRODUCTION

KwaMsane clinic is situated Northern Zululand in KwaZulu-Natal, in the Hlabisa Health sub-district, under uMkhanyakude district. The Hlabisa Health sub-district is 1,430 square kilometres in size and has a population of approximately 220,000 Zulu speaking people. Of these, 3.3% are located in a formal urban township of KwaMsane, 19.9% live in sub-urban areas and the remaining 76.8% live in the surrounding rural areas. The population distribution is characterised by extremely heterogeneous and a dense range over two orders of magnitude, (Houlihan, Bland, Mutevedzi, Lessells, Ndirangu, Thulare and Newell, 2010: 2).

The district has one district hospital, Hlabisa Hospital, 13 primary health care clinics, 30 mobile clinics points that are visited twice a month and 130 community health workers. To access health care 60.8% of the population walk to the clinic, 38.8% use public transport and only 0.4% use their own transport Houlihan et al, (2010:7). The area of the clinic is shown on the map in Figure 1.1 below.

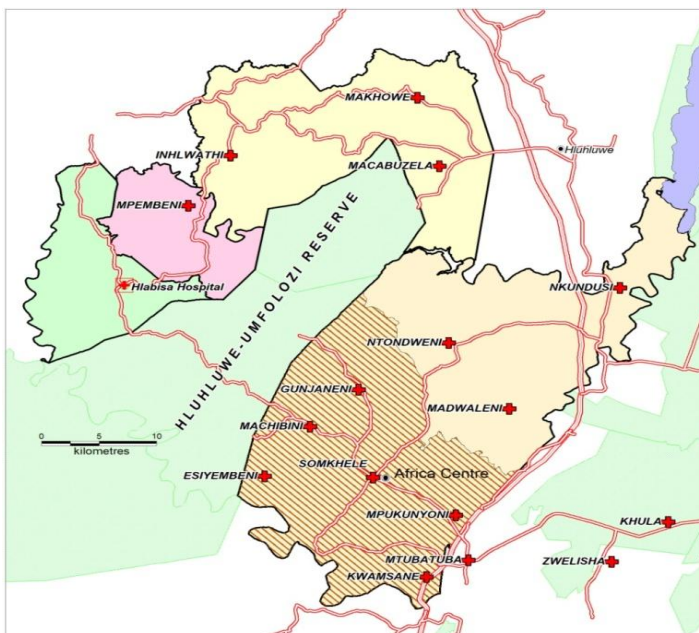


Figure 1.1 Hlabisa sub- district, showing position of the hospital and 16 clinics

According to the Small Grants Programme which is supported by the United States Agency for International Development (USAID) Tuberculosis programme South Africa, TB poses such a threat to the public health and economic well-being of South Africans because it typically affects the most production and economically active segments of the population, and disproportionately affects the poor. In South Africa the TB situation has been exacerbated by the HIV/AIDS pandemic (National Tuberculosis Management Guidelines, 2009). Although the National TB Control Programme (NTCP) has made significance progress, it still faces challenges with the increasing case detection and cure rate. According to NTCP the key barrier to achieving its objectives include the following:

- Community understanding about the disease,
- Limited access to health services,
- Provider knowledge,
- Compliance with Direct Observed Treatment Short Courses (DOTS) and
- Patients' adherence to treatment.

Tanser, F. J *Epidemiol Community*, (2006:60).

Most TB services are provided with by public health clinics, but many people who suspect they may have TB, visit traditional healers, private providers, and others before being positively diagnosed with the disease. This causes a delay in identifying the disease in the early stages and the patients therefore spread the bacilli amongst their communities. (National Tuberculosis Management Guidelines 2009:9)

Strategies: A number of gaps need to be urgently addressed to further improve the TB programme. These include:

- Early diagnosis of smear-positives,
- Extra pulmonary and childhood TB,
- Scaling up Multi-Drug Resistance TB (MDR-TB) diagnosis and treatment,
- Involvement of small to medium enterprises as well as private other public health providers,
- Improving TB-HIV/AIDS co-ordination at management and service delivery levels,
- Scaling up of Advocacy Communication and Social Mobilization (ACSM) activities, and

- Health infrastructure, supervision, information systems and monitoring and evaluation.

(National Tuberculosis Management Guidelines 2009:9)

According to the World Health Organisation (WHO) 2009, Tuberculosis, or as it is commonly known, TB, is the second biggest killer disease in South Africa after HIV/AIDS. It is a communicable disease, but is curable when diagnosed and treated in good time, in other words it must be diagnosed at its early stage and immediately treated with the correct treatment programme. A good example of a successful recovery is that former South African President Nelson Mandela was diagnosed with TB, put on anti-TB drugs, followed the correct treatment programme and was cured.

An analysis of patients in the TB database (March 2008 to February 2009) conducted at Africa Centre For Health and Population Studies situated at Mtubatuba, in the Hlabisa Health Sub-district found that the TB notification rate in 2008 was approximately 1,700 per 100,000. A total of 2,953 patients were part of the TB treatment programme. Of these, 53% were female, 91.1% had Pulmonary TB and 16.7% were smear-positive. At the end of the observation period, HIV statuses were available for 88% of the patients. The overall prevalence was 76%. This shows that there is high uptake of testing in TB patients. This is the first step in integrating TB and HIV healthcare, Lessells, R. (2010) ([www.africacentre.ac.za](http://www.africacentre.ac.za)) and it can be achieved in public-sector primary health care in rural South Africa. TB is regarded as being amongst the top 5 national health priorities according to the National Department of Health, which are:

- National Health Insurance,
- HIV/AIDS,
- Tuberculosis,
- Primary Health Care, and
- Maternal Health

The National Health Department has put certain strategies in place to address the scourge of HIV/AIDS and TB in an integrated manner. The most important strategy to combat this disease lies in HIV/AIDS counselling and testing, because the two diseases often go hand in hand, ([www.info.gov.za](http://www.info.gov.za)).

It is hoped that by integrating the diagnosis and treatment of these two, the government will be able to build up an integrated prevention strategy based on:

- Behavioural change,
- Use of barrier methods,
- Providing medical male circumcision,
- Scaling up syndrome management of Sexual Transmitted Infections (STI), and
- Early Prevention of Mother-to-child Transmission (PMTCT).

National Department of Health Priorities. ([www.info.gov.za](http://www.info.gov.za)).

These strategies will be used as bases for key TB control, treatment and management, including active case findings and contact tracing. It will also work hand-in-hand with a focus on social mobilisation involving internal and external government partners. To facilitate this, the Department will intervene in poor performing districts, through supervision by the National TB Control Management. The Department also aims to follow up on all patients who are on the TB programme and Anti-Retroviral Treatment (ART) to reduce the number of patients who default on their treatment which leads to drug resistance and poor outcomes, ([www.doh.gov.za](http://www.doh.gov.za)).

The following are the national objectives in combating TB:

- To reduce mortality and morbidity attributable to TB,
- To prevent the development of drug resistance,
- To ensure accurate measurements and evaluations of programme performance,
- To strengthen the implementation of Direct Observation Treatment supporter (DOT) strategy,
- To address TB, Multi-Drug Resistant TB(MDR TB) and Extreme Drug Resistant TB(XDR TB),
- To contribute to health system strengthening,
- To work collaboratively with all care providers,
- To empower people with TB, as well as their broader communities,
- To co-ordinate and implement TB research, and
- To strengthen infection control.

(National Tuberculosis Management Guidelines, 2009:10)

The TB Management targets for 2011 (*National Tuberculosis Management Guidelines*, 2009:11) are what the department of health is using as parameters in measuring progress in fighting TB in facilities. These include:

- A case detection rate of 70%,
- A treatment success rate of 85%, and
- A cure rate of 85%.

One has to acknowledge, however, that to implement some of the strategies, particularly at a primary health care level, is very challenging.

## **1.2 THE PROBLEM STATEMENT**

Based on a preliminary observational study, it was noted that the TB department of the KwaMsane clinic is not operating efficiently and effectively. The observation is also supported by the district quarterly facility reports, (Appendix One).

## **1.3 THE AIM OF THE STUDY**

The aim of the study is to investigate the effectiveness of TB management at KwaMsane Clinic.

## **1.4 OBJECTIVES OF THE STUDY**

The objectives of the study are as follows:

- To determine which factors are contributing to the clinic's TB department's failure to deliver effectively,
- To determine the challenges that personnel face in the department,
- To identify if the employees are appropriately qualified to perform their duties,
- To ascertain if there are enough resources to perform the required duties,
- To determine the communication challenges, if any, among the relevant departments, within the clinic and between the clinic and the hospital, and
- To identify if existing structures which need to be improved to eliminate the problem.

## **1.5 QUESTIONS TO BE ANSWERED IN THE RESEARCH**

**1.5.1 HUMAN RESOURCES** – The number of personnel working in the department will be measured and the staff/patient ratio will be calculated according to the number of patients seen or receiving treatment. More questions will relate to:

- The qualifications of the employees who work in this department,
- Staff job satisfaction levels, and
- Staff efficiency and effectiveness.

### **1.5.2. MATERIAL RESOURCES**

- Do the employees have adequate facilities to perform their duties?
- Do they have enough and the correct type of equipment to perform the tasks?
- Is stock easily accessible?

### **1.5.3. FINANCIAL RESOURCES** - Budget allocation / Funding:

- Does the department/section have sufficient funding to undertake the required tasks/responsibilities?

## **1.6 RESEARCH METHODOLOGY**

There are two types of research methodology: quantitative and qualitative research. A quantitative research approach was chosen for this survey as it places a great premium on objectivity and is a factual type of research. The target population was the human resource component of KwaMsane clinic. The entire population was used because of the small sample size.

In terms of a research instrument, a questionnaire was used to collect data for this research. In Chapter Three the methodology is discussed, and there will be an explanation of how reliability and validity were ensured. Details are given of how the research was planned to eliminate bias and deal with ethical issues such as ensuring that respondents gave their

informed consent to be part of the study. To this end they were assured that the survey would cause no harm to them and that confidentiality and anonymity would be maintained at all costs.

### **1.7 SIGNIFICANCE OF THE STUDY**

UMkhanyakude district under which the clinic falls has a very high prevalence of HIV/AIDS and TB cases, (Sub-District exit Report of uMkhanyakude Municipality, KZN) which is the highest in the whole province of KwaZulu-Natal. This poses a challenge for KwaMsane Clinic, particularly the TB department of the clinic, ([www.hst.org.za](http://www.hst.org.za)). The significance of the study will be to identify the challenges faced by the clinic and to make recommendations which will help to improve effectiveness and efficiency at the clinic ([www.hst.org.za](http://www.hst.org.za)).

### **1.8 LIMITATION OF THE STUDY**

Though the above mentioned challenges are provincial and national issues, the focus of the study was limited to the TB department of KwaMsane clinic. The research questionnaire used was addressed to employees not patients.

### **1.9 ASSUMPTIONS**

**ASSUMPTION ONE:** The employees at the clinic are important resources; hence their skills need to be developed.

**ASSUMPTION TWO:** It is assumed that the answers or responses to questionnaire would be a true reflection of the challenges the clinic is facing.

**ASSUMPTION THREE:** The clinic management would like to see some improvement in their service delivery and as such, they will heed the recommendations of this research.

### **1.10 SUMMARY OUTLINE OF THE STUDY**

The study consists of five chapters.

### **CHAPTER ONE**

Summarises the problem under investigation.

## **CHAPTER TWO**

The chapter deals with literature review on the topic and theory in the managerial field.

## **CHAPTER THREE**

Research methodology concerning how to analyse data through design and sampling techniques is given in this chapter.

## **CHAPTER FOUR**

This chapter is about presenting and analysing the results obtained from the questionnaire and the statistical analysis. It will also interpret and discuss the findings in the context of the problem.

## **CHAPTER FIVE**

This chapter discusses the overall conclusion and makes recommendations drawn from findings in Chapter Four.

### **1.11 CONCLUSION**

Tuberculosis management is crucial issue in combating TB. The department of health has drawn up TB guidelines and put strategies in place which are key bases to control, treat and manage tuberculosis. This will be achieved by involving internal and external government partners. To achieve this, the Department of Health aims to intervene in poor performing districts, under the supervision of the National TB Control Management.

One of the ways to combat TB is to ensure accurate measurements and evaluation of programme performance by collaborating with all care providers, to co-ordinate and implement TB research and to empower those suffering with TB as well as their communities. Human resources are a very important tool in meeting this target; hence the aim of the study is to investigate the effectiveness of TB management at KwaMsane clinic.

This chapter has outlined the context in which the research took place and has set out the problem statement of the research, significance of the study, limitations, assumptions



problem statement, aims of the study, objectives, questions to be answered in the research and the methodology adopted.

The next chapter presents the literature review and theoretical background of the study.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

According to report by Midzi, M, Newspoint South Africa (2011: 08) the South African health sector was found to be falling short of providing adequate and proper health facilities to the population. Much of this shortfall can be attributed to the burden placed on the system by the sudden increase in HIV/AIDS, tuberculosis, persistent sickness, expenditure and personal injuries.

It has also been ascertained that in the past decade, the mortality rate for children younger than five years has almost doubled largely as result of the HIV/AIDS pandemic and poverty.

Maternal mortality has risen to 652 per hundred thousand live births, which is twenty times higher than the government predicted (Newspoint South Africa, 2011: 08). In 1998 the National Department of Health set out to reduce the neo-natal mortality rate from 20 per 1,000 live births, to 14; pledged to ensure that the national infant mortality rate did not exceed 45 per 1,000 live births and aimed to reduce the national under 5 mortality rate to 59 per 1000 live births, (South Africa Millennium Development Goal Mid-Term Country Report, 2007: 23).

The following table taken from National TB Guideline 2009 shows how TB has increased in the past years especially at KwaZulu-Natal.

**Table 2.1: Tuberculosis Case Finding 2006**

	<b>All TB Cases</b>	<b>PTB Cases</b>	<b>New Smear Positive PTP Cases</b>	<b>Retreatment Smear Positive PTB Cases</b>	<b>Smear Negative PTB Cases</b>	<b>No Smear PTB Cases</b>	<b>Children 0-7 years</b>	<b>EPTB Cases</b>	<b>Incidence All TB Cases Per 100,000</b>	<b>Incidence Case Per 100, 000</b>
<b>Eastern Cape</b>	48, 512	41, 558	19, 527	8,473	3, 615	9, 943	2, 805	6, 952	687	589
<b>Free State</b>	23, 374	19,058	9,553	2,840	2,479	4,186	2,295	4,316	789	643
<b>Gauteng</b>	46,093	34,290	20,609	4,188	2,915	6,578	4,155	11,803	501	372
<b>KZN</b>	104,705	88,271	32,855	9,527	20,547	25,342	8,593	16,434	1076	907
<b>Limpopo</b>	17,301	14,118	7,574	1,323	1,305	3,916	1,069	3,183	305	249
<b>Mpumalanga</b>	15,035	13,496	7,216	1,081	859	4,340	755	1,539	463	416
<b>North West</b>	28,421	24,519	12,539	2,954	1,764	7,262	2,156	3,902	738	637
<b>Northern Cape</b>	8,631	7,951	3,583	1,482	901	1,986	1,018	680	950	875
<b>Western Cape</b>	49,093	43,296	17,644	8,563	8,366	8,723	6,955	5,797	1,033	911
<b>South Africa</b>	341,165	286,557	131,100	40,431	42,751	72,276	29,801	54,608	720	605

**Source: TB Management and Control, (National Department of Health 2009:9)**

The National TB Management Control data shows that over the last five years TB case notification has increase by a massive of 81%, from 188, 695 cases in 2001 to 341,165 in 2006. In 2006, KwaZulu-Natal had the highest total TB caseload accounting for 31% of all TB cases nationally. (National Tuberculosis Management Guidelines, 2009:9)

The Department of Health’s draft strategy known as “SA 2030” (Newspoint South Africa, 2011: 08), affirmed that human resource planning was the “need of the hour”. In 1994 the ruling party adopted a Primary Health Care (PHC) philosophy. The philosophy is based on community development and community participation in the planning, provision, control and monitoring of health services. Clause 27.1 of the South African constitution states that everyone has a right to access:

- Health care service including reproductive health,
- Sufficient food and water, and
- Social security including if they are unable to support themselves and their dependants thus appropriate social support to be provided.
- (Kerry Health Cullinan –e News Services, 2006: 2).

In 2000 the Health Department’s quality assurance directorate developed a list of core norms and standards for clinics. These are published on the Department of Health (DOH) website under the heading The Primary Health Care Package for South Africa- a set of norms and standards ([www.doh.gov.za/docs/policy/norms/foo-norms.pdf](http://www.doh.gov.za/docs/policy/norms/foo-norms.pdf)).

They are as follows;

- The clinic renders a comprehensive range of integrated PHC services at least eight hours a day five days a week.
- The clinic receives a supportive monitoring visit from the hospital and district management at least once a month to support personnel, monitor the quality of service and identify the needs and priorities.
- Doctors and other specialised professionals are accessible for consultation, support, and referral and to provide clinic visits.
- There is an annual evaluation of the provision of PHC services to reduce the gap between the needs of the community and services provided. A situational analysis is

performed of the community health needs and regular health information data collected at the clinic.

- The clinic has the mechanism for monitoring services and quality assurance, and at least one annual service audit.
- The community's perception of the clinic's services is tested at least twice a year through patient interviews on anonymous patient questionnaires.

The Primary Health Care Package for South African Norms and Standards, ( 2000:43) also stipulate that the clinic needs to have medicine and supplies as outlined by the essential drug list (EDL) and a mechanism for obtaining emergency supplies of other medicines. All clinics must have electricity; cold and hot water, a reliable means of communication e.g. telephone or two way radio and should be able to arrange transport for an emergency within an hour, ([www.doh.gov.za/docs/policy/norms/full-norms.](http://www.doh.gov.za/docs/policy/norms/full-norms.))

## **2.2 A STRATEGIC APPROACH FOR 2030 VISION**

The aim of this strategic approach is to develop and employ new professionals to meet the policy and health needs of the country, to increase the work force, to improve staff retention rates, to increase productivity and revitalise in-service education and training.

## **2.3 STRATEGIC PRIORITIES AND OBJECTIVES FOR HUMAN RESOURCE HEALTH (HRH) 2030**

The data for this study is limited to the effectiveness of TB management at the KwaMsane clinic. This chapter will discuss the challenges that the TB units face and will further sub divide these challenges into human resources, material resources and financial resources.

## **2.4 HUMAN RESOURCES**

What is Human Resources Management?

Human resources is the term used to describe all the organisational activities concerned with "recruiting and selecting, designing work for, training and developing, appraising and rewarding, directing, motivating and controlling workers" (Wilton, 2011: 35).

Training and Development is used by the organisation to provide assistance to employees so that they become more effective in their jobs. It can also play an extremely important part in motivating employees, (Wilton, 2011: 35). Noe, Hollenbeck, Gerhart and Wright (2008: 267) define training as “a planned effort to facilitate the learning of job related knowledge, skills and behaviour by employees”. A similar view is expressed by Byars and Rue (2006: 164) who define training as “a learning process that involves the acquisition of knowledge, skills and abilities necessary for successfully performing a job”.

#### **2.4.1 EMPLOYEE RETENTION**

According to Amos, Ristow and Pearse, (2008: 174), the focus has recently shifted away from explaining why people leave their current employment to understanding what factors attract and keep employees in an organisation. These factors are grouped into eight clusters known as staff retention factors and are listed below:

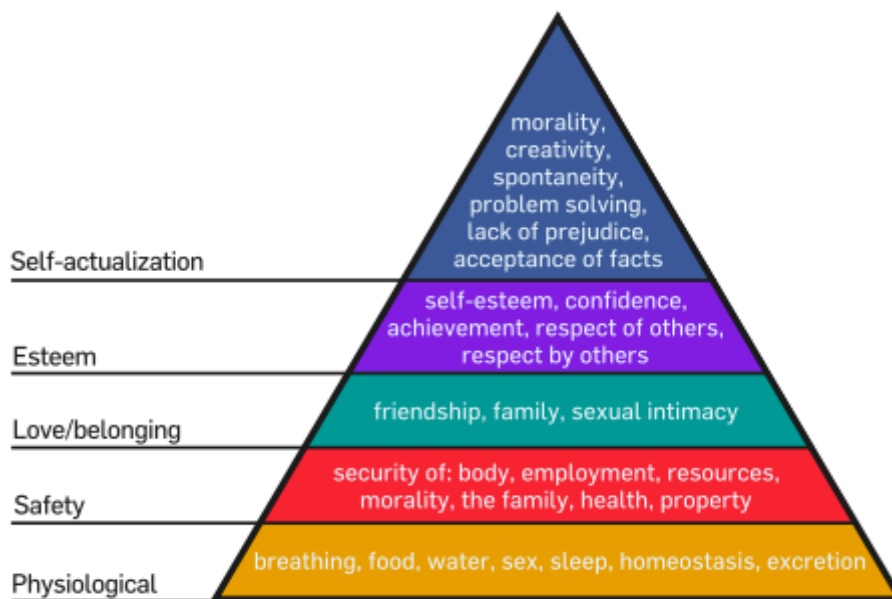
- Organisational factors (Hard) e.g. Equitable HRM policies,
- Organisational factors (Soft) e.g. Supportive climate,
- Relational factors e.g. Positive organisational reputation, teamwork, etc.
- Economic factors e.g. competitive salaries and benefits, performance pay, etc.
- Leadership factors e.g. Effective strategic leadership,
- Individual factors e.g. Personnel circumstances,
- Personal development factors e.g. Coaching and mentoring, and
- Job factors e.g. clear job expectations.

#### **2.4.2 MOTIVATION**

According to Amos et al. (2008:174) a number of theories of motivation exist to assist managers in understanding motivation and to guide them on what to do to motivate people in the work place. These theories can be classified into two broad groupings, namely content or needs theories.

An interpretation of Maslow's hierarchy of needs, represented as a pyramid with the more basic needs is shown in Figure 2.1 below.

**Figure 2.1 Maslow's Theory of Needs**



Source: [www.simplypsychology.org/maslow/html](http://www.simplypsychology.org/maslow/html)

Maslow's theory cites the various levels of human needs as drivers of behaviour.

Maslow ranks these needs as follows:

- Self- actualisation needs,
- Ego needs or self-esteem needs,
- Social needs,
- Safety needs, and
- Physiological needs.

### **2.4.3 HERZBERG'S MOTIVATION-HYGIENE THEORY**

Amos, Ristow and Pearse (2008: 84) examined the theory that the factors of satisfaction are quite different from those of dissatisfaction. Job dissatisfaction often stems from environmental (hygiene) factors such as working conditions, pay, supervision and relations with others.

On the other hand, intrinsic factors (motivators) such as achievement, responsibility and advancement are determinants of job satisfaction.

Amos et al. (2008:84) point out that the hygiene factors are important if neglected they can make an employee dissatisfied, but if addressed by means of good pay, pleasant working conditions, they may contribute significantly to job satisfaction and performance. Equally, if motivator factors are present, they will cause satisfaction, but their absence will not necessarily cause dissatisfaction unless hygiene factors are also inadequate.

#### **2.4.4 GOAL SETTING THEORY**

Locke and Latham, (1984:107) argue that the sources of work motivation are conscious intentions goals or objectives a person aims to achieve or accomplish. According to Grobler et al. (2006:87) one of the best-known expressions of goal setting theory is “Management by Objectives” (MBO). They further note that the challenge is to balance the employee’s human needs and the employer’s economic goals.

Remuneration or compensation objectives as outlined by Swanepoel, Erasmus and Schenk (2009: 94) are:

- Attracting the right quality of applicants,
- Retaining suitable employees,
- Maintaining equity among employees,
- Rewarding good performance and providing incentives for desired behaviour,
- Maintaining cost-effectiveness,
- Complying with legal requirements, and
- Providing flexibility and administrative efficiency.

Grobler et al. (2006:89) maintain that employees set expectations about rewards and the compensation they want to receive if certain levels of performance are achieved. These expectations determine their goals or level of performance for the future.

HR strategy should go hand in hand with the overall organisational strategic plan. The challenge is that the burden placed on the health system by HIV/AIDS and TB is further compounded by unequal distribution of resources, inability to access health facilities and a shortage of health care workers. According to Department of Health annual report(2007:104) the average provincial nurse work load ratio is high (1: 83) and it is even higher for doctors with ratio of (1:155) this shows that, for every 1000 people in a rural



area such as uMkhanyakude they are only 84 nurses (Department of health Annual Report, 2007:109). The World Health Organisation's (WHO) Global Plan to Stop TB 2006 – 2015 clearly says that the main human resources issues affecting TB control are insufficient quality, quantity and distribution of health workers. Training of adequate numbers of health workers is an important strategy to improve productivity.

Poor performance by health workers may be the result of the following:

- Insufficient health personnel resulting in those who are employed, being over-worked
- Not providing health care in line with health care standards
- Not being responsive to the needs of the community and the patient.

The National TB Management Guidelines, (2009:12)

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Other influences that affect the productivity of health workers in TB control are:

- Personal and lifestyle related factors
- Living circumstances
- Adequacy of preparedness for work during / pre service education
- Health system related factors such as human resource policy and planning
- Job satisfaction related factors such as financial remuneration, working conditions, management capacity and style.

The National TB Management Guidelines, (2009:12)

#### **2.4.5 EMPLOYEE ATTITUDE AND JOB SATISFACTION**

According to Locke (1976:44) job satisfaction is defined as the pleasurable or positive emotions resulting from the appraisal of one's job or job experiences. When evaluating one's job, one involves thinking and feeling. Stan and Ross (1985:56) show that a person's job satisfaction stabilises with time when he or she changes job or companies.

#### **2.4.6 TRAINING AND DEVELOPMENT**

There are various reasons why training and development should be an essential part of an organisation's strategy, they are:

- To benchmark the status of improvement as part of an overall professional development programme,
- As part of succession planning to help identify employees who would be eligible for a planned role in the organisation,
- To pilot or test the operation of the new performance management system, and
- To train for a specific topic.

#### **2.4.6.1 THE GENERAL BENEFIT OF TRAINING AND DEVELOPMENT**

- To Increase job satisfaction and morale amongst employees,
- To Increase employee satisfaction,
- To Increase efficiencies in processes resulting in financial gain,
- To Increase the organisation's capacity to adopt new technologies and methods,
- To Increased innovation in strategies and product,
- reduce employee turnover,
- To enhance the company's image e.g. ethics training, and
- Risk management.

## **2.5 MATERIAL RESOURCES**

For many people, Primary Health Clinics known (PHC) are their first entry point into the South African health system. A patient has to be first seen or attended to at primary health clinic before being referred to the district hospital. These PHC's are run by registered nurses and supported by health care workers. Doctors are supposed to visit these clinics at least once a month to give support

The efficiency and quality of care of a primary health care system or clinic is measured and judged by patients based on its medical staff and the availability of drugs, (Norms and Standards of Primary Health Care, 2000). Clinics and hospital deal are dealing with increased pressure caused by the HIV/AIDS pandemic, and a shortage of skilled health workers, particularly registered nurses, (The Facilities Survey, 2004).

According to the Facilities Survey it is estimated that 42% of health posts are vacant, with provinces such as Eastern Cape, Mpumalanga, and Limpopo being the worst affected. The Norms and Standards also stipulate that clinics need to have medicines and supplies as outlined by the Essential Drug List (EDL) and a mechanism in place to manage drugs and

medical supplies according to Standard Operating Procedures (SOP). These regulations also apply to emergency supplies. The Norms and Standards also state that Primary Health Care should have the basic equipment needed for diagnosing or examining patients (for example, blood pressure machine, ophthalmic diagnostic set spatula, swab sticks and stethoscope).

### **2.5.1 CHALLENGES THAT THE CLINIC AND HOSPITAL FACE**

Clinics face the following challenges:

- Poor level of care,
- Overcrowding of patients,
- Shortage of staff and poor working conditions of health workers,
- Malfunctioning of equipment, and
- Theft of medicine, linen, and other stock.

**(The White Paper on Health Services Transformation, 1997).**

The main resources that the KwaMsane clinic lacks are drugs and human resources. Equipment used is the screw top bottles for collection of sputum samples for laboratory testing. This section will therefore briefly discuss the importance of supply chain management which has a direct impact on the availability of TB drugs.

### **2.5.2 SUPPLY CHAIN MANAGEMENT**

According to Copra and Meindl (2004) supply chain management (SCM) consists of all parties who are involved, whether directly or indirectly, in fulfilling a customer's request. This includes; manufacturers, suppliers, transportation providers, warehouse operators, retailers and customers. The objective of every supply chain is to maximise the overall value generated.

Copra and Meindl (2004:6) further state that the value that the supply chain generates is the difference between what the final product is worth to the customer and the effort the supply chains expends to fill the customer's request. The decision phases in the supply chain require many decisions relating to the flow of information, product, and funds.

An essential aspect of a successful supply chain is processes. Chopra and Meindl (2004:14) state that the supply chain process can be divided into two distinct patterns: the “cycle” view of a supply chain and the “pull/push” view as discussed by

#### **2.5.2.1 THE CYCLE VIEW IS MADE UP OF**

- Customer order cycle,
- Replenishment cycle,
- Manufacturing cycle, and
- Procurement cycle.

#### **2.5.2.2 CUSTOMER ORDER CYCLE**

This occurs at the customer/retailer interface and it includes the processes involve in receiving customers’ order which includes,

- Customer arrival,
- Customer order entry,
- Customer order fulfilment, and
- Customer order receiving.

#### **2.5.2.3 REPLENISHMENT CYCLE**

This process occurs at retailer/distributor interface and it includes all process involving replacing retailer inventories. It begins when the retailer places an order to replenish their inventory. The processes involved are:

- Retail order trigger,
- Retail order entry,
- Retail order fulfilment, and
- Retail order receiving.

### **2.6 MANUFACTURING CYCLE**

This occurs at the distributor/manufacturer interface and includes all processes involving in replenishing distributor or retailer inventory. It is triggered by customer orders, replenishment orders from retailers, or distributors or by the forecast of customer demand and current product availability .The process are:

- Order arrival from the finish goods warehouse, distributors, retailers, or customers,

- Production schedule,
- Manufacturing and shipping, and
- Receiving at the distributor, retailer, or customer.

## **2.7 PROCUREMENT CYCLE**

The procurement cycle starts at the manufacturer/supplier interface. It includes all the steps necessary to ensure that materials are available for manufacturing (e.g. drugs, bandages, and syringes). The supply chain is an important part of managing a TB unit. There are norms chosen to represent key measures of what is required. All clinics should be aspiring to measure and reach these norms.

The following norms and standards, describe the essential written materials, equipment supplies and medicines required to run an efficient unit. To meet these standards, good organisation and logistics systems are essential (Copra and Meindl, 2004:8).

## **2.8 THE TB NORMS AND STANDARD ACCORDING THE PRIMARY HEALTH CARE PACKAGE FOR SOUTH AFRICA 2000**

- Achieve a minimum of 85% cure rate of new sputum positive TB cases,
- Achieve a passive case finding rate per 100,000 populations to be defined,
- Achieve two days turnaround times of sputum results in more than 90% of cases,
- Every clinic to have at least one staff member who has or has had opportunities for continuing education in TB management, and
- Receive a six monthly assessment of quality of care by a supervisor who also evaluates the degree of community involvement in planning and implementing care.

## **2.9 REFERENCES, PRINTS AND EDUCATIONAL MATERIALS**

- The latest edition of the TB training manual for health workers,
- The South African TB control programme practical guidelines,
- TB register manual, latest edition,
- Tackling TB at work – Guidelines from South Africa’s national TB control programme,
- A resource list of HIV/AIDS services,
- Directly observed treatment (DOTS) and training material (e.g. Provincial or NGO). A hospital referral protocol,

- Leaflets and pamphlets in local languages for distribution,
- TB posters on the walls in local languages changed yearly,
- Flow charts on TB diagnosis, and
- The latest EDL manuals on TB management.

## **THE PRIMARY HEALTH CARE PACKAGE FOR SUOTH AFRICA (2000:49)**

### **2.10 EQUIPMENT**

- Screw top sputum containers for collecting the sputum.

### **2.11 MEDICINES AND SUPPLIERS**

- Uninterrupted supply of TB drugs recorded on bin cards,
- Clinic knows how to get emergency supplies of TB drugs, and
- Combination and single TB tables as per protocols.
- Sterile syringes and needles and water for injection.

### **2.12 COMPETENCES OF HEALTH STAFF**

Staff should be able to:

- Initiate and follow up the treatment of patients using the latest recommended TB management regimens and protocols,
- Suspect and identify TB by early symptoms such as chronic cough, loss of weight and tiredness,
- Educate patients with the emphasis on correcting misinformation and seeking to prevent spread of the disease,
- Start direct observed treatment (DOT) supported by volunteers chosen and accepted by the patient, and
- Enter all sputum results on TB register and forms.

### **2.13 REFERRAL**

- Only patients sick enough to require hospital care are referred for hospitalisation and then sent with a completed TB register form and proposed discharge plan,
- Patients referred to the clinics after discharge from hospital and with a discharge plan are followed up immediately to ensure that the discharge plan is effectively implemented, and

- Before being transferred to another area the patient receives a completed transfer form and a plan for continuation plan (<http://www.doh.gov.za>).

The National Norms and Standard of Primary Health Care for Tuberculosis, guideline above serves as a blue print for how effective treatment should administered.

Essential drugs are drugs that are required or needed to treat the majority of conditions that are prevalent in a country in a cost effective and efficient manner. This does not mean that no other drugs are useful, but the most needed drugs should always be available in adequate amount and in the proper dosage form, ([www.doh.gov.za](http://www.doh.gov.za)).

## **2.14 THE SPECIFIC OBJECTIVES OF THE DRUG POLICY ARE AS FOLLOW**

To ensure the availability and accessibility drugs that often needed and used by;

### **Strategic Priorities**

### **Strategic Objective**

#### **2.14.1 LEADERSHIP AND GOVERNANCE OF HRH**

- National Development of Health (NDOH) and HRH leadership and governance structure
- Human resource (HR) strategy implementation
- Institute for leadership and management
- NDOH recruitment and retention unit
- NDOH HRH financing committee
- International collaboration.

#### **2.14.2 INTELLIGENCE AND PLANNING FOR HRH: CENTRE FOR HEALTH WORKERS INTELLIGENCE**

- Electronic data base
- Data analysis and reporting
- Information for oversight and leadership
- Information on academic health complexes
- Develop health work force committee
- Develop the centre for health work force intelligence

#### **2.14.3 A WORK FORCE FOR NEW SERVICE STRATEGY ENSURING THE VALUE FOR MONEY**

- Work force for a re-engineered primary health care

## **Strategic Priorities**

### **2.14.4 UPSCALE AND RE-VITALISE EDUCATION TRAINING AND RESEARCH**

### **2.14.5 ACADEMIC TRAINING AND SERVICE PLATFORM INTERFACES**

### **2.14.6 HUMAN RESOURCE MANAGEMENT**

### **2.14.7 QUALITY PROFESSIONAL CARE**

- Public health units
- Develop productivity studies , norms and standards to enhance the Health minister’s talent strategy for a re-engineered health system
- Improve provincial standard training programme (STP) and HR planning
- Norms and standard for hospital with adjustment for training site
- Develop and implement Minister’s talent strategy
- Refine and develop HRH SA 2030 strategy scenarios for all categories of professions and cadres
- Implement strategy on the nursing profession and form nursing work force and education committee
- Institutionalise for mid-level workers (MLW) and community health workers(CHW)
- Re-vitalise clinical research and innovation
- To ensure financing of health professionals training and development
- Plan training of health professionals outside SA
- Plan growth of academic clinicians
- Minister’s communication intervention of the value of health cadres
- Policy and government frame work for Academic Health Complexes (AHC’s)
- Minister’s National Advisory Committee and oversight regulatory structure on AHC’s
- Management infrastructure of AHC – IT and academic staffing condition
- File flag ship Academic central hospital being developed
- Nursing college revitalised
- Strengthen HR function at all levels



#### 2.14.8 ACCESS TO HEALTH PROFESSIONALS IN RURAL AND REMOTE AREAS

- Implement compulsory accreditation of HR functions
- Performance management framework implemented
- Minister's improving the work lives of health care workers, their remuneration and occupation specific dispensation (OSD).
- Improve and maintain professional standards
- Accredit academic training sites
- Continuing professional development
- Short term strategies to recruit and retain professionals
- Educational strategy in rural and remote areas
- Regulatory strategies on scopes of practise
  
- Financial incentive scheme to attract professionals to rural areas
- Personal and professional support for health professionals in rural areas.
  
  
- To ensure that all citizens have accessibility and availability of all drugs that are commonly used at the primary health care clinics.
- To ensure the safety, efficacy and quality of drugs,
- To ensure good dispensing and prescribing practises,
- To promote the rational use of drugs by prescribers, dispensers and patients through the provision of necessary training, education and information, and

- To promote the concept of individual responsibility for health, prevention care and important decision making.

Source: National Drug Policy for SA 1996:34

According to the DOH Annual Report (2010: 1b) in 2009/10 the Department experienced challenges regarding drug supply. In that financial year, in nine provinces, the average “out of stock” status of the 45 antiretroviral medicines on tender was 11.54%. In the same period, the average “out of stock” status of the 35 TB medicines stood at 15.66%. This situation was a direct result of both internal and external factors of the health sector which included:

- Financial constrains resulting in delays in the payment of suppliers
- Drug supply management problems,
- Suppliers’ incapability to deliver according to the demand,
- Supplies inability to adhere to lead times for deliveries, and
- Shortages of pharmacists to inspect that people who are dispensing are actually licensed to do so.

## **2.15 FINANCIAL RESOURCES**

The role of financial management is to manage finances or funds and decide how these funds should be utilised to meet the demands of the organisation. It is at the core of running a business successfully because without funds the business cannot run. According to Marx, Swart and Nortje (2003:25) the fundamental principles of financial management are:

- The Cost Benefit Principle,
- The Risk Return Principle, and
- The Value for Money.

The TB unit at KwaMsane clinic does not have its own budget. It draws its funds from the overall budget of the clinic. This budget is under the control of Hlabisa hospital under which the clinic falls. In Table 2.2 below the health budget for the uMkhanyakude District (in which the clinic falls) is shown:

**Table2.2 Budget for UMkhanyakude District**

Programs	BUDGET AND EXPENDITURE	Budget: Adjusted Appropriation			Expenditure			TOTAL		Share Expenditure within PHC	Sustainability	Variation Expenditure in Nominal Terms	Variation Expenditure over Previous Year in Real Terms
		Province	Transfer to LG	LG Own	Province	Transfer to LG	LG Own	Budget	Expenditure		% Overspent (Under spent)		
2.1	District Management	8,478,000	0.0	0.0	7,997,477	0.0	0.0	8,478,000	7,997,477		-6%	1.1	1.0
		.0			.0			.0	.0				
2.2	Clinics	107,163,000	-	-	132,834,667	-	-	107,163,000	132,834,667	41%	24%	106%	78%
2.3	Community Health Centers	-	-	-	-	-	-	-	-	0%		0%	0%
0.0	Community Services	-	-	-	-	-	-	-	-	0%		0%	0%
2.5	Other Community Services	75,428,000	-	-	75,857,116	-	-	75,428,000	75,857,116	24%	1%	106%	100%
2.6	HIV/AIDS	112,098,000	-	-	106,970,879	-	-	112,098,000	106,970,879	33%	-5%	106%	100%
2.7	Nutrition	1,018,000	-	-	1,175,381	-	-	1,018,000	1,175,381	0%	15%	106%	100%

2.8	Environmental Health	4,904,000	-	-	4,271,349	-	-	4,904,000	4,271,349	1%	-13%	106%	100%
0.0	Sub-total PHC Services + LG PHC "own contribution" on EH	300,611,000	-	-	321,109,392	-	-	300,611,000	321,109,392	1	7%	0%	0%
2.9	District Hospitals	302,586,000	-	-	366,727,820	-	-	302,586,000	366,727,820	-	21%	111%	0%
0.0	Sub-total District Hospitals	302,586,000	-	-	366,727,820	-	-	302,586,000	366,727,820	-	21%	111%	105%
2.12	Other Donor Funding	5,916,000	-	-	4,351,116	-	-	-	-	-	0%	0%	0%
TOTAL DISTRICT EXP & BUDGET		617,591,000	-	-	700,185,805	-	-	611,675,000	695,834,689	-	13%	206%	195%

Source: uMkhanyakude district Financial Report 2009-2010

## **2.16 FACTORS CONTRIBUTING TO HIGHER EXPENDITURE FOR THE DISTRICT**

- Unfunded occupational specific dispensing payments,
- Heavy burden of the disease including an antenatal HIV/AIDS prevalence of 39% and an increasing number of patients receiving antiretroviral treatment,
- High transport expenditure due to the long distance travelled when referring patients to the hospital within the district,
- A lack of water supply to hospitals so extra money must be spent on water tankers, and
- The high cost of transportation for services such as laundry and the autoclaving of used instruments to other hospitals.

(Source: uMkhanyakude District Health Expenditure Review 2009/2010)

## **2.17 MANAGEMENT INFORMATION SYSTEMS**

According to Laudon and Laudon (2010: 46) ‘a management information system known as MIS is a set of interrelated components that collect or retrieve process, store, and distribute information to support decision making and control in an organisation. In the past, decision making in business used to be limited to management.’

For one to be able to make decisions in an organisation, one needs to take into consideration that the organisations have structures that are composed of different levels and specialities. Laudon and Laudon (2010:81) describe the levels of an organisation as:

- Senior Management which makes long-range strategic decisions,
  - Middle Management which carries out the programmes and plans of Senior Management, and
  - Operational Management which is responsible for monitoring the daily activities of the business.
- 
- Middle management includes knowledge workers and operational management includes production, service workers and data workers. Each of the above levels has different information requirements for different types of decisions (Laudon and Laudon, 2010:82).

### **2.17.1 TYPES OF DECISIONS**

According to Laudon and Laudon (2010: 66) decisions are classified as structured, semi-structured and unstructured. Senior management makes unstructured decisions, middle management makes semi-structured decisions and operational management makes structured decisions.

Jawadekar (2010:54) described the decision making process in four phases:

- Intelligence- involves identifying a problem,
- Design-identifying and exploring solutions,
- Choice-selecting or choosing the solution from alternatives , and
- Implementation-making the chosen solution work.

Oz and Jones (2008:102) agree that the higher the level of management, the less routine the manager's activities are, the more open the options are and the more decisions making is involved.

### **2.17.2 TRANSACTION PROCESSING SYSTEM**

It is a system that is used at the operational level of the organisation which helps with controls on routine transactions that take place in everyday operations. This system combines very detailed data to fulfil information needs that an organisation requires to be successful (Jawadekar, 2010:50). The best transaction processing system is the one integrated throughout the organisation to provide information to those who need it when they need it.

### **2.17.3 MANAGEMENT INFORMATION SYSTEM (MIS)**

This is a system designed to produce information on a periodic basis instead of daily recurring basis.

Jowaderar (2009:49) notes that there is more than one definition for MIS. One of the definitions is the system which provides information support for decision making in the organisation to achieve the corporate objectives of the organisation.

#### **2.17.4 SYSTEMS FOR DECISION SUPPORT**

According to Oz and Jones (2008:103) they four kinds of systems which support decision makers and the types of decisions to be made, which are:

- Management Information System (MIS) which provides routine reports and summaries of transaction-level data for middle and operational-level managers,
- Decision Support System (DSS) which combines analytical models with operational data functions for middle managers making semi-structured decisions,
- Executive Support System (ESS) or Executive Information System (EIS) which includes both external and internal information to be used by senior managers who generally make unstructured decisions, and
- Group Decision Support System (GDSS) which supplies groups and teams with an electronic environment in which they can make unstructured decisions.

The presence of the above systems would make the system a more complete MIS rather than just relying on transaction processing.

#### **2.17.5 BENEFITS OF DECISION SUPPORT SYSTEMS**

As stated by Jawadekar (2010:89) they are as following:

- The ability to obtain data/ information in different dimensions and to see the problem, trend, pattern from different perspectives,
- Ability to understand and asses business performance and various results in terms of cause and effect and be able to define the problem,
- Ability to solve the problem and ramifications and ability to judge the impact on the business,
- Ability to assess the impact of any change in the business performance and be able then to focus on the areas where the impact is negative,
- Ability to view a complex scenario or problem and design a model to analyse the problem, develop alternatives to solve the problem, test the solution and conduct sensitivity analysis,
- Ability to make better decisions due to quick analysis, modelling, developing alternatives, testing selection, and

- Ability to control risk exposure to decisions.

### **2.17.6 STRATEGIC BUSINESS OBJECTIVES OF INFORMATION SYSTEM**

Business organisations invest in information system to achieve certain strategic objectives which are:

#### **Operational Excellence**

Business improves the efficiency of its operations in order to achieve higher profitability.

#### **New products services and business model**

Business uses the information system as a tool to create new products, services and fresh business models to deliver, sell products and services to create wealth.

#### **Customer and supplier intimacy**

Business uses the information system to provide service to customers who will in turn be loyal to the business and purchase more. The more the business uses the information systems to engage its suppliers, the better the suppliers can provide vital inputs to the business.

#### **Improved decision making**

Information systems make it possible for business managers to use available real-time data to make decisions. This means decisions are made from an informed background.

### **Competitive advantage**

A more formal system would give the business a competitive advantage allowing it to achieve all its objectives in terms of customers and suppliers in real time, thereby adding to higher sales and higher profits that competitors cannot match.



## **Survival**

New information systems-based products and services can be essential for business survival. Many businesses try to keep technologically ahead of the competitors in order to survive.

Organisations operate in an ever increasingly competitive, global environment. Operating in this kind of environment requires an organisation to focus on the efficient execution of its business, customer service and speed to market. To accomplish these goals, the organisation must exchange valuable information across different functions, levels and business units. By making the system more formal, the business can more efficiently exchange information among its functional areas, business units, suppliers and customers.

### **2.17.7 ENTERPRISE RESOURCE PLANNING**

Enterprise resource planning better known as ERP systems are systems which are based on a suite of software modules and a common control database. They are used to bridge a communication gap between all departments and all users of information within a company (Laudon and Laudon, 2010:76).

Jawadekar (2010:89) described ERP as an enterprise wide information system designed to co-ordinate all the resources, information and activities needed to complete business process.

Laudon and Laudon (2010:85) point out that the fragmentation of data between separate systems degrades organisational efficiency and business performance. Enterprise systems also known as Enterprise Resource Planning (ERP) solve this problem by collecting data from various key business processes and storing this data in a single central data repository. This means that information that was previously fragmented in different systems can easily be shared across the firm to help different parts of the business to work more closely together.

Using Integrated ERP has its advantages and using fragmented information systems has its disadvantages. These will be discussed in more detail below.

## **2.18 DISADVANTAGES OF FRAGMENTED SYSTEMS**

Laudon and Laudon (2010: 86) see the disadvantages of fragmented systems as follows:

- Where an organisation uses different information systems that act as islands, the systems do not exchange information very well,
- Islands of information can be detrimental to an organisation if data cannot be shared throughout the organisation, and
- Islands of information can create problems if each faction of the enterprise has differing information that conflicts with other islands of information.

## **2.19 OBJECTIVES OF USING ENTERPRISE RESOURCE PLANNING**

### **2.19.1 ENTERPRISE RESOURCE PLANNING IMPLEMENTATION**

According to Post and Anderson (2003) Enterprise Resource Planning implementation will achieve the following:

- Seamless integration among different functional areas,
- Design engineering support to make the best of resource,
- Customer or vendor tracking,
- Managing the interdependencies of complex processes, and
- Accounting and measuring the progress and performance with respect to resource planned and used.

### **2.19.2 ADVANTAGES/BENEFITS OF ENTERPRISE RESOURCE PLANNING**

When installed and used correctly, enterprise systems can offer big rewards, such as:

- Improved management decision making capability, with comprehensive view of performance across all functional areas,
- More efficient operations and customer-driven business processes,
- A more uniform organisation: a more disciplined approach to business throughout the entire organisation regardless of organisational structure, and
- A more streamlined supply chain management.

Jawadekar (2010:89) on the other hand, lists some of the benefits as:

- Better management of resources thereby reducing the costs of operations,
- Planning at both the function and process levels will increase productivity,
- It encourages business operations transparency between business partners,
- Due to faster processing technology, management can see information from their perspective and get a clearer view of the organisation,
- Since ERP design is proactive, it alerts management at a number of points demanding decisions or actions,
- The ERP has scalable architecture so when the organisation expands and grows, the system grows with it,
- ERP implementation automatically leads to the usage of best business procedures, resulting in consistency of operations,
- ERP's scope can be enlarged through Internet/Intranet access, making the ERP sensitive to the latest events in business, the market and technology, and
- ERP can help achieve excellence in Customer Relationship Management where CRM systems are used.

## **2.20 CUSTOMER RELATIONS MANAGEMENT**

According to Laudon and Laudon (2010:87) Customer Relations Managements (CRP) is a system that consolidates and integrates customer information from multiple communication channels, for example telephone, e-mail, wireless devices, retail outlets or the web.

Post and Anderson (2003:101) point out that although customers are important to all business, the internet and wireless applications add new dimensions to managing customers. One problem is the expanding number of customer contact points. Customers expect organisations to remember and have a record of actions and decisions that were made earlier, regardless of the method of contact. Consequently organisations or businesses need integrated systems that instantly provide the full details of customer contacts.

New technologies have also provided innovative methods to keep in touch with customers and identify their specific needs for products and services. CRM is of great value in managing this customer relationship.

Laudon and Laudon (2010:86) noted that Customer Relationship Management Systems capture and integrate customer data from all over the organisation, consolidate it, analyse it and then distribute the results to various systems and customer touch points across the enterprise. They further point out that a well-designed CRM system provides a single enterprise view of customers that is useful for improving both sales and customer service.

Detailed and accurate knowledge of customers and their preferences helps organisations increase the effectiveness of their marketing campaigns and provide higher quality customer service and support.

## **2.21 BUSINESS VALUE OF ENTERPRISE SYSTEMS**

Enterprise systems provide value both by increasing operational efficiency and by providing information across the organisation to help managers make better decisions. Enterprise systems help to enforce standard practices and data so that everyone does business the same way for larger organisations.

## **2.22 COMMUNICATION CONCEPTUALISATION AND CHALLENGES**

### **2.22.1 COMMUNICATION DEFINITIONS**

“Communication is the two- way process of reaching mutual understanding, in which participants not only exchange information but also create and share meaning” (Business Dictionary, 2011). Communication is the act of communicating and transmission.

Harrison (1993: 264) defines communication as “the transfer of information from one person to another, whether or not it elicits confidence.” But the information transferred must be understandable to the receiver. A similar view is expressed by Robbins (1995: 15) who defines communication as “an act by which one person gives to or receives from

person information about that person's needs, desire, perceptions, knowledge, or effective states.”

Communication is the sending, giving, or exchanging information and ideas, which is expressed either non-verbally or verbally. It is a transformation of thoughts and ideas from one person to another (Relationship-with-self.com, 2011). Communication is the exchange of thoughts, messages, or information, by speech, signals, writing, or behaviour.

### **2.22.2 COMMUNICATION AT KWAMSANE CLINIC**

The head of the KwaMsane Clinic, who is the operational manager, communicates downwards to her employees while they communicate upwards to her. The operational manager communicates upwards to her manager at Hlabisa hospital (District hospital) who in turn communicates downwards to her. The head of the KwaMsane Clinic also communicates side-ways with nursing sisters in different departments at the clinic ([www.kznhealth.gov.za](http://www.kznhealth.gov.za)).

When communicating downwards, the operational manager assigns goals/ targets to the employees, explains the vision and mission of the clinic, gives job instructions and schedules, tells them when there are problems that need to be sorted out, gives feedback on performance and handles disciplinary issues when they arise. In communicating upwards to her manager, the operational manager informs the manager at the district hospital of the progress towards the goals (performance reports), any problems that are being experienced with service deliveries, possible solutions to such problems, suggestions to improve operations, how the employees feel (their attitude and morale) about their jobs.

The operational manager communicates side-ways with nursing sisters in different departments at the clinic to make sure that the activities of the different departments are coordinated. From this it is obvious that the operational manager of KwaMsane Clinic spends a substantial amount of her time communicating. It is thus important for the operational manager to know how to communicate effectively.

### **2.22.3 BARRIERS TO EFFECTIVE HUMAN COMMUNICATION**

Communication is an important tool in the success of any organisation. Organisations face a lot challenges when it comes to effective communication, there are certain barriers that every organisation faces. Individual often feel that communication is as easy and simple as

it sounds, but what makes it complex, difficult and frustrating are the barriers that come in its way. Research conducted at 70 companies in America indicated that poor communication is probably the most frequently cited source of interpersonal conflict at work (Robbins, 1998:309). Individuals spend nearly 70% of their working hours communicating; speaking, listening, writing and reading (Robbins, 1998: 310 – 311). For this reason, effective communication is important for successful organisational performance.

Coffey, Garrow and Holbeche (2002:56) state some of the barriers to successful communication. These include message overload (when a person receives too many messages at the same time), and message complexity. There are also physical barriers to effective communication due to the nature of the environment. Likewise, poor or outdated equipment, particularly the failure of management to introduce new technology, may cause problems. Staff shortages are another factor which frequently causes communication difficulties for an organisation, (Coffey et al., 2002:57). Distractions like background noise, poor lighting or an environment which is too hot or cold can all affect people's morale and concentration, which in turn interfere with effective communication.

Physical barriers, system design faults refer to problems with the structures or systems in place in an organisation. Examples might include an organisational structure which is unclear and therefore makes it confusing to know who to communicate with. Other examples could be inefficient or inappropriate information systems, a lack of supervision or training, and a lack of clarity in roles and responsibilities which can lead to staff being uncertain about what is expected of them.

Attitudinal barriers are the result of problems with staff in an organisation. These may be brought about by factors such as poor management, lack of consultant with employees, personality conflicts which can result in people delaying or refusing to communicate, the personal attitudes of individual employees which may be due to lack of motivation or dissatisfaction at work, brought about by insufficient training to enable them to carry out particular tasks, or just resistance to change due to entrenched attitudes and ideas.

The words/phrases or words which sound the same but having different meanings can convey a different meaning altogether. The communicator must therefore ensure that the

receiver receives the same meaning. It would be better if ambiguous or confusing words were avoided and alternatives were used. Coffey et al. (2002:101).

Individual linguistic ability is also important. The use of difficult or inappropriate words in communication can prevent people from fully understanding the message. Poorly explained or misunderstood messages can then result in confusion. We can all think of situations where we have listened to something being explained which we just could not grasp.

Physiological barriers may be as a result of individuals' personal discomfort, caused, for example, by ill health, poor eye sight or hearing difficulties. The presentation of information is also important to aid understanding. Simply put, the communicator must consider the audience before making the presentation itself and in cases where this is not possible, the presenter should at least try to simplify his/her vocabulary so that the majority can understand.

Creating a climate conducive to communication at KwaMsane clinic is vital for achieving the mission and vision of department of health TB control target for 2011 (case detection rate of 70%, cure rate 85% and treatment success rate of more than 85%). Research over the past decade has shown that, when effectively implemented throughout an organisation, a well-articulated vision has a profoundly positive impact on organisational performance. In this regard, two extremely important observations emerge from research by Lipton.

Firstly, superior performance is not achieved by an organisation that just happens to have a vision statement – in fact, it is achieved by people who are challenged by the vision, and remain focused on a clear, yet distant target, (Lipton, in Hough 2008: R12-R18). Such organisations consistently tend to have higher levels of productivity per employee, greater levels of employee commitment, increased loyalty to the organisation, great esprit de corps, clear organisational and/or departmental values, and a greater sense of pride in their organisation. Secondly, there is an irrefutable link between vision and leadership. It has been found that leaders who create and implement visions that guide organisational growth know what they want their organisations to become (Lipton, in Hough 2008: R12-R18).

UMkhanyakude district under which KwaMsane clinic falls has the highest prevalence of HIV/AIDS and TB cases in the whole of KwaZulu-Natal province. Open and effective communication is necessary to achieve the government TB control targets. The strategy adopted by the national department of health in combating TB should be cascaded down to provinces and to the local clinics.

Hough (2008: 256) stressed that, once managers have decided on a strategy, the emphasis turns to converting it into actions and good results. Putting the strategy into place and getting the organisation to execute it well calls for different sets of managerial skills. It takes adept managerial leadership to convincingly communicate the new strategy and the reasons for it, overcome pockets of doubt and disagreement, secure the commitment and enthusiasm of concerned parties identify and build consensus to all the implementations and executions and move forward to get all the pieces into place.

Communication is a two-way process. When the operational manager at the clinic gives an instruction to his subordinate, the subordinate interprets it in the way that he understands it. When the operational manager's intention is different from that of the subordinate, there is a communication gap. The same thing can happen when a subordinate tries to convey information to the operational manager who may then interpret it differently from the way that the subordinate intended (Hough, 2008: 256).

The way in which the operational manager or subordinate at the clinic structures the instruction or message is influenced by his or her skills, knowledge, attitudes, experiences and sociocultural system. At the other end of the spectrum, the employee who hears the message will interpret it according to his or her skills, knowledge, attitudes, experiences and sociocultural system. The operational manager must ensure that the idea in her mind is understood when spoken or written or demonstrated so that the action that follows is what she had in mind (Harrison, 1993:270).

## **2.23 CONCLUSION**

Communication is a very important as one transfer information from one person to another. It should be understandable to the receiver whether verbal or non-verbal as it is transformation of thought and ideas from one person to another.



This chapter has shown that for a clinic to meet the expectations of the community it serves, it needs to have a strategy in place in terms of human resource management, material and supply chains, financial management and effective communication. It must also observe all the policies, guidelines and operational strategies that Department of Health together with World Health Organisation has put in place to fight the TB crisis in South Africa.

The next chapter presents the research methodology of the study.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

Research is a search for knowledge or a systematic investigation to establish facts. It also involves solving new or existing problems, proving new ideas or developing new theories using scientific methods, (Chopra and Meindl, 2004:27). Welman and Kruger (2004:2) state that research involves the application of various methods and techniques in order to create scientifically obtained knowledge by using objective methods and procedures.

Research design is a method of collecting data using either a qualitative or quantitative methodology together with data collecting technique. It is the strategy, plan or structure of conducting research (Brynad and Hanekom, 1997:25).

This chapter explains how the research methodology of this study was planned and outlines the techniques used to collect the primary data. It further elaborates on the approach taken in collecting and analysing the data; identifying the target population and selecting the sampling techniques. The statistical analysis together with the issues of reliability, validity and bias related to the study is also discussed.

### **3.2 RATIONALE FOR THE STUDY**

In order for the KwaMsane TB unit to deliver service efficiently or to improve its service delivery levels, the health care personnel and their managers should be able to address the challenges faced by the department. The objectives of the study therefore, are:

- To determine which factors are contributing to the failure of the clinic's TB department to deliver effectively;
- To determine the challenges that personnel face in the department;
- To determine if the employees are appropriately qualified to perform their duties;
- To ascertain if there are enough resources to perform the required duties;
- To determine the communication challenges, if any, among the relevant departments, within the clinic and between the clinic and the hospital;
- To identify if existing structures need to be improved to eliminate the problem.

### **3.3 THE RESEARCH DESIGN**

A research design is a plan or a blueprint of how one intends conducting one's research (Mouton, 2005: 55). The research design has to specify the number of groups that will be

used, whether these groups are to be drawn randomly from the population involved, and what exactly should be done with them in the case of experimental research. It also states whether the research is of a qualitative or quantitative nature.

This research was designed to elicit quantitative information from respondents in order to confirm the assumption that ineffective TB management indeed was occurring at KwaMsane clinic. The respondents were a mix of doctors, nurses, and clinic staff based at KwaMsane clinic. The sample was made up of 31 respondents who were all interviewed. This represented 100% of the relevant population.

### **3.3.1 TYPE OF RESEARCH**

There are two types of research quantitative and qualitative (Welman, Kruger & Mitchell, 2006: 6).

Qualitative research can be used successfully in the description of groups, small communities and organisations. According to Blumberg, Cooper and Schindler (2005:124), qualitative methods refer to the meaning, the definition, or analogy or model or metaphor characterising something. It is subjective and based on perception. It is a useful method to test a hypothesis or to test previous research.

Quantitative field studies assume the meaning and refer to measure of that meaning. This is an objective and factual type of the research.

A quantitative approach has been adopted to collect primary data for the study and is descriptive in its design. The reason for choosing such a research design is that quantitative research places great premium on objectivity and the reliability of the findings. The aim of the research was to determine whether TB management at KwaMsane clinic is effective or not. To this end it was decided to adopt the quantitative approach, in order to measure the effectiveness of the programme (Blumberg et al., 2005:120).

### **3.3.2 THE TARGET POPULATION**

The target population of the study was the human resource component of KwaMsane clinic. The health care personnel as well as the administration and support staff of the clinic were included in the study. The non-administrative personnel e.g. cleaning, security and maintenance personnel were excluded because some of these jobs and thus the employees are outsourced (e.g. security and maintenance) so the clinic management does not directly manage them.

### **3.3.3 SAMPLING**

Sampling is the process of selecting a fractional part of the whole relevant population. Brynard and Hanekom (1997:42) state that the population for conducting the research could be so large that it could take years to complete the research. When this happens, the researcher has to select a small group from a large population for the purposes of the study.

According to Fink (1995a: 34) determining the sample size must take cognisance of factors such as costs, data processing and analysis. The ability to follow up on eligible people and those who fail to respond should be taken into consideration. For the purpose of this study the entire population was included because the population size was small. Saunders et al. (2009:212) state that sampling provides a valid alternative to a census when:

- It would be impracticable for one to survey the entire population,
- The budget constrains prevent one from surveying the entire population,
- The time constrains prevents one from surveying the entire population, and
- One has to collect data but needs the results quickly.

### **3.3.4 THE RESEARCH INSTRUMENT/S**

There are three types of research instruments that can be used in conducting a survey namely interviews, observation and questionnaires. The questionnaire format was chosen as an instrument to collect data for this research. According to Saunders et al. (2009:360) questionnaires are used to collect data by requiring each respondent to respond to the same set of questions in a pre-determined order.

### **3.3.4.1 QUESTIONNAIRE CONSTRUCTION**

The questionnaire items are based on the objectives and questions to be answered by the survey. Fink (1995b: 25) suggests that the questionnaire must be reviewed by experts before being administered to the respondents. He further states that an expert is an individual who is knowledgeable about survey question compilation. The researcher discussed the format and the construction with her supervisor and a statistician to ensure that it was suited to the study.

Fink (1995c:52) states that the importance of asking demographic information or similar types of questions is to be able to tell who the respondents are. Fink (1995c:32) states that the information is also needed to help underpin the finding of the research and other surveys.

The demographic questions in the research questionnaire are Questions one and two only. These questions were relevant to the survey as they were related to the level of education and the job description of participants. The rest of the questions from Questions three to twenty one address the issues to be answered by the survey respondents. Table 3.1 below shows the links between the objectives and the questions which relate to them:

<b><u>OBJECTIVE TO BE ACHIEVED</u></b>	<b><u>QUESTION TO BE ANSWERED</u></b>
a) To determine which factors are causing the TB clinic to underperform.	Question 1 to 21
b) To determine challenges that personnel face in the department.	Question 5,8,12,20
c) To determine if the employees are appropriately qualified to perform their duties.	Question 2,3,6,7
d) To ascertain if there are enough resources to perform the required duties.	Question 11
e) To determine the communication challenges, if any, among the relevant	Question 13, 14, 15,16,17,19.

department within the clinic and between the clinic and the hospital.

f) To determine if the existing structures need to be improved to eliminate the problems. Question 15,16,17,18,21

#### **3.3.4.2 QUESTIONNAIRE ITEMS**

The questionnaire for this study consisted of two types of questions, namely:

- (a) Close ended questions
- (b) Open ended questions.

These best describe the respondent's opinion. Saunders et al. (2009:363) state that the choice of the type and structure of the questionnaire will be influenced by a variety of factors related to the research questions and objective. In particular:

- Characteristics of the respondent from whom one wishes to collect data,
- Importance of reaching a particular person as a respondent,
- Importance of the respondent's answers not being contaminated or distorted,
- Size of sample one requires for one's analysis,
- Type of questions one needs to ask to collect the data, and
- Number of questions one needs to ask to collect the data.

The issues of reliability and validity are discussed later in this chapter.

#### **3.3.4.3 PILOT STUDY**

A pilot study is a small scale study which is done to test a questionnaire, an interview check list or an observation schedule. Its purpose is to minimise the likelihood of respondents having problems in answering the questions, as well as to test the validity and reliability of the data that would be collected (Saunders et al., 2009:597).

A pilot study involving seven people with suitable backgrounds in nursing was conducted to assess the questionnaire. The respondents were requested to critically evaluate the

questionnaire in the light of the research objectives. The pilot study respondents did identify any questions that needed to be re-worded or were unclear. A few questions required alterations in order to remove vagueness and to ensure that none of the questions were ambiguous.

According to Welman and Kruger (2004:14) the purpose of a pilot study on a limited number of populations is intended to:

- Detect flaws in the measurement procedures and in the same operationalisation of the independent variable(s),
- To identify unclear or ambiguously formulated items, and
- To allow the researcher or their assistant to notice non-verbal behaviour that may possibly signify discomfort or embarrassment about the wording of the questionnaire.

#### **3.3.4.4 THE RESULT OF THE PILOT STUDY**

The pilot study resulted in five questions being changed from the original questionnaire;

**Question 1:** “What kind of work you are doing at the clinic?” This was amended and a table was inserted on which the participant could select the type of work he/she did at the clinic.

**Question 2:** “Do you have any specialisation in your field of work?” This was changed to, “Do you have any specialisation in your field of work e.g. (course in Tuberculosis management)? Please specify below.”

**Question 3:** “Do you enjoy working in your current post? Yes/ No.” This was changed to, “Do you enjoy working in your current post or department?” There was a scale on which the respondent could select strongly disagree, Disagree, Uncertain, Agree or strongly agree.

**Question 4:** “Are there any delays in diagnosing a patient? Yes/ No.” This was changed to, “There are delays in diagnosing a patient.” There was a scale on which the respondent

could select strongly disagree, Disagree, Uncertain, Agree or strongly agree. If the respondent answered strongly agree, there was space for them to say what caused the delay

**Question 5:** “Does the clinic have enough Doctors? Yes/No”. This was changed to, “The clinic does not have enough Doctors for Tuberculosis patients.” There was a scale on which the respondent could select strongly disagree, Disagree, Uncertain, Agree or strongly agree. If the respondent answered strongly agree, there was space for them to say what happens to TB patients that cannot be seen by a doctor.

### **3.4 THE RESEARCH PROCESS**

Permission was requested from the clinic management of KwaMsane clinic to conduct the study. A covering letter explaining the reason for the study was supplied and the process was explained to the respondents who signed an informed consent clause before responding (Appendix 4).

#### **3.4.1 ADMINISTRATION OF QUESTIONNAIRES**

The study was conducted in October 2011. A total of 31 respondents participated in the study. Each respondent was given a brief introduction to the study at his/her work place and was issued with a questionnaire, which was completed and returned for analysis. Most questionnaires were completed and returned within three days.

#### **3.4.2 DATA ANALYSIS**

According to Wegner (1995:7) data is an individual observation on an issue. He states that data value in itself conveys no useful information, only when the individual data values are collected, collated, summarised, analysed and presented, do they then yield useful information for decision making.

The items from the questionnaire were organised and analysed.

The following are the forms and the basis of the data analysis according to Wegner (1995:7);



- A statistician was involved during the analysis of the data and the computer programs were used for analysis,
- The data was analysed using descriptive statistics, and
- Frequency tables were drawn and from these the means, standard deviations, bar charts cross tabulations, percentage frequency and results were extracted.

### **3.4.3 RELIABILITY AND VALIDITY**

Saunders, Lewis and Thornill (2009:603) define validity as the extent to which the data collection method or methods accurately measure what they intended to measure. Goddard and Melville (2001:41) believe that validity is the extent to which the measurement process is free of both systematic and random error.

According to Saunders et al. (2009:60) reliability is the extent to which data collection techniques will yield consistent findings, similar observations would be made or conclusions reached by other researchers or there is transparency in how sense was made from the raw data. Reliability of the measurement refers to the extent to which obtained scores may be generalised to different measuring situations.

Saunders et al. (2009: 373) states that there are three approaches that are used to test the validity of the instrument:

- Content validity refers to the extent to which the measurement device provides adequate coverage of the investigative questions,
- Criterion-related validity, sometimes known as predictive validity, is concerned with the ability of the measures (questions) to make accurate predictions. In accessing criterion-related validity, one would be comparing the data from the questionnaire with that specified in the criterion in some way. Often this is undertaken using statistical analysis such as correlation, and
- Construct validity refers to the extent to which your measurement questions actually measure the presence of those constructs you intended them to measure. This term is normally used when referring to constructs such as attitude scales, aptitude and personality and the like.

Based on the pilot study, the questionnaire deemed to have face validity. Furthermore, the respondents did not feel intimidated by the procedure of data collection and the researcher used simple appropriate English language. The reliability of the questionnaire was confirmed through a Cronach's Alpha score of 0.746. A score of 0.7 and higher indicates a good reliability of the instrument (Academic Technology Services, Statistical Consulting, 2007).

### **3.5 LIMITATION OF THE STUDY**

The study was conducted on a narrow empirical perspective using quantitative methods so choosing KwaMsane clinic limited the scope of the study as well as the generation of the results. This study was limited to be a quantitative study and in addition was limited to only surveying the views of the employees and not those of the patients. A further limitation was that the research did not consider the views of the patients, nor was the research qualitative. Suggestions in this regard are made in Chapter Five.

### **3.6 DELIMITATION OF THE STUDY**

Cline (2002:2) describes the delimitation of the study as a characteristic that limits the scope of the enquiry as determined by the conscious exclusionary and inclusionary decision made in the proposal. This study was restricted to the PHC at KwaMsane clinic and did not consider the effectiveness of clinics elsewhere.

### **3.7 ELIMINATION OF BIAS**

Sica (2011:1) defines bias as a form of systematic error that can affect scientific investigation and distort the measurement process. He asserted that in the process of eliminating bias, new bias might be introduced or the study may be rendered less generalised, thereby making it difficult to eliminate bias.

To eliminate bias, every effort was made to ensure that when the data was collected and analysed, it was done in a neutral and objective manner. In addition, respondents were given the freedom to remain anonymous to prevent bias during the analysis of the findings. The wording of the questions was carefully chosen to avoid providing clues to the respondents and emotionally loaded words were avoided.

### **3.8 ETHICAL CONSIDERATION**

Welman et al. (2008: 181) state that ethical consideration is concerned with matters such as plagiarism and honesty in reporting the results and respect for the rights of individuals during data collection. The aim of ethics is to ensure that the respondents were not adversely affected by the research project/ study. In this study ethical issues were given the highest priority.

#### **3.8.1 ENSURING PARTICIPANTS GAVE INFORMED CONSENT**

The purpose and the goals of the study were fully described to the participants to ensure that they fully understood the intention of the study. The participants were told that their participation was voluntary and there was no coercion or undue influence from the researcher.

#### **3.8.2 ENSURING NO HARM TO THE RESPONDENTS**

Welman et al. (2008: 201) maintained that the respondent should be given the assurance that they would be indemnified against any physical and emotional harm as a result of their taking part in the study.

#### **3.8.3 ENSURING CONFIDENTIALITY AND ANONYMITY**

According to the National Academy of Engineering (2003) privacy includes an agreement between the investigator and the participant regarding the disclosure of the participant's identifiable data and how this would be dealt with. In this study the name of the participants were not recorded on their questionnaires in order to protect their identity.

#### **3.8.4 FIELDWORK**

Fieldwork was done at KwaMsane clinic. An appointment was secured with the clinic Operational Manager. The survey was presented to the employees at the clinic, and the purpose and objectives of the study were explained to the respondents. Questionnaires were distributed to all the staff that were on day duty that day. Some respondents completed and returned the questionnaire that same day. Others wanted to be given time and requested that the questionnaire be collected at the end of the day shift.

On the same day the survey was presented to the night staff who were called in to attend to an emergency that night. The questionnaires were also distributed and they were asked to complete them during the shift and they would be collected the following morning. The staff members at the clinic were very co-operative and enthusiastic about the study. They felt strongly about the topic and were eager to know what the results of the survey would be.

The purpose of having direct contact with the respondents was to ensure that all questionnaires were completed and that consent was obtained from each of the respondents. It took the week of 4<sup>th</sup>-11<sup>th</sup> November 2011 to complete the field work.

### **3.8.5 ENSURING THAT PERMISSION WAS OBTAINED**

Written permission to conduct the study was obtained from KwaMsane clinic management (Appendix 2).

## **3.9 CONCLUSION**

A quantitative survey design was employed. The questionnaire was administered and collected from each of the thirty one respondents.

This chapter discussed the methodology used in this research. The research methodology included the population, sampling, questionnaire construction, data collection, reliability and validity, limitations of the study, elimination of bias and ethical consideration.

The next chapter discusses the presentation and analysis of the data obtained from the questionnaires completed by the respondents in this study.

## **CHAPTER FOUR: PRESENTATION AND ANALYSIS OF RESULTS**

### **4.1 INTRODUCTION**

This chapter focuses on the results and discusses the findings obtained from the questionnaire that was completed by the respondents during the period 4-11 November 2011 at KwaMsane clinic. To determine whether the TB unit at KwaMsane clinic is being managed effectively, research was undertaken. The entire population of 31 employees was included in the study. The data was collected from respondents and collated using Microsoft Excel 2010, and was analysed using Stata Version 10.0.

A reliability of 0.70 or higher is considered as acceptable (Academic Technology Service Statistical Consulting, 2007).

The reliability score for the various categories of the research ranged from 0.633 to 0.708. The categories of the research had reliabilities that fall within the acceptable range. This indicates that the test in the items in the questionnaire were reliable. The results are presented in the form of figures (graphs) and tables.

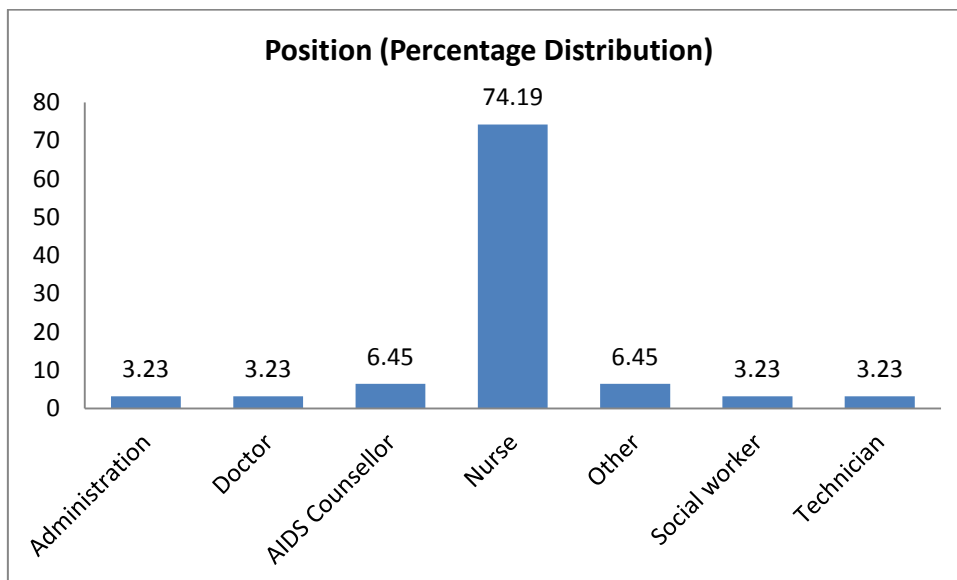
The results from questionnaire are presented as follows:

- Position / Percentage distribution;
- Staff educational achievements;
- Staff complement (proportion);
- Staff job satisfaction;
- Staff tenure;
- Delayed in patient diagnosis and;
- Service delivery.

## 4.2 PRESENTATION AND ANALYSIS OF RESULTS.

### 4.2.1 PRESENTATION AND ANALYSIS OF STAFF DISTRIBUTION

**FIGURE 4.1 Respondent Position or Percentage Distribution.**



**TABLE 4.1 Position or Percentage Distributions**

Position	Frequency	Percentage	Cumulative
Administration	1	3.23	3.23
Doctor	1	3.23	6.45
AIDS Counsellor	2	6.4	12.90
Nurse	23	74.19	87.10
Other	2	6.45	93.55
Social worker	1	3.23	96.77
Technician	1	3.23	100.00

Figure 4.1 and Table 4.1 shows how the work force is categorised according to positions. There are 23 nurses, 1 administrative staff member, 1 doctor, 4 counsellors (other and counsellor), 1 social worker and 1 laboratory technician. Nurses make up the majority of the staff members of the clinic. In October 2011 alone the number of

patient seen at the clinic was 10,289 (Monthly Clinic Data Collection form of KwaMsane Clinic, October 2011).

According to HealthCareHacks.com (2010) nurse to patient ratios should be 1:1 in the operating room, 1:2 in the intensive care, critical care, neonatal intensive care units, post –anaesthesia recovery and labour and delivery. The ratio of 1:4 is acceptable in ante-partum, post-partum, paediatric care; emergency rooms and other specially care units. In general, in the medical-surgical unit the ratio is 1:5. At KwaMsane Clinic the number of patient to nurse is too high (give the exact ratio to prove it) thus compromising the effectiveness of TB management at clinic. This is to blame for the high work load and poor service delivery.

#### 4.2.2 PRESENTATION AND ANALYSIS OF DEMOGRAPHIC INFORMATION OF THE STUDY

This section presents the descriptive statistics based on the demographic of the survey. Descriptive data analysis describes the data, investigates the distribution of scores to each variable and determines whether the scores on the different variables are related to each other. Fink (1995c: 82) states that the demographic data is necessary to identify the respondent and help explore the findings of the research and other surveys.

**FIGURE 4.2 Staff Educational Achievement**

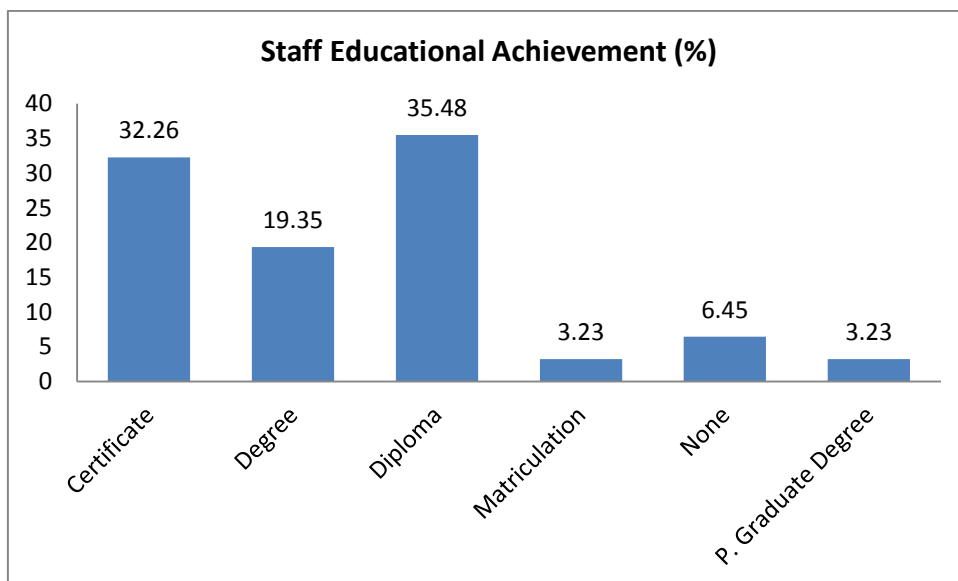


Figure 4.2 above reveals that 35% of the respondents have diplomas, 32% have certificates, 19% have degrees, 3% have post graduate degrees, 3% have matriculation and 6% have no qualification. A fair number of staff members are graduates. The high percentage of nurses with certificate qualifications is a cause for concern at primary health care clinic. The nurses with certificate qualifications will not be able to do proper diagnosis, especially on those patients who have TB and HIV/Aids. At KwaMsane clinic enrolled nurses are normally allocated to the TB unit. Although they work using national TB guidelines, one still has to consider if they are competent enough to work independently. Registered nurses (sisters) are more competent to handle the TB and HIV/Aids cases because of their more advanced training and experience.

**TABLE 4.2: Qualification Frequency**

<b>Education Level</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative</b>
Certificate	10	32.26	32.26
Degree	19.35	51	61
Diploma	11	35.48	87.10
Matriculation	1	3.23	90.32
None	2	6.45	96.77
Post Graduate Degree	1	3.23	100.00



### 4.2.3 ANALYSIS OF STAFF COMPLEMENT

FIGURE: 4.3 Staff Complement

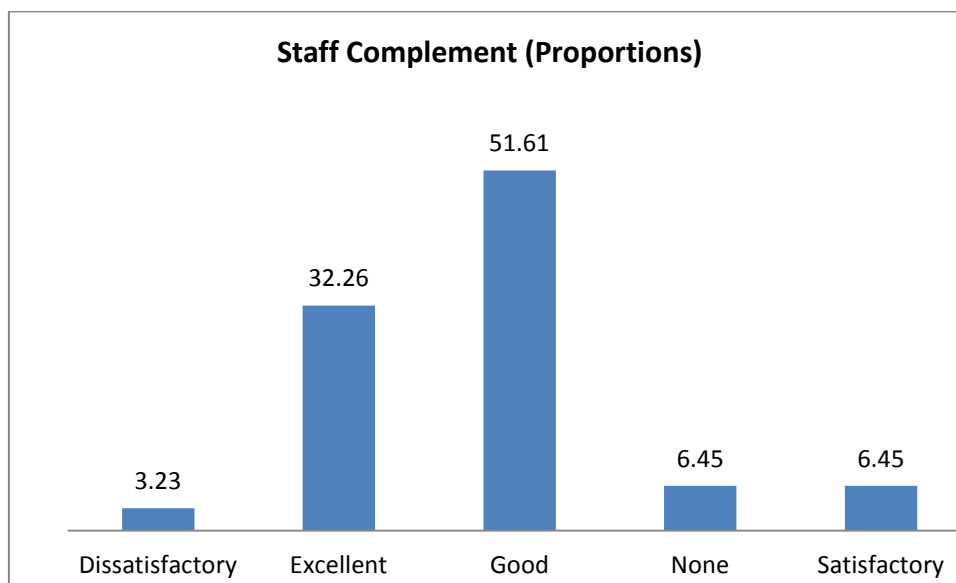


TABLE: 4.3 Staff Complement

Complement	Frequency	Percentage	Cumulative
Dissatisfactory	1	3.23	3.23
Excellent	10	32.26	35.48
Good	16	51.61	87.10
None	2	6.45	93.55
Satisfactory	2	6.45	100.00

Figure 4.3 reveals that 51% of the respondents rated staff complement as good, 32% excellent, 6% satisfactory, 6% none (neutral) and 3% dissatisfactory. The high percentage of staff that falls under the categories of good and excellent indicated that the majority are happy working in the unit (TB unit) because the post was advertised and they applied for the position. This shows that they have passion, love and commitment for their work, despite the high risk of being infected with TB.

The 3% of the respondents who were dissatisfied with working in the TB unit are probably those employees that were allocated to the unit without having requested to join it.

#### 4.4 ANALYSIS OF JOB SATISFACTION

**TABLE: 4.4 Job Satisfactions**

Job Satisfaction	Frequency	Percentage	Cumulative
Agree	17	54.84	54.84
Disagree	2	6.45	61.29
Strongly Disagree	3	9.68	70.97
Strongly agree	7	22.58	93.55
Uncertain	2	6.45	100.00

**FIGURE: 4.4 Job Satisfactions**

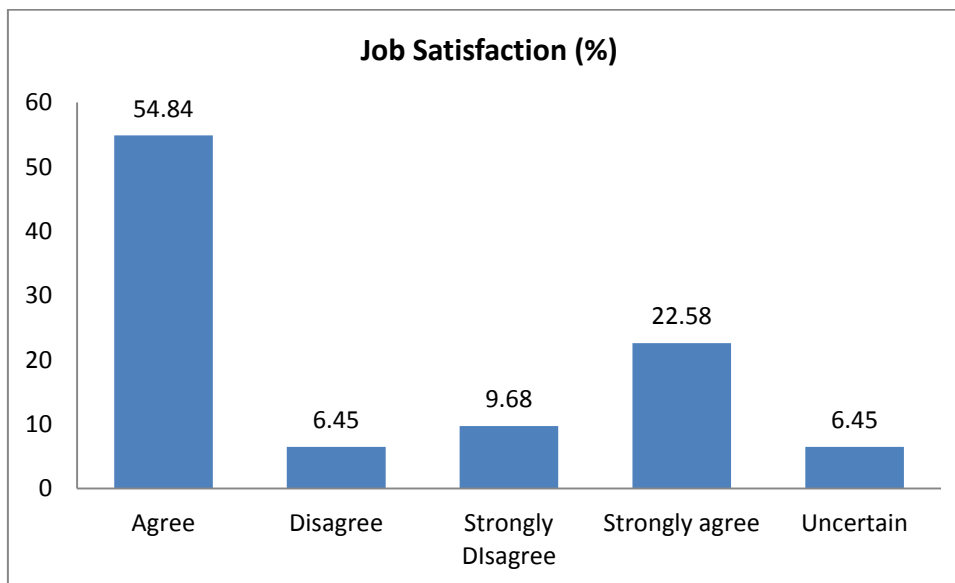


Figure 4.4 reveals that 77% of the respondents agreed that they were satisfied with their jobs. This high percentage of satisfaction could be related to the flexibility in terms of

working hours, which is an eight hour shift instead of the twelve hour shift as is the case in the main clinic. Staff members who work at the TB unit do not work weekends or night duty. The 16% of the respondents who were dissatisfied were probably that those who were allocated to the TB unit.

#### 4.2.5 ANALYSIS OF PERIOD OF EMPLOYMENT

**TABLE: 4. 5 Period of Employment**

Tenure	Frequency	Percentage	Cumulative
6 months to 1 year	6	19.35	61.29
2 to <3 years	5	16.13	16.13
3 to 5 Years	8	25.81	41.94
More than 5 years	11	35.48	96.77
NA	1	3.23	100.00

**FIGURE: 4. 5 Tenure**

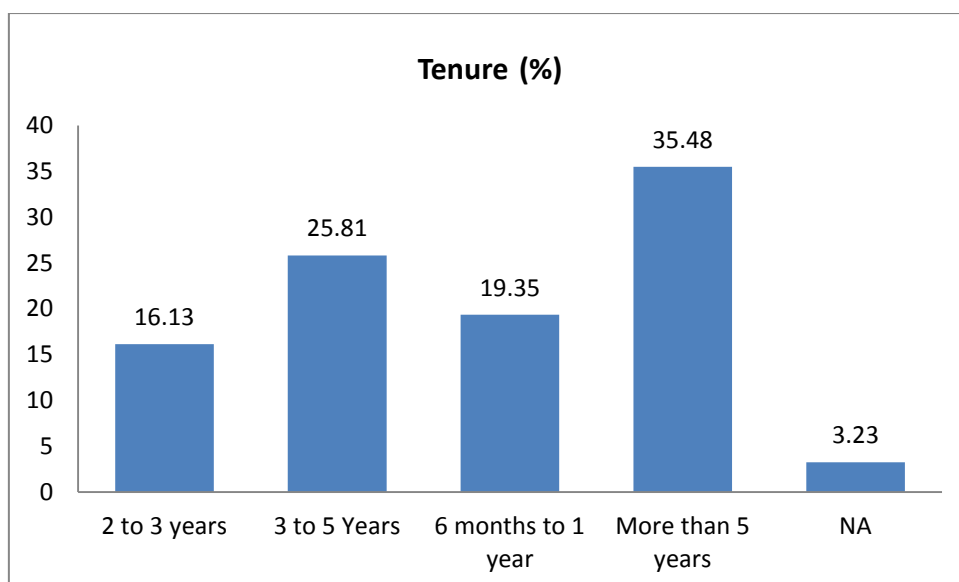


Figure 4.5 reveals that 35% of the respondents have worked in the clinic for more than 5 years and 25% have worked there for between 3 and 5 years. This high percentage of long-

term staff could be attributed to the favourable working hours mentioned above. Other reasons could be the rural allowance incentive which is paid to nurses who work in the remote areas (KwaMsane Clinic).

#### 4.2.6 ANALYSIS OF DELAYED IN PATIENT DIAGNOSIS

**TABLE: 4. 6 Delayed in Patient Diagnosis**

Delayed diagnosis	Frequency	Percentage	Cumulative
Agree	11	35.48	35.48
Disagree	9	29.03	64.52
None	2	6.45	70.97
Strongly Agree	8	25.81	96.77
Strongly Disagree	1	3.23	100.00

**FIGURE: 4.6 Delayed in Patient Diagnosis**

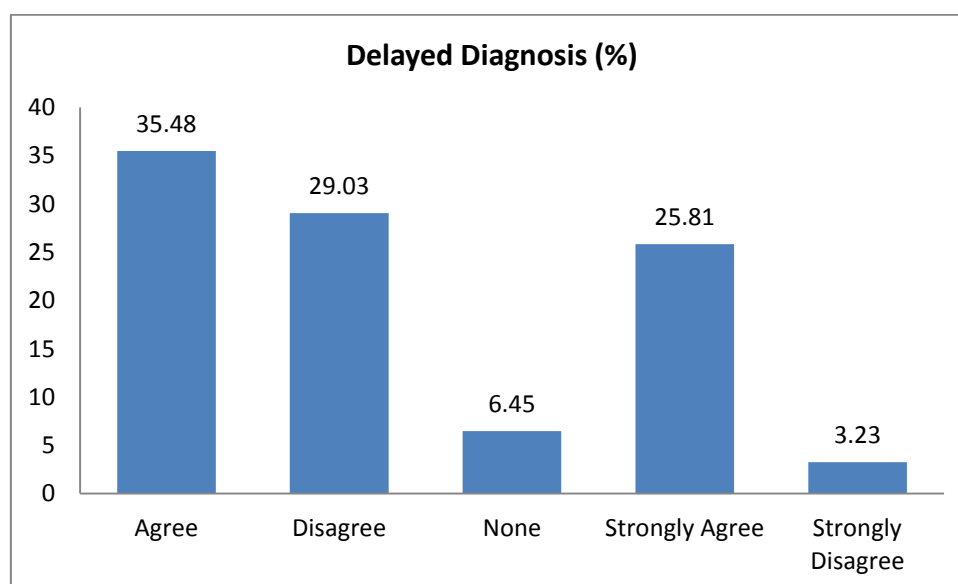


Figure 4.6 reveals that 61% of the respondents agreed that there is a delay in patient diagnosis. A total of 32% disagreed that there is no delay in patient diagnosis. This high percentage of agreement is a seriously disconcerting result which casts a negative perception on the clinic management.

This high percentage of agreement could be as a result of:

- Delays in results of the microscopy,
- Culture and sensitivity (MC&S),
- Patient with extra pulmonary tuberculosis,
- Shortage of doctors,

Under qualified and inexperienced nurses who cannot diagnose patients, especially patients with HIV/AIDS,

Excessive work load which lead to exhaustion of nurses thus affecting their efficiency, and

The lack of equipment (e.g. scan machine, X-ray machine and ultra sound machine) is another problem

#### **4.2.7 ANALYSIS OF SERVICE DELIVERY**

**TABLE: 4. 7 Service Delivery**

Service Delivery	Frequency	Percentage	Cumulative
Excellent	17	54.84	54.84
Good	6	19.35	74.19
Satisfactory	8	25.81	100.00

**FIGURE: 4.7 Service Delivery**

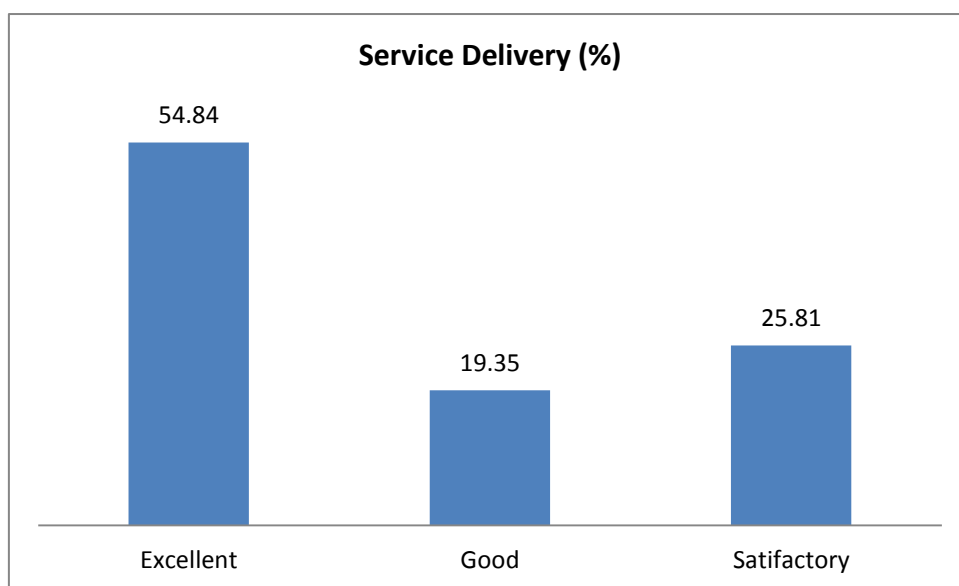


Figure 4.7 reveals that the staff feels strongly about their service delivery. The respondents who work at KwaMsane Clinic rated their service delivery in the following categories: excellent 54%, good 19% and satisfactory 25%. The positive responses from the respondents at the clinic could be as a result of keeping departmental officials off their back. Perhaps they were keen to portray a positive image of the clinic in terms of the service delivery despite the fact that the clinic is not meeting its targets.

#### **4.3 CONCLUSION**

In this chapter it has been shown how the data was collated and analysed using the statistic tools Microsoft Excel 2010, Stata version 10.0. Graphs and tables were used to present the data.

This study set out to determine the effectiveness of TB management at KwaMsane Clinic. It was discovered that the following factors are hampering the effectiveness of TB management at the clinic:

- High patients/ nurse ratio;
- High percentage of nurses with certificate qualification; and
- Delay in patient diagnosis.

The next chapter presents the results, the conclusion and recommendations of the study.

## **CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

The focus of this chapter is to present the conclusions that were reached from this study and to make recommendations based on both the literature review and the primary research. The aim of this study was to analyse the effectiveness of tuberculosis management at KwaMsane Clinic. Chapter One to Four of this study have indicated the importance of this study, its objectives, the literature review, the methodology and the presentation and analysis of the study results.

UMkhanyakude has the highest prevalence of HIV/AIDS and Tuberculosis in KwaZulu-Natal and this is the district within which the KwaMsane Clinic falls. The literature has revealed that the South African health system was found to be short of adequate and proper health facilities (Newspoint South Africa, 2011:8)

### **5.2 FINDINGS FROM THE LITERATURE REVIEW**

The literature study presented in Chapter Two was concerned with the effectiveness of tuberculosis management and this was conducted relative to the KwaMsane Clinic and a listing of the findings is presented as follows:

- South African health care services were found to be falling short of adequate and proper health facilities; (Newspoint South Africa,2011:8)
- Maternal mortality has risen to 652 per hundred thousand live births, which is twenty times higher than the government's predictions (Newspoint South Africa,2011:8)
- In 1998 the National Department of Health stated that it planned to reduce the neonatal mortality rate from 20 to 14 per 1000 live births, ensuring that the national infant mortality rate does not exceed 45 per 1000 live births and reducing the national under 5 mortality rate to 59 per 1000 live births ( Mid-Term Country Report 2007:23).

The Department of Health recently released a draft strategy called "SA 2030" which affirmed that human resource planning was the "need of the hour".

The South African Constitution states that everyone has a right to access to the following:

- Health care services including reproductive health;
- Sufficient food and water; and
- Social security if they are unable to support themselves and their dependents thus appropriate social support to be provided.

The Health Department Quality Assurance Directorate developed a list of core norms and standards for clinics in the year 2000 which included the following:

- The clinic renders a comprehensive integrated PHC services at least eight hours a day, five day a week;
- The clinic receives a supportive monitoring visit at least once a month to support personnel, monitor the quality of service and identify needs and priorities;
- Doctors and other specialised professionals are accessible for consultation support, referrals and provide clinic visits;
- There is an annual evaluation of the provision of PHC services to reduce the gap between the needs and services provision using a situational analysis of the community health needs and regular health information data collected at the clinic;
- The clinic has mechanisms in place for monitoring services and quality assurance, and there is at least one annual service audit; and
- Community perception of services is tested at least twice a year through patient interviews on anonymous patient questionnaires.

According to KwaZulu-Natal Department of Health Annual Report (2007:109) the average provincial nurse is high (1: 83) and even higher for doctor with ratio of (1: 155).

The Department of Health experience challenges regarding drug supply (DOH Annual Report 2010: 1b)



### **5.2.1 FINDINGS FROM THE PRIMARY RESEARCH**

This study has shown that the following factors contribute to ineffectiveness in TB management at KwaMsane Clinic:

- The ratio of nurse to patients at the clinic is too high thus compromising the effectiveness of TB management;
- A fair number of staff members at KwaMsane clinic are graduates, but the high percentage of nurses with certificate qualifications is a cause for concern;
- A high percentage of nurses are happy working in the TB unit;
- 77% of the nurses were satisfied with their jobs;
- 35% of the nurses have worked in the clinic for more than five years and 25% have worked there for between three and five years. This high percentage of long-serving staff could be attributed to the flexibility in working hours;
- 61% of the employees agreed that there are delays in patient diagnosis which is a cause for concern; and
- High positive responses from the employees regarding service delivery.

The nurse to patient ratio coupled with delays in patient diagnosis indicated that urgent action needs to be taken. This shows that the clinic management at KwaMsane will fail to meet the mission and strategic objectives of The National Tuberculosis Programme which states that, “The mission of The Department of Health is to prevent TB and to ensure that those who do contact TB have easy access to effective, efficient and high quality diagnosis, treatment and care that reduces suffering” (National Tuberculosis Management Guidelines, 2009: 11).

The above findings are in line with views of Newpoint South Africa (2011:8) which states that the South African public health system has been found to be falling short of providing proper health facilities. The TB control targets for 2011 are: case detection rate of 70%, cure rate 85%, and treatment success rate of more than 85%.

### **5.2.1.1 OBJECTIVE ONE:**

#### **TO DETERMINE WHICH FACTORS ARE CAUSING THE TB CLINIC TO UNDER-PERFORM (QUESTIONS 1-21)**

##### **LITERATURE**

According to KwaZulu-Natal Department of Health's Annual Report (2007:109) the average provincial nurse to patient ratio stood at 1:83. The doctor to patient ratio was even higher at 1:155. Poor performance occurs due to fatigue and work burn as a result of being overworked and a lack of job satisfaction.

##### **FIELDWORK**

It was discovered that the ratio nurse to patient at the KwaMsane clinic is high thus compromising the effectiveness of TB management. A fair number of staff members at KwaMsane clinic are graduates, although a high percentage of them have only a certificate qualification which is a cause of concern in terms of their skills training. The majority (61%) of the employees stated that there are delays in patient diagnosis which is also concerning.

##### **CONCLUSION**

- High nurse/patient ratio is a concern at KwaMsane clinic,
- Delay in patient diagnosis and
- Qualification of health care personnel.

##### **RECOMMENDATIONS**

- The clinic needs to do effective recruitment and selection of trained and qualified health personnel,
- Patients must be diagnosed rapidly and effectively which is achievable if the staff is trained and if additional experienced and qualified personnel is recruited, and
- To improve nurse patient ratio through recruitment of adequate and suitable candidates.

### **5.2.1.2 OBJECTIVE TWO:**

**TO DETERMINE THE CHALLENGES THAT PERSONNEL FACE IN THE DEPARTMENT (Questions 5, 8, 12, 20)**

#### **LITERATURE**

The literature review revealed that poor performance often stems from staff being overworked, but also from inadequate training of staff, monitoring and evaluation of staff performance and delay in patient diagnoses.

#### **FIELDWORK**

- The high patient/nurse ratio was posing a challenge, and
- A delay in patient diagnoses was also a great cause of concern.

#### **CONCLUSION**

Based on the findings it can be seen that the TB clinic staff faces challenges regarding their workload and being equipped to diagnose and/or managing the patients.

#### **RECOMMENDATIONS**

- Recruit qualified and experienced personnel to reduce the workload,
- Periodically train, monitor and evaluate personnel, and
- Have all the necessary equipment available to assist personnel when diagnosing the patients.

### **5.2.1.3 OBJECTIVE THREE:**

**TO DETERMINE IF THE EMPLOYEES ARE APPROPRIATELY QUALIFIED TO PERFORM THEIR DUTIES (Questions 2, 3, 6, 7)**

#### **LITERATURE**

The literature indicates that training and development are essential in order to achieve the following;

- To benchmark the status of improvement as part of an overall professional development programme,
- As part of the succession planning to help identify employees who are eligible for a planned role in the organisation,
- To pilot or test the operation of the new management system, and,
- To train for a specific topic in order to enhance the company's image.

## **FIELDWORK**

A fair number of staff members are graduates, but there is a high percentage of nurses with certificate qualification which is a cause of concern at a primary health care level where a nurse is supposed to be able and trained to diagnose and initiate treatment.

## **CONCLUSION**

Poorly trained health care personnel, low levels of accountability of health personnel, poor adherence to protocols and procedures and poor record keeping are the main impediments of achieving high levels of service and health care at the clinic. Poor data collection also makes it difficult to assess and analyse the facility's performance and to judge whether the quality of TB management is being compromised.

## **RECOMENDATIONS**

- Recruit highly qualified and speciality orientated nurses preferably with primary health care training and management skills, and
- Train and develop the existing staff to improve their knowledge level in order for them to render quality services to the community they serve.

### **5.2.1.4 OBJECTIVE FOUR:**

**TO ASCERTAIN IF THERE ARE ADEQUATE RESOURCES TO PERFORM THE REQUIRED DUTIES** (Question11)

## **LITERATURE**

According to TB norms and standards, the TB clinic needs to achieve:

- a minimum of 85% cure rate of new sputum positive patients,
- a two day turnaround time for sputum result in more than 90% of cases,
- at least one staff member who attends courses in continuous education on TB management,
- And receive a six monthly assessment of quality of care by a supervisor.

The clinic must also be equipped with reference books, printed and educational materials, for example TB guidelines, TB posters, flow charts on TB diagnosis, and the latest essential drug listing (EDL). The clinic should also have an uninterrupted TB drug supply and essential equipment, for example, screw top sputum containers for collecting sputum for the patients.

## **FIELDWORK**

According to the KwaMsane clinic's report dated 18 October 2011 (see Appendix One) the cure rate was only 40.5% in the first quarter of that year.

The clinic was only in possession of the 2009 TB guideline and essential drug list. The availability of TB posters, screw top sputum containers and TB drugs (especially the child regimen) still pose a challenge in terms of availability.

## **CONCLUSION**

The need for TB control is critical at KwaMsane clinic if they are going to achieve their goal of a 85% cure rate as stipulated in the TB norms and standards. A strategic supply chain needs to be put in place to improve, and ultimately, to avoid interruptions in drug supply.

## **RECOMMENDATIONS**

- A framework is required to evaluate the immediate and medium-term training priority in order to manage healthcare personnel.
- Training is needed in inventory and supply chain management or a person could be employed who is solely responsible for ordering stock and doing stock take at the clinic, and

### **5.2.1.5 OBJECTIVE FIVE:**

**TO DETERMINE COMMUNICATION CHALLENGES, IF, ANY, AMONG THE RELEVANT DERPARTMENTS WITHIN THE CLINIC AND BETWEEN THE CLINIC AND THE HOSPITAL (QUESTIONS 13, 14, 15, 16, 17, 19)**

#### **LITERATURE**

The literature supports the fact that communication is an essential tool for transferring information from one person to another, or from one group to another. To be effective, communication should be understandable to the receiver whether it takes the form of being verbal or non-verbal. Barriers of communication which can take the form of physical barriers, system design, attitudinal barriers, ambiguity, linguistic ability, presentation of information and psychological barriers were discussed in detail in Chapter Two. The effects of barriers on communication within an organisation were also discussed.

#### **FIELDWORK**

Communication was found to be satisfactory within departments and between the hospital and the clinic.

#### **CONCLUSION**

Need to emphasise the importance of communication.

#### **RECOMMENDATIONS**

Information systems need to be put in place to improve effective communication, as well as to raise the levels of record keeping and data capturing and engineering of the primary health care services.

### **5.2.1.6 OBJECTIVE SIX:**

**TO IDENTIFY THE EXISTING STRUCTURES WHICH NEED TO BE IMPROVED TO ABLE TO IMPROVE SERVICE DELIVERY (Questions 15, 16, 17, 18, 21)**

#### **LITERATURE**

The literature review in Chapter Two summarised all the issues regarding administrative and managing an organisation such KwaMsane clinic. The strategic plans, the vision and priorities that the Department of Health has put in place to support the primary health system range from strategic priorities for human resource health (HRH), leadership and planning for HRH, up scaling and re-vitalising education, training and research.

#### **FIELD WORK**

The fieldwork confirms that there are problems at TB clinic at KwaMsane. These include;

- High nurse to patients' ratio is a concern at KwaMsane clinic,
- Delay in patient diagnoses poses a treat, and
- Qualification of health care personnel is also another matter of concern.

#### **CONCLUSION**

The KwaMsane TB clinic has existing structures that need to be improved.

#### **RECOMMENDATIONS**

- Effective recruitment and selection of qualified health personnel,
- Proper diagnosis of patients by ensuring that the primary healthcare clinic is well-equipped with qualified personnel, and adequate materials and equipment so that patients can be diagnosed at the primary level and be treated there first rather than being referred to a district hospital, and
- To improve nurse to patient ratio from 1:83 to at 1:5 as recommended, Nurse-to-patient-ratio HealthCareHacks.com, Kaissi, A.(2010).

## **SUMMARY OF ALL RECOMMENDATION AND CONCLUSION FROM ALL THE FINDINGS**

### **5.3 CONCLUSION FROM FINDINGS**

The following conclusions have emanated from the findings of the study:

#### **5.3.1 LOW NURSE TO PATIENTS RATIO IS A CONCERN AT KWAMSANE CLINIC**

The ratio of nurses to patients (1:83) at the clinic is affecting the management of TB. The effectiveness of TB management cannot be achieved if the nurses are over-worked. In October 2011 the total number of the patients attended to were 10,289 out of 31 staff. The TB control target for 2011 for The National Tuberculosis Programme is set at 70%, the cure rate at 85% and the treatment success rate at more than 85%. These goals are not be realistic and achievable if there is a shortage of health personnel.

#### **5.3.2 DELAY IN PATIENT DIAGNOSIS**

The inadequate health systems cause a delay in patients' diagnosis, poor continuity of care and high levels of treatment interruption. The delay in case detection will increase the mortality rate, especially in patients who whose Multidrug-Resistant TB (MDR TB) is not diagnosed and treated urgently. This makes it impossible to achieve the national TB control targets and increases the cost of treating and managing TB patients in the long-term. According to National Institute of Allergy and Infectious Diseases (NIAID) Factsheet (2002), ordinary TB treatment costs about R310 per patient, whereas treatment of MDR-TB can rise to over R20 000.

#### **5.3.3 QUALIFICATIONS OF HEALTH CARE PERSONNEL**

Poorly trained health care personnel, low levels of accountability, non-adherence to protocols, poor record keeping and relationships with clients are major impediment. The lack of adequate qualifications could directly result in poor data collection, will lead to poor TB control and compromising the quality of TB management programme.



## **5.4 RECOMMENDATIONS**

In order to improve the effectiveness of TB management at KwaMsane clinic it is recommended that the following should be done:

### **5.4.1 EFFECTIVE RECRUITMENT AND SELECTION OF HEALTH PERSONNEL**

Noe, Hollenbeck, Gerhard, and Wright (2008: 81) define recruitment as the process of seeking applicants for potential employment. Selection is the process by which an organisation attempts to identify potential employees with the necessary knowledge, skills, abilities, and other characteristics that will help it achieve its goal.

People are an organisation's most important resources. The recruitment of highly qualified and experience health care personnel are a sine qua non to effective TB management. The clinic management must tailor their recruitment strategy towards the attraction and retention of talent.

The vision of the White Paper on Human Resource Management in the Public Service, 1997 is that human resource management will result in competent and well-managed employees who are capable of and committed to delivering high quality services to the people of South Africa.

Van Dijk (2009: 524) states that human resource management in the public service should become a model of excellence in which service to society stems from individual commitment instead of from a feeling of compulsion. To attract the most qualified health care personnel, especially in the primary health care clinic, the position has to be advertised in national newspapers in such a manner as to ensure appropriate response.

### **5.4.2 PATIENTS DIAGNOSIS**

When diagnosing patients with TB one has to consider the following factors: Patients signs and symptoms, medical history, family history, laboratory result and physical examination. With the HIV/AIDS pandemic, diagnosing TB has become more complex.

The Department of Health must ensure that primary health care clinics are well-resourced with experienced and qualified personnel and adequate materials and equipment to be able

to diagnose patients at primary level rather than referring them to district hospitals. Health personnel should not rely solely on laboratory results as these may be sometimes incorrect due to human error such as a specimen being wrongly labelled.

#### **5.4.3 NURSE/ PATIENT RATIO**

According to Kaissi. HealthCareHacks.com (2010) nurse to patient ratios should be 1:1 in the operating room, 1:2 in the intensive care, critical care and neonatal intensive care units as well as in post –anaesthesia recovery and labour and delivery. The ratio shifts to 1:4 in ante- partum, post-partum, paediatric care and emergency room and other specially care units. In general medical-surgical unit the ratio is raised to 1:5. At KwaMsane Clinic the number of nurses to patient is too high thus compromising the effectiveness of TB management at clinic. This contributes to the high workload and poor service delivery.

The clinic management should ensure that they have enough health personnel to cope with the high patient numbers and are able to meet international standards for nurse: patient ratios, and to realise the TB control targets.

#### **5.5 RECOMMENDATIONS FOR FURTHER RESEARCH**

The objectives of this study were to determine which factors are the causes of the TB department at KwaMsane clinic not delivering services effectively and to determine challenges that personnel face in ensuring their jobs are done well. An additional objective was to ascertain if there were enough resources to perform their duties. The study investigated the effectiveness of TB management at KwaMsane clinic and has considered what the literature review revealed and recommends. This research gave rise to the view that the high nurse to patient ratio and the unnecessary and avoidable delays in patient diagnosis were impeding the effectiveness of TB management at the clinic.

As a result, scope exists for further research particularly in the following areas:

- Recruiting, attracting and retaining qualified and experience health personnel;

- Provision of skills training for clinic management and other health personnel for improving service delivery;
- Management of information systems at primary health care clinic to improve record keeping and data capturing; and
- Integrating TB and HIV/AIDS management.
- Survey to be done on patients view on TB management.

It is hoped that further research will assist the Department of Health and clinic management in the more effective management of TB.

## **5.6 CONCLUDING COMMENTS**

The results of this study should be seen as noteworthy as they include the views of all staff members at the clinic. The research has shown that there were some mitigating factors that prevented the clinic from meeting its TB control targets for 2011 among which are: high nurse patients' ratio, delay in patients' diagnosis and insufficient qualified and experienced health care personnel. A strategic supply chain frame work is required to evaluate the immediate and medium-term training priority in the broader context of health care personnel.

The need for TB control continues to be a top priority in Department of Health as it falls amongst the first 5 national priorities which are (Department Of Heath home page list of priorities):

- National Health Insurance;
- HIV/AIDS;
- Tuberculosis;
- Primary Health Care; and
- Maternal Health.

The Department of Health is spending significant amounts of money on TB management. The end result is that government has not met its target, and this situation must be addressed in a coherent manner. If the above recommendations are well implemented and

closely monitored for any deviation from the intended outcome, they should go a long way to ensure vastly improved Tuberculosis Management at KwaMsane clinic thus achieving government's goals of delivering good health care to all citizens.

This research has determined that the level of primary health care offered by the KwaMsane Clinic is below the desired standards set by the Department of Health. Issues contributing to the clinic's failure to be as effective as it should be, have been identified and appropriate recommendations have been made to address the failings. It is contended that if the recommendations of this research are carefully implemented and adopted then there is a good prospect of the KwaMsane clinic being able to improve its level of efficiency.

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# APPENDIX ONE: KWAMSANE HEALTH FACILITY REPORT

## KWAMSANE PROV CLINIC

### KWAZULU NATAL Tuberculosis Programme

#### Health Facility Report

Facility: **KWAMSANE PROV CLINIC**

Data Entry Level: **DC27 - UMKANYAKUDE**

Period of registration: **Q1 2010 to Q4 2010**

Date of report: **18/10/2011**

	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Total
<b>1. Case Finding</b>					
TB cases newly registered in facility	70	47	64	69	250
TB cases moved or transferred in	64	78	87	69	298
All TB cases registered	134	125	151	138	548
New smear positive cases	37	28	48	46	159
New smear positives amongst all PTBs	31.6 %	25.7 %	36.9 %	36.8 %	33.1 %
Bacteriology coverage amongst newly registered PTBs older than 7 years	87.5 %	88.6 %	98.3 %	93.4 %	92.6 %
<b>2. Smear conversion status at two months - new smear positive cases only</b>					

Converted to negative	19	51.4 %	11	39.3 %	26	54.2 %	21	45.7 %	77	48.4 %
Still positive	5	13.5 %	8	28.6 %	10	20.8 %	7	15.2 %	30	18.9 %
Results not available	10	27.0 %	6	21.4 %	8	16.7 %	14	30.4 %	38	23.9 %
Died	-	0.0 %	2	7.1 %	1	2.1 %	-	0.0 %	3	1.9 %
Transferred or moved	3	8.1 %	-	0.0 %	2	4.2 %	4	8.7 %	9	5.7 %
Defaulted	-	0.0 %	1	3.6 %	1	2.1 %	-	0.0 %	2	1.3 %
<b>3a. Treatment outcome - new smear positive cases</b>										
Cured	15	40.5 %	7	25.0 %	19	39.6 %	1	2.2 %	42	26.4 %
Treatment completed	3	8.1 %	7	25.0 %	7	14.6 %	-	0.0 %	17	10.7 %
Treatment failure	4	10.8 %	3	10.7 %	5	10.4 %	2	4.3 %	14	8.8 %
Died	2	5.4 %	2	7.1 %	1	2.1 %	-	0.0 %	5	3.1 %
Treatment defaulted	5	13.5 %	1	3.6 %	8	16.7 %	-	0.0 %	14	8.8 %
Transferred or moved	5	13.5 %	-	0.0 %	3	6.3 %	4	8.7 %	12	7.5 %
Not Evaluated	3	8.1 %	8	28.6 %	5	10.4 %	39	84.8 %	55	34.6 %
<b>3b. Treatment outcome - retreatment smear positive cases</b>										
Cured	2	22.2 %	1	11.1 %	2	22.2 %	-	0.0 %	5	14.3 %
Treatment completed	-	0.0 %	2	22.2 %	2	22.2 %	-	0.0 %	4	11.4 %
Treatment failure	1	11.1 %	2	22.2 %	2	22.2 %	-	0.0 %	5	14.3 %
Died	2	22.2 %	-	0.0 %	-	0.0 %	-	0.0 %	2	5.7 %
Treatment defaulted	-	0.0 %	-	0.0 %	1	11.1 %	1	12.5 %	2	5.7 %
Transferred or moved	1	11.1 %	3	33.3 %	1	11.1 %	-	0.0 %	5	14.3 %
Not Evaluated	3	33.3 %	-	0.0 %	-	0.0 %	7	87.5 %	10	28.6 %

1. Caution must be exercised when interpreting percentages, especially when the number of cases seen at a facility is low (less than 30).
  2. Numbers include all patients seen at the facility, i.e. newly registered plus moved or transferred in.
-

# APPENDIX TWO: LETTER OF APPROVAL BY RESEARCH ETHICS COMMITTEE



Research Office, Govan Mbeki Centre  
Westville Campus  
Private Bag x54001  
DURBAN, 4000  
Tel No: +27 31 260 3587  
Fax No: +27 31 260 4609  
ximbap@ukzn.ac.za

10 October 2011

**Mrs N E Okesola (203516971)**  
Graduate School of Business

Dear Mrs Okesola

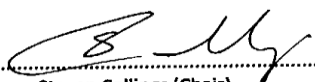
**PROTOCOL REFERENCE NUMBER: HSS/1015/011PGD**  
**PROJECT TITLE: Effectiveness of Tuberculosis Management at KwaMsane Clinic.**

In response to your application dated 5 October 2011, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.**  
**PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.**

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

  
.....  
**Professor Steven Collings (Chair)**  
**Humanities & Social Science Research Ethics Committee**

cc Supervisor – Alec Bozas  
cc Mrs. C Haddon

**APPENDIX THREE: LETTER OF APPROVAL BY THE  
DEPARTMENT OF HEALTH KWAMSANE CLINIC**



**DEPARTMENT OF HEALTH  
PROVINCE OF KWAZULU-NATAL**

**KWAMSANE CLINIC**  
Private Bag X 5001  
Hlabisa 3937  
Website: [www.kznhealth.gov.za](http://www.kznhealth.gov.za)  
Tel.: 035 5510038

Dear Madam

27 September 2011

**RE: MBA RESEARCH STUDY AT KWAMSANE KLINIC**

Your letter dated 27 September 2011 refers:

It is with pleasure that I inform you that your request to conduct research for purposes of completing your studies towards MBA degree has been approved.

We look forward to the results of your study, as we believe the results of your study will prove beneficial to our health management.

Kind regards

.....  
G.M. Mbuyisa  
Operational Manager  
KwaMsane Clinic



Umnyango Wezempilo

Departement van Gesondheid



Aids Helpline - 0800 0123 22

## **APPENDIX FOUR: CONSENT FORM USED WHEN CONDUCTING RESEARCH**

### **LETTER OF INFORMED CONSENT**

Dear participant

MBA Research Project: Effectiveness of Tuberculosis Management at Kwa Msane Clinic

**Researcher: N.E. Okesola**

**Supervisor: Mr A. Bozas (082 33 4 4477)**

**University of KwaZulu- Natal**

I am a student at the University of KwaZulu-Natal doing Masters in Business Administration.

I am doing a research study to assess problems and challenges pertaining to the effectiveness of Tuberculosis Management at KwaMsane Clinic.

The main objective of the study is to determine challenges the TB department of the clinic is facing and recommendation on solutions thereto.

I will, therefore, be administering questionnaires to various people working in the clinic.

I, hence, request your consent and support in conducting this research by completing the attached questionnaire.

Information obtained by and during the research will be treated with the strictest confidentiality and will not be used for any other purpose other than the intended purpose as mentioned above.

Your cooperation and support will be highly appreciated.



## CONSENT FORM

I, \_\_\_\_\_ (please provide your full names), hereby confirm that I understand the contents of the questionnaire and the purpose of the research project, and hereby willingly agree to participate in the research project.

Signature of the participant \_\_\_\_\_

Date \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Dear Respondent

My name is Nonhlanhla Emma Okesola; I am a student at University of KwaZulu-Natal doing Masters in Business Administration. I am completing research on Management of Tuberculosis at KwaMsane clinic. Please complete the following questionnaire to your best ability. Your co-operation in this regard will be appreciated.

Please note that the information provided will be strictly confidential and will not be used to identify you in person in the research report.

➤ Please indicate what kind of work you are doing at the clinic

Administration    Technician    Radiographer    Nurse    Doctor

2. What is your highest qualification?

Matriculation    Certificate    Diploma    Degree    Post Graduate Degree

3. Do you have any specialisation in your field of work? E.g. (course in Tuberculosis management)

Please specify below

.....  
.....  
.....

4. How did you get to work in your current post/department/section?

.....  
.....  
.....  
.....

5. You enjoy working in your current post/department or section

**Please tick the relevant answer below:**

Strongly Disagree    Disagree                      Uncertain                      Agree                      Strongly Disagree

6. How long have been working at this department?

**Please tick the relevant answer below:**

6 months to 1 Year    2 to 3 Years                      3 to 5 Years                      More than 5 Years

7. How often does the clinic provide in-service training on Tuberculosis?

**Please tick the relevant answer below:**

None                      Once a year                      Twice a year                      More than twice a year

8. What challenges or problems do you normally experience in your department?

.....  
.....  
.....

.....  
.....  
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.....  
.....  
.....  
.....  
.....

9. There are delays in diagnosing a patient

**Please tick the relevant answer below:**

Strongly Disagree    Disagree                      Agree                      Strongly Agree

10. If agree or strongly agree what do you think causes the delays?

.....  
.....  
.....  
.....  
.....

11. The clinic has the sufficient resources to perform the required duties

**Please tick the relevant answer below:**

Strongly Disagree    Disagree                      Agree                      Strongly Agree

12. The clinic does not have enough doctors for tuberculosis patients

**Please tick the relevant answer below:**

Strongly Disagree

Disagree

Agree

Strongly Agree

If **agree** or **strongly agree** what happens to TB patients that cannot be seen by doctors?

.....  
.....  
.....

13. How long does it take to get the specimen results back from the laboratories?

**Please tick the relevant answer below:**

1 day

2 days

More than 2 days

14. How do you manage patients that have defaulted treatment?

.....  
.....  
.....  
.....  
.....  
.....

15. How do you store, retrieve and report on patient information?

.....  
.....  
.....  
.....

16. How do you manage patients who do not come back for results, especially those with smear positive results?

.....  
.....  
.....

17. How is the communication between the clinic and the Main Hospital?

**Please tick the relevant answer below:**

Excellent                      Good                      Satisfactory                      Dissatisfactory

18. If not excellent, what do you think can be done to improve it?

.....  
.....  
.....

19. How is the relationship between the TB Clinic and ARV Clinic?

**Please tick the relevant answer below:**

Excellent                      Good                      Satisfactory                      Dissatisfactory

20. Do you do any other work that you think is outside the scope of your normal duties?

If Yes Please specify below

.....  
.....  
.....  
.....  
.....  
.....

21. What would you do to improve the quality or standard of service that you offer at the Tuberculosis (TB) clinic?

.....

.....

.....

.....

.....

.....

.....



## Oil

Microwave Sample Preparation Note: XprOP-1  
Category: Oils

Rev. Date: 6/04

**Sample Type:** Oil  
**Application Type:** Acid Digestion  
**Vessel Type:** 55 mL  
**Number of Vessels:** 12  
**Reagents:** Nitric Acid (70%)  
**Method Sample Type:** Organic  
**Sample Weight:** 0.5 gram

### Step 1:

<u>Acid Type</u>	<u>Volume</u>
Nitric	10 mL

### Heating Program: Ramp to Temperature Control

Stage	Max. Power	% Power	Ramp (min.)	Pressure (psi)	Temperature (°C)	Hold (min.)
(1)	1200 W	75	15:00	-	200	15:00

**NOTE A:** This procedure is a reference point for sample digestion using the CEM Microwave Sample Preparation System and may need to be modified or changed to obtain the required results on your sample.

**NOTE B:** Manual venting of CEM closed vessels should only be performed when wearing hand, eye and body protection and only when the vessel contents are at or below room temperature to avoid the potential for chemical burns. Always point the vent hole away from the operator and toward the back of a fume hood.

**NOTE C:** Power should be adjusted up or down with respect to the number of vessels. General guidelines are as follows: 8-12 vessels (50% power), 13-20 vessels (75% power), >20 vessels (100% power).

**NOTE D:** "Organic Method Sample Type" should be used for most sample types. Choose "Inorganic" for samples with more than 1 gram of solid material remaining at the bottom of the vessel at the end of the digest (ex. leach methods). Choose "Water" for samples that are largely aqueous prior to digestion.