KEY WORDS

- Tuberculosis
- Human Immunodeficiency Virus
- TB/HIV Co-Infection
- TB/HIV Collaboration
- Health Policy Implementation
- Integrated TB/HIV Service Delivery
- District Health System
- Namibia
- Tsandi
- Rural
ABBREVIATIONS & ACRONYMS

AIDS  Acquired Immunodeficiency Syndrome
ART  Antiretroviral Therapy
CB-DOT  Community Based-Directly Observed Treatment
CDC  Communicable Disease Clinic
CPT  Cotrimoxazole Preventive Therapy
DMT  District Management Team
DSP  Directorate of Special Programmes HIV/AIDS, TB and Malaria
FGD  Focus Group Discussion
GFATM  Global Fund to Fight AIDS, Tuberculosis and Malaria
GoRN  Government of the Republic of Namibia
HCT  HIV Counselling and Testing
HIV  Human Immunodeficiency Syndrome
IPT  Isoniazid Preventive Therapy
MDR-TB  Multi Drug Resistant Tuberculosis
MoHSS  Ministry of Health and Social Services of Namibia
NACOP  National AIDS Coordinating Programme
NGOs  Non-Governmental Organisations
NSF  National Strategic Framework for HIV and AIDS
NTCP  National TB and Leprosy Control Programme
PEPFAR  U.S. President's Emergency Plan for AIDS Relief
PITC  Provider Initiated Testing and Counselling for HIV
PMTCT  Prevention of Mother to Child Transmission of HIV
PLHIV  People Living with HIV
PLTB  People Living with TB
PLWHA  People Living With HIV and AIDS
RMT  Regional Management Team
SOPH  School of Public Health
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TB-DOT</td>
<td>Tuberculosis Directly Observed Treatment Short Course</td>
</tr>
<tr>
<td>UA</td>
<td>Universal Access (to antiretroviral therapy)</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>The Joint United Nations Programme on HIV/AIDS</td>
</tr>
<tr>
<td>UWC</td>
<td>University of the Western Cape (South Africa)</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing for HIV</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

The writing of this mini-thesis has been one of the most challenging academic activities in my entire life. I am grateful to all of those with whom I have had the pleasure to work during this research project. Without the support, patience, and guidance of the following people, this study would not have been completed. It is to them that I owe my deepest gratitude.

- Dr Vera Scott who despite her many academic and professional commitments undertook to act as my supervisor. Her wisdom, knowledge, and commitment to the highest standards has inspired and motivated me. As my teacher and mentor, she has taught me more than I could ever give her credit for here.

- Nobody has been more important to me in the pursuit of this project than the members of my family. I would like to thank my parents, whose love and guidance are with me in whatever I pursue. They are the ultimate role models. Most importantly, I wish to thank my loving and supportive wife Isobella, and my two wonderful children, Joan and Eric, who provide unending inspiration.

- All the healthcare workers and TB/HIV co-infected patients in Tsandi district hospital who participated in this study with great interest and enthusiasm.

This mini-thesis is dedicated to Joan and Eric, and to all my family.
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ABSTRACT

BACKGROUND: Namibia has generalised Human Immunodeficiency Virus (HIV) and tuberculosis (TB) epidemics. In response to the TB/HIV co-epidemics in Namibia, the Ministry of Health and Social Services approved a policy of TB/HIV collaborative activities at national level and the integration of TB/HIV services at the point of service delivery. The present study explored barriers and facilitators of integration of TB and HIV service delivery in Tsandi District Hospital, which lies in rural northern Namibia. It focused on understanding the perspectives of healthcare workers and service users on integration of TB and HIV services at the health facility.

AIMS & OBJECTIVES: The study aimed to describe the barriers, facilitators, and opportunities of integrated TB/HIV service delivery in Tsandi District Hospital. The specific objectives were: to describe the staffing and support systems in place for the integration of TB/HIV care; to describe the perceptions and experiences of integrated TB/HIV care by the health care workers, management and co-infected clients; and to describe the factors that facilitate or hinder the integration of TB/HIV services in the district from the point of view of district hospital managers, health care workers and co-infected clients.

METHODS: The study used a descriptive qualitative study design with semi-structured key-informant interviews conducted with five healthcare managers and senior clinicians and focus group discussions with 14 healthcare workers and five TB/HIV co-infected patients, supplemented by non-participant observation in Tsandi district hospital over two weeks between May – June 2011. Sessions were audio-recorded, transcribed, and thematically analysed.
RESULTS: Several factors influenced whether and to what degree Tsandi district hospital was able to achieve integration of TB and HIV services. These are: (1) model of care and nature of referral links; (2) the availability and use of human resources and workspace; (3) the system of rotating staff among departments in the hospital; (4) the supply and mode of providing medicines to patients; (5) information systems, recording and reporting arrangements; (6) and the amount of follow-up and supervision of the integrated services. The main suggested barrier factors are: (1) poor communication and weak referrals links between services; (2) inadequate infrastructure to encourage and deliver TB and HIV care; (3) staff shortages and high workload; (4) lack of training and skills among healthcare workers; (5) financial constraints and other socioeconomic challenges; and (6) fragmented recording and reporting systems with limited data use to improve service delivery. The four main facilitating factors are: (1) positive staff attitudes towards TB/HIV integration; (2) common pool of staff managing different programmes; (3) joint planning and review of TB and HIV activities at the ARV Committee; and (4) informal task sharing to alleviate healthcare worker shortages.

CONCLUSIONS: This study recommends that the district build on the current facilitators of integration, while the inhibitors should be worked on in order to improve the delivery of TB/HIV services in the district. Simple and practical recommendations have been made to address some of the barriers at district level. It is hoped that these will inform future planning and review of the current model of care by the District Management Team.
DECLARATION

I declare that Challenges, Barriers and Opportunities in Integrating TB/HIV Services in Tsandi District Hospital, Namibia is my own work, that it has not been submitted for any degree or examination in any other university, and that all sources I have used or quoted have been indicated and acknowledged by complete references.

Full Name: Raymond Chimatira

Signed: [Signature]

Date: 14 May 2012
CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Tuberculosis (TB) and HIV constitute a deadly co-epidemic in many regions of the world. In 2010 it was estimated that there were 1.1 million new TB cases among people living with HIV causing 0.35 million deaths among the same population (WHO, 2012). In the same year it was estimated that 39% of people who developed TB were HIV co-infected (WHO, 2012). In response to the TB/HIV co-epidemic, WHO has guided policy development and planning to enable governments and development partners to respond effectively to the threat.

Since 2004, WHO has recommended that the integration and coordination of services could optimise the use of resources and increase access to TB and HIV care, and that health systems research is needed to define the most effective ways to develop a comprehensive system of care (WHO, 2004; WHO, 2008a; WHO, 2010; WHO, 2012). Integrated health services mean different things to different people, although there is some overlap across the definitions (WHO, 2008b). WHO (2008b: 5) defines integrated service delivery as “the organization and management of health services so that people get the care they need, when they need it, in ways that are user friendly, achieve the desired results and provide value for money.”

1.2 EPIDEMIOLOGY OF TB AND HIV IN NAMIBIA

Namibia is located in Southern Africa, with an estimated population of 2,104,900 people (National Planning Commission, 2012). It is a vast country with the second lowest population density in the world, approximately 2.5 inhabitants per square kilometre. Although recently classified by the World Bank as an upper middle-income
country, it also has the highest Gini coefficient\(^1\) (74.3%) in the world. It is estimated that 37.7% of the population lives under the poverty datum line, while the unemployment rate is over 50% (MoHSS and UNAIDS, 2011).

The country is one of the high burden TB countries, with a high HIV prevalence among its adult population. During the 2010 biennial HIV sentinel survey, the Namibian Ministry of Health and Social Services (MoHSS) estimated that the HIV prevalence among antenatal clinic attendees was 18.7%. In 2011, the ministry also estimated that 204,000 people were living with HIV and AIDS in the country (MoHSS, 2011).

TB also contributes a high burden of disease in Namibia. In 2007, the country had a TB case notification rate of 707 per 100 000 population, which was the second highest in the world, while 38% of adults with TB tested positive for HIV (WHO, 2008b). However, in 2009 the TB case notification rate was 634 per 100 000 population, down from 665 per 100 000 population in 2008. MoHSS estimates that 58% of TB patients are co-infected with HIV, while 74% of notified TB patients had an HIV result. In 2009, 35% of HIV positive TB patients were put on ART (MoHSS, 2011).

1.2.1 National Response to the TB Epidemic

The National Tuberculosis and Leprosy Control Programme (NTCP) in the Directorate of Special Programmes (DSP) for HIV/AIDS, TB and Malaria within MoHSS is responsible for the overall coordination of the health sector response to TB and leprosy in Namibia. The NTCP has formally been in existence since 1991. The

---

\(^1\) Gini coefficient measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. Gini coefficient of 0 represents perfect equality, while an index of 100 implies perfect inequality (World Bank, 2012).
NTCP adopted the Directly Observed Treatment Short course (DOTS) strategy at its inception, and achieved national coverage by 1996. The NTCP’s activities are implemented through a decentralised approach from the national to the regional, district and community levels throughout the country (MoHSS, 2009; MoHSS, 2011).

In addition to achieving national coverage for DOTS, The NTCP has made significant achievements in TB and leprosy control. The achievements include investments in human resources (including lay care providers such as TB field promoters), infrastructure development and extensive monitoring and evaluation activities (MoHSS, 2011). However, the programme has fallen short of meeting the global target of 85% for treatment success rate. MoHSS attributes the programme’s poor performance to significant challenges such as insufficient human and financial resources, high defaulter rates and the emergence of multi-drug resistant tuberculosis (MDR-TB) (MoHSS, 2009; MoHSS 2011).

1.2.2 National Response to the HIV Epidemic

Namibia now faces a mature generalised HIV epidemic, with an estimated adult prevalence of approximately 13.1% in 2009. The epidemic peaked at 18% in 2002, and is primarily heterosexually transmitted (MoHSS and UNAIDS, 2011). The National AIDS Coordinating Programme (NACOP) within the Directorate of Special Programmes (DSP) for HIV/AIDS, TB and Malaria within MoHSS is mandated to coordinate and manage HIV and AIDS patient care and preventive activities. NACOP was launched in 1990, soon after the country’s independence (MoHSS and UNAIDS, 2011).

NACOP provides technical support to all sectors including the MoHSS and to non-governmental organisations (NGOs) on development of HIV/AIDS responses. Areas
covered include creation of enabling environment; prevention strategies; implementation of case management of people living with HIV and AIDS, care and support systems; mitigation strategies and management systems to support the HIV/AIDS responses (MoHSS, 2006; MoHSS and UNAIDS, 2011). The figure below provides a timeline and a summary of key milestones in the provision of ART in the country.

Figure 1: Provision of ART in the Namibian Public Sector – Timeline and Key Milestones


Namibia has made significant strides in terms of moving towards Universal Access (UA) and investing in the HIV response, exceeding its 2010 Universal Access targets for antiretroviral therapy (ART) and prevention of mother-to-child transmission of
HIV (PMTCT). The country is covering close to 50% of the national response from domestic resources (MoHSS and UNAIDS, 2011). External funding for the country’s HIV and AIDS response is provided by two main development partners, namely the President’s Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFTAM).

1.2.3 National Response to the TB/HIV Co-Epidemic

As a result of the TB and HIV (TB/HIV) co-epidemic the need for collaboration between the two control programmes, NACOP and NTCP, has been recognized and accepted (MoHSS, 2004; MoHSS, 2006). There is an agreed policy on integration of TB and HIV programmes and a coordination body for TB/HIV collaborative activities established at national level (MoHSS, 2007c). In addition, MoHSS has also recommended strategies to ensure that all patients have access to a continuum of care and support services for both TB and HIV in all health facilities (MoHSS, 2004; MoHSS, 2006; MoHSS, 2007a; MoHSS, 2007b).

The development and implementation of the national response has been guided by WHO recommendations on the need for collaboration in addressing TB/HIV (MoHSS, 2006; MoHSS, 2007). Therefore, MoHSS has outlined a set of two strategies as follows (MoHSS, 2004; MoHSS, 2006):

i. The first strategy aims to decrease the burden of TB in persons living with HIV/AIDS through intensified case-finding, isoniazid preventive therapy (IPT) and TB infection control in all health care facilities.

ii. The second strategy aims to decrease the burden of HIV/AIDS in tuberculosis patients through diagnostic HIV testing and counselling or provider initiated
testing and counselling (PITC), HIV prevention efforts for patients with TB and cotrimoxazole preventive therapy (CPT).

The country has made significant strides in providing chronic care for both TB and HIV, as highlighted in the box below (MoHSS, 2011):

<table>
<thead>
<tr>
<th>Chronic HIV Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 76,307 patients active on antiretroviral therapy (ART)</td>
</tr>
<tr>
<td>• 18,236 patients active pre-ART (December 2010).</td>
</tr>
<tr>
<td>• Of the active patients 13,581 received IPT</td>
</tr>
<tr>
<td>• 164,041 ever enrolled in HIV care since the programme began (includes died, lost to follow up and transferred to private).</td>
</tr>
<tr>
<td>• ART coverage for those eligible is currently estimated at about 69%</td>
</tr>
<tr>
<td>➢ This figure dropped from 88% due to revision of guidelines that made all patients with TB, CD4 cell count less 350 regardless of clinical stage, clinical stage 3 &amp; 4 regardless of CD4 cell count, as well as pregnant women eligible for ART.</td>
</tr>
<tr>
<td>• 141/338 public health facilities providing ART (December 2010).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TB treatment, care and support</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Treatment success in new smear positive cases was 82% (2008 cohort).</td>
</tr>
<tr>
<td>• 396 patients placed on second line TB medicines in 2009</td>
</tr>
<tr>
<td>➢ 275 Multi Drug Resistant TB (MDR-TB), 17 Extensively Drug Resistant TB (XDR-TB), and 80 Poly Drug resistant TB (PDR-TB).</td>
</tr>
<tr>
<td>➢ 24 with no drug susceptibility testing results (DST).</td>
</tr>
<tr>
<td>• Policy Guidelines:</td>
</tr>
<tr>
<td>➢ TB Infection Control guidelines printed in 2009,</td>
</tr>
<tr>
<td>➢ TB guidelines revised 2011,</td>
</tr>
<tr>
<td>➢ ART guidelines revised 2010 to include early initiation: All TB/HIV co-infected to get ART in 2-8 weeks of starting TB treatment.</td>
</tr>
</tbody>
</table>

**Box 1:** Status of chronic TB and HIV care in Namibia (December 2010).

1.3 DESCRIPTION OF THE STUDY SETTING

This study was conducted in Tsandi district hospital. Tsandi is a rural district in the Omusati Region of northern Namibia and the district capital of the Tsandi electoral constituency. It has a small semi-urban settlement and had a population of 28 000 people at last census in 2011, with a population density of 5.7 inhabitants per square kilometre (National Planning Commission, 2012).

![Location of Tsandi District](image)

Figure 2: Location of Tsandi District

Most of the residents rely on the public healthcare services that are offered by Tsandi district hospital, one health centre and 12 clinics (Tsandi, 2008). The biennial national HIV sentinel study at the antenatal services conducted in 2010 showed that Tsandi had the third highest HIV prevalence rate in Namibia, with 25.9% of pregnant mothers infected with HIV (MoHSS, 2011). The district also has a high incidence of TB at 780 per 100 000 of the population (Tsandi, 2008).
In line with national policy guidelines and recommendations, Tsandi district hospital developed a model for the partial integration of the TB/HIV\(^2\) services in 2006. The model introduced an expanded package of services at each existing TB and HIV service point in the district hospital and a clear line of referral between service points. The service delivery model has essentially remained the same over the last six years, as it is largely determined by the status of the physical infrastructure, which has not changed.

The physical infrastructure for TB/HIV service delivery is organised as follows: Inpatient TB care is offered in the TB Ward, while outpatient TB care is offered from the TB Clinic that is physically located in the TB Ward. In a separate, but adjacent building lies a Communicable Disease Clinic\(^3\) (CDC), which offers chronic HIV care to HIV infected clients both before and after starting anti-retroviral therapy (ART). A Counselling Unit that offers HIV counselling and testing (HCT) is located within the same building as the CDC.

The district hospital also has separate buildings housing General Medical Wards, an Outpatients Department (OPD) and Maternity and Labour Wards, where patients are screened for TB and offered diagnostic HIV testing. The district hospital also refers patients to the primary care clinics to continue their TB treatment, isoniazid preventive therapy, and cotrimoxazole preventive therapy.

The TB DOT programme in the district was started in 1996 and follows the National TB guidelines. Approximately 250 patients are treated for TB each year in the Tsandi district.

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\(^2\) TB/HIV: indicates the domain of problems and actions concerning people living with HIV and AIDS (PLWHA) who are infected or diseased with TB (MoHSS, 2004; WHO, 2008a)

\(^3\) In Namibia all chronic HIV care is provided in specialised clinics commonly referred to as Communicable Disease Clinics (CDC) or ART Clinic. The two terms are used interchangeably in this report.
district. The programme has two fulltime nurses assisted by six TB field promoters from the Namibian Red Cross Society, physically located in the TB Clinic. The TB field promoters are lay workers, whose main activities are to counsel and give health education to TB patients, supervise facility DOT and conduct daily outreach visit to support community-based DOT.

The Communicable Disease Clinic (CDC) opened in April 2006 and offers chronic HIV care to approximately 2500 registered patients according to the National HIV Care and Antiretroviral Therapy (ART) Guidelines. The fulltime staffs in the clinic consist of one fulltime TB/HIV medical officer, three nurses, one pharmacist, and one pharmacist assistant.

The HIV Counselling and Testing (HCT) Unit offers HIV counselling and testing (HCT) and on-going counselling to patients living with HIV/AIDS (PLWHA). The unit has one fulltime enrolled nurse and four community counsellors. The community counsellors are lay workers who have received training in HIV counselling and testing. They counsel patients on adherence to medication, nutrition, alcohol and substance abuse, reproductive health choices and safe sex. MoHSS and Namibian Institute of Pathology have certified all the community counsellors to conduct HIV rapid testing. The nurse in the unit supervises the community counsellors and is fully engaged in all the activities.

1.3.1 HIVQUAL at Tsandi District Hospital

The HIV Quality of Care programme (HIVQUAL) promotes the integration of the 3 I’s (intensified case finding, infection control and isoniazid preventive therapy) into the national HIV treatment programme. The MoHSS has embraced quality improvement as an integral component of the government-led strategy for
implementation of a national framework for TB prevention, care and treatment (MoHSS, 2010c; Mbabaha, Hamunime, Mavhunga, Shihepo, Lowrance, Mutandi, Patel, Maher and McFarland, 2012). In April 2010, Tsandi district hospital adopted this national strategy by implementing quality improvement (QI) as a model to improve patient care since, mainly focusing on intensified case finding and improving IPT/ART adherence. TB screening tools are displayed in all consulting rooms and wards throughout the hospital. In addition, healthcare workers in the ART clinic use a TB checklist to screen all HIV-infected patients regardless of clinical status, with documentation in the ART patient care booklet. Health education is given to all HIV-infected patients on the importance of IPT, and *expert patients*\(^4\) provide support to improve adherence among novice patients within the ART clinic.

### 1.4 STATEMENT OF THE PROBLEM

While there are no specific national policy guidelines detailing the specific activities and organization of service provision with regards to TB/HIV service integration within healthcare facilities, Tsandi district hospital has continued to implement strategies that facilitate TB/HIV integration at all service delivery points since 2006. The service delivery model is largely influenced by the available infrastructure in the district. District health managers and healthcare workers are aware of some of the problems with the current model. However, no systematic study has been conducted to assess and map out the problems, and describe the extent of the challenges from various perspectives.

Therefore, there was a need for an operational research study that explored the scope of the problems with the current TB/HIV service delivery model in Tsandi district

\(^4\) *Expert patients* are individual patients living with TB and/or HIV who receive training to ensure that knowledge of their condition is developed to a point where they are empowered to take some responsibility for its management. They act as peer supporters to other patients in the facility.
hospital. This would enable evidence informed strategies to be developed to improve care for all those infected with TB, HIV or both conditions.
CHAPTER 2: LITERATURE REVIEW

2.1 BACKGROUND

Globally, TB is the leading cause of morbidity and mortality among people infected with HIV, with almost one in four deaths among people with HIV due to TB (WHO, 2011). WHO estimated that in 2010 there were 1.1 million new TB cases among people living with HIV worldwide, with around 82% of patients living in sub-Saharan Africa. It is further estimated that at least one-third of the 34 million people living with HIV worldwide is co-infected with TB (WHO, 2011).

The estimated risk for persons co-infected with TB and HIV to develop active TB disease is 21 – 34 times higher than persons without HIV as HIV infected individuals are also more likely to have reactivation and re-infection with TB (Coutinho and Mermin, 2008; WHO, 2008a; WHO, 2011). This epidemiological link provides the rationale for linkages between the response to TB and HIV, and the integration of TB/HIV services at the site of patient care (HAI, 2005; Friedland, Harries and Coetzee, 2007; Laserson and Wells, 2007; Nunn, Reid and De Cock, 2007; WHO, 2012).

However, historically TB control and HIV/ART programmes developed separately with major philosophical differences in the programme approach (Corbett, Marston, Churchyard and De Cock, 2006; Howard and El-Sadr, 2010; Wood, 2007b). For example, TB control programmes have developed over decades, focusing mainly on a public health approach and the control of transmission of TB at the population level. In contrast, HIV/ART programmes are patient oriented, with a strong emphasis on human rights and social justice (Corbett et al., 2006; Wood, 2007b). This means that TB/HIV co-infected patients receive care in two programmes, which may result in

### 2.2 RATIONALE FOR INTEGRATING TB/HIV CARE

WHO has recommended that countries or districts within countries that have a general adult HIV prevalence of more than 1% coordinate TB/HIV initiatives at the national level, and outlined activities for patient-centred integration at the point of care (WHO, 2004; WHO, 2008a; WHO, 2012; Wood, 2007b). Integration of TB/HIV services is logical because of the epidemiological link between TB and HIV. There is also increasing evidence on the benefits of effective integration (Abdool-Karim, Abdool-Karim, Friedland, Laloo and El-Sadr, 2004; International HIV/AIDS Alliance, 2011; WHO, 2010; WHO, 2012).

The coordination and integration of TB/HIV services may streamline health care systems, optimise the use of available resources and improve individual case management (Abdool-Karim et al., 2004; Gasana, Vandebriel, Kabanda, Tsiouris, Justman, Kamungundu and El-Sadr, 2008; Harris et al., 2008; Nunn and De Cock, 2008; Wood, 2007a). In addition, several studies have reported that this reduced referral delays and increased access to HIV care, while reducing the duplication of services (Bwire, Nagelkerke and Bargdorff, 2006; Gasana et al., 2008; HAI, 2005; Pevzner, Vandebriel, Lowrance, Gasana and Finlay, 2011; Pfeiffer et al, 2010; Wood, 2007a).

### 2.3 OPPORTUNITIES FOR INTEGRATION

Several opportunities for TB/HIV integration exist at both the programmatic and service delivery levels (WHO, 2004; WHO, 2012; HAI, 2005; International HIV/AIDS Alliance, 2011). Since 2004, WHO has provided clear guidance and
recommendations on interventions needed to prevent, diagnose, and treat TB in patients living with HIV. The set of interventions is collectively known as “collaborative TB/HIV activities” (WHO, 2004; WHO, 2012), and are summarised in the box below.

### Box 2: WHO-recommended collaborative TB/HIV activities


<table>
<thead>
<tr>
<th>A. Establish and strengthen the mechanisms for delivering integrated TB and HIV services</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1. Set up and strengthen a coordinating body for collaborative TB/HIV activities functional at all levels</td>
</tr>
<tr>
<td>A.2. Determine HIV prevalence among TB patients and TB prevalence among people living with HIV</td>
</tr>
<tr>
<td>A.3. Carry out joint TB/HIV planning to integrate the delivery of TB/HIV services</td>
</tr>
<tr>
<td>A.4. Monitor and evaluate collaborative TB/HIV activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Reduce the burden of TB in people living with HIV and initiate early antiretroviral therapy (the Three I’s for HIV/TB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1. Intensify TB case-finding and ensure high quality anti-tuberculosis treatment</td>
</tr>
<tr>
<td>B.2. Initiate TB prevention with Isoniazid preventive therapy and early ART</td>
</tr>
<tr>
<td>B.3. Ensure control of TB Infection in health-care facilities and congregate settings</td>
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<th>C. Reduce the burden of HIV in patients with presumptive and diagnosed TB</th>
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<td>C.1. Provide HIV testing and counselling to patients with presumptive and diagnosed TB</td>
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<td>C.2. Provide HIV prevention interventions for patients with presumptive and diagnosed TB</td>
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<td>C.3. Provide co-trimoxazole preventive therapy for TB patients living with HIV</td>
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<td>C.4. Ensure HIV prevention interventions, treatment, and care for TB patients living with HIV</td>
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<td>C.5. Provide antiretroviral therapy for TB patients living with HIV</td>
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By the end of 2010 more than 170 countries had reported implementing the components of WHO’s interim policy on collaborative TB/HIV activities developed in 2004, and progress in scaling up the interventions to address the TB/HIV co-epidemic has continued (WHO, 2011; WHO, 2012).

2.4 MODELS OF INTEGRATED TB AND HIV CARE

While, WHO asserts that the best service delivery model of integrated TB/HIV interventions is unknown, implementation of integrated TB/HIV activity has increased globally, and different models of TB/HIV service delivery are already implemented in several countries (WHO, 2010; WHO, 2011; WHO, 2012). The service delivery model is determined by the local context, epidemiology of TB and HIV, the status of health systems and infrastructure (WHO, 2010). This means that TB/HIV integration can be achieved through several models, as one model may not fit all countries due to differences in TB and HIV prevalence, differences in socioeconomic characteristics, availability of human resources, as well as different health care systems (International HIV/AIDS Alliance, 2011; WHO, 2012; Wood, 2007b). One model may also not be applicable uniformly across the same country, for example, in urban versus rural areas, or TB clinic versus primary care clinic (WHO, 2004; WHO, 2010; Wood, 2007b).

The systematic review conducted for the preparation of the WHO policy on collaborative TB/HIV activities: Guidelines for national programmes and other stakeholders identified five models for delivering integrated TB/HIV services (Legido-Quigley, Montgomery, Khan, Fakoya, Getahun and Grant, 2010; WHO, 2012). The five models are summarised below.
i. Entry via TB service and referral for HIV testing and care: In this model TB services refer patients to services providing HIV testing, with or without subsequent HIV care. The model relies on strengthening referral linkages between TB and HIV services.

ii. Entry via TB service and referral for HIV care after HIV testing: In this model, TB clinics offer HIV testing on site and refer people found to be HIV positive for HIV care.

iii. Entry via HIV service and referral for screening, diagnosis and treatment of TB: In this model HIV services refer people living with HIV for TB screening, diagnosis and treatment.

iv. Entry via HIV service and referral for TB diagnosis and treatment after TB screening: In this model, people living with HIV are screened for TB and referred for TB diagnosis and treatment based on the outcome of the screening.

v. TB and HIV services provided at a single facility (at the same time and location): This model includes a spectrum of activities to provide patient centred care by the same trained health care provider at the same visit, a “one-stop service.”

WHO (2012) acknowledges that the models identified and described in the policy guidelines are neither exhaustive nor prescriptive. The International HIV/AIDS Alliance (2011) described the number of models from a different perspective, outlining only three models of TB and HIV integration, as illustrated below.
Model 1: Cross referrals between HIV and TB service points

Model 2: Partial integration e.g. TB and HIV services in the same facility or synchronised same day appointments

Model 3: Provision of TB and HIV services under the same roof or same service provider

Model 1 is the commonest model in many settings, with vertical TB and HIV services that are linked via a referral system. Examples of this model are the separate TB and HIV programmes with little or no integration, but extensive cross referrals in India, Malawi, and Mozambique (Friedland, Harries and Coetzee, 2007; Harries and Chimzizi, 2007; WHO, 2010). Model 3 ensures that the same healthcare workers deliver all services to the patients in the same room. Examples of this model have been used in the Sizonq’oba Study in Tugela Ferry, KwaZulu-Natal in South Africa (Gandhi et al, 2009), and Khayelitsha, Western Cape South Africa (Garone, Hilderbrand, Boulle, Coetzee, Goemaere, Van Cutsem and Besada, 2011). Model 2 lies between Models 1 and 3, and achieves partial integration through the delivery of services to patients, within the same facility on the same day. In this model, there is a whole range of possibilities with TB programmes serving as a site for some form of integrative and collaborative activities (Friedland et al., 2007; Lurie, Carter, Cohen and Flanigan, 2004; Gandhi et al., 2009).
2.5 FEASIBILITY AND EFFECTIVENESS OF TB/HIV INTEGRATION

To mitigate the dual burden of TB/HIV in populations at risk of or affected by both diseases, WHO published an *Interim policy on collaborative TB/HIV activities* in 2004. As the evidence base for all the recommendations was not complete at the time the policy was developed in 2003–2004, the term “interim” was applied (WHO, 2004; WHO, 2010; WHO, 2012). However, in the last decade there has been rapid scaling up of interventions addressing the TB/HIV co-epidemic (Nunn et al., 2007; Wood, 2007b; WHO, 2010; WHO, 2012).

Several authors have documented the increase in the number of completed or ongoing projects assessing the feasibility of collaboration and integration of TB/HIV activities (Tsiouris, Gandhi, El-Sadr and Friedland, 2007; Howard and El-Sadr, 2010; Legido-Quigley et al, 2010; Sculier, Getahun and Lienhardt, 2011; WHO, 2012). The feasibility and cost effectiveness of integrating TB/HIV activities has been demonstrated in different settings such as Mozambique (HAI, 2005; Pfeiffer et al, 2010), Rwanda (Gasana et al., 2008; Pevzner et al, 2011), Tanzania (Wandwalo, Kapalata, Tarimo, Carrigan and Morkve, 2004), Zambia (Harris et al., 2008) and Uganda (Hermans et al., 2012; Nansera, Bajunirwe, Kabakyenga, Asiime and Mayanja-Kizza, 2010). In rural Rwanda, Gasana et al. (2008) found that integrating TB/HIV services was feasible, requiring simple modification and innovative use of resources. Similarly, Durovni et al (2010) found that it was feasible to implement expanded use of isoniazid preventive therapy (IPT) in 29 HIV clinics in Rio de Janeiro, Brazil. This required a package of training of healthcare workers, advocacy and reorganisation of services (Durovni et al, 2010). In 2 provinces in Mozambique, successful integration required placing ART services in existing units, retraining existing healthcare workers, strengthening laboratories, testing, and referral linkages,
expanding testing in TB wards, integrating HIV and antenatal services, and improving
district-level management (Pfeiffer et al, 2010).

It is clear that successful implementation of TB/HIV integration has been achieved in
these settings after taking into consideration the realities that exist on the ground. This
is consistent with the current thinking that the best delivery model is unknown and
that each service delivery model has to take into consideration the local context and
available resources (Howard and El-Sadr, 2010; Sculier, Getahun and Lienhardt,

2.6 BARRIERS TO INTEGRATING TB/HIV CARE

2.6.1 Operational Challenges to Integrating TB/HIV Care

While there is increasing evidence that TB/HIV integration in resource limited
settings is feasible, several programmatic, infrastructural and staffing challenges have
been noted (Abdool-Karim et al., 2004; Gandhi et al., 2009; Howard and El-Sadr,
2010; Legido-Quigley et al, 2010; Loveday and Zweigenthal, 2011; Wandwalo et al.,
2004; Wood, 2007a). The programmatic challenges are the result of the different
principles that inform the design of TB and HIV programmes. In South Africa, it is
reported that this leads to a dilemma among the healthcare workers at the service
delivery level who are overburdened by patient load, numerous registers, multiple
cohort databases, different indicators and multiple reporting formats (Loveday and
Zweigenthal, 2011).

Similar challenges are encountered in other resource-limited settings. These include
limited human resources, weak management and health systems as the major barriers
to integration of TB/HIV care in the sub-Saharan Africa region (Corbett et al, 2006;
Legido-Quigley et al, 2010; Uwimana, Jackson, Hausler and Zarowsky, 2012). Poor
communication, poor referral systems and a lack of knowledge and skills have also been described as barriers to the integration of TB/HIV services (Abdool-Karim et al., 2004; Gandhi et al., 2009; Nansera, Bajunirwe, Kabakyenga, Asiimwe and Mayanja-Kizza, 2010; Wandwalo et al., 2004).

In addition full integration of services may overburden already stressed health care workers (Abdool-Karim et al., 2004; Howard and El-Sadr, 2010; Nansera et al, 2010; Wood, 2007a). The lack of a common understanding of how to operationalise TB/HIV integration and the absence of clear policy guidelines on the care of options available for TB/HIV integration has also been identified as a major barrier in South Africa and rural western Uganda (Loveday and Zweigenthal, 2011; Nansera et al, 2010).

2.6.2 Socioeconomic Barriers of Integrating TB/HIV Services

While there is limited data on patient’s perspectives on integrated TB/HIV services, in many settings it is generally acceptable (Daftary, Padayatchi, Gwamanda and Calzavara, 2010; Loveday and Zweigenthal, 2011). However, some data from South Africa identifies HIV associated stigma and discrimination as a barrier of integration, finding that it was easier for patients to disclose having TB but not HIV. While most patients expressed preference to attending nearer facilities as this minimised time and costs, some patients preferred to access TB and HIV services from distal facilities in order to avoid disclosure of their HIV status (Daftary, Padayatchi, Gwamanda and Calzavara, 2010; Loveday and Zweigenthal, 2011). In this setting, continuing efforts to address stigmatization and discrimination are necessary to ensure maximum uptake of TB/HIV care.

Similarly, patients’ rights to confidentiality may serve as a barrier to integration in
instances where the HIV status is not recorded on the treatment cards. Clinicians should have access to a patient’s full medical history including treatment for TB and HIV as this guides clinical decision making concerning drug interactions, prophylaxis against opportunistic infections and monitoring of side effects. However, in some facilities in South Africa and rural Uganda, there are separate TB and ART clinics with separate records for the same patient (Daftary, Padayatchi, Gwamanda and Calzavara, 2010; Loveday and Zweigenthal, 2011; Nansera et al, 2010). This may lead to missed opportunities for TB/HIV integration if there are incomplete records because of patient’s confidentiality.

2.6.3 Clinical and Diagnostic Barriers of Integrating TB/HIV Care

Despite the advantages for co-administering TB and HIV medications, several clinical and diagnostic challenges exist. These include inadequate clinical and laboratory infrastructure and absent training programmes for combined TB/HIV care (Loveday and Zweigenthal, 2011; Nansera et al, 2010). Other major clinical barriers include drug interactions, which may affect the blood levels of agents administered, immune reconstitution events, poor adherence to medication, fear of increased side effects and synergistic toxicities (Abdool-Karim, Abdool-Karim, Friedland, Laloo and El-Sadr, 2004; Daftary, Padayatchi, Gwamanda and Calzavara, 2010; Durovni et al, 2010). In one study at a TB/HIV Integrated clinic in Malawi, patients’ fear of drug toxicities and interaction was one of the reasons cited for refusal of HIV services and poor ART uptake (Kumwenda, Tom, Chan, Mwinjiwa, Sodhi, Joshua and van Lettow, 2011). Similar challenges were encountered in the THRio study, where the researchers identified the fear of side effects as a barrier to prescription of IPT in HIV clinics in Brazil (Durovni et al., 2010).
In addition, the risk of nosocomial transmission of TB among HIV infected patients as demonstrated in Tugela Ferry, KwaZulu-Natal is a barrier to TB/HIV integration because health care workers are sometimes reluctant to put TB patients in the close proximity to HIV patients. This is further complicated by the difficulty in diagnosing paucibacillary TB among HIV co-infected patients (Abdool-Karim et al, 2004; Gandhi et al, 2009; Loveday and Zweigenthal, 2011).

2.7 THE NEED FOR OPERATIONAL RESEARCH

WHO (2010) asserts that further operational research is needed to define how best to link TB and HIV services, as well as where and the best way to deliver ART to HIV-infected TB patients. The need for further operational research on TB/HIV service integration stems from the current knowledge gaps (WHO, 2010), which relate to: (1) the optimal service delivery model to provide collaborative TB/HIV interventions at the health-sector level; (2) appropriate configuration and organisation of resources, including human resources, to provide TB and HIV treatments in different settings; (3) identification of the barriers to access to care for TB/HIV co-infected patients; (4) effective strategies to increase uptake of services and retain patients in care; (5) attitudes and perspectives of both healthcare providers and TB/HIV co-infected patients with regards to use or non-use of; as well as (6) operational models to increase and scale-up laboratory capacity at all levels of care (Coetzee et al., 2004; WHO, 2010; WHO, 2012; Wood, 2007b).

There are very few studies on integration of TB/HIV services at health facility level that address the perspectives of healthcare workers or service users (Daftary et al., 2010; Legido-Quigley et al, 2010; Loveday and Zweigenthal, 2011). In line with WHO (2010) recommendations, Legido-Quigley et al. (2010) conclude that there is a
need for research that addresses the potential efficiencies of integrated TB/HIV service delivery from the perspectives of both healthcare providers and service users.

2.8 THEORETICAL FRAMEWORK

This research study adds onto the growing body of evidence on the factors influencing the integration of TB/HIV services from the perspectives of health managers, healthcare workers and TB/HIV co-infected patients in a rural health district. The TB/HIV co-epidemic has fuelled global interest in TB/HIV integrated service delivery, involving the implementation of collaborative, responsive, cost-effective systems of care at the service delivery point (WHO, 2004; WHO, 2010; WHO, 2012). However, in practice there is no common understanding of what constitutes ‘integration’—a term which loosely describes different levels of organisation for service delivery in different settings (Atun, de Jongh, Secci, Ohiri and Adeyi, 2010).

For the purposes of this study, integration refers to: (1) co-location of TB and HIV-related services within Tsandi district hospital, even if those specific services remain separately staffed; (2) training of personnel to provide multiple TB and HIV-related services; (3) strengthening of cross referrals and follow up between TB and HIV service providers across the district hospital; and (4) harmonization of logistics systems, such as data collection, recording and reporting, medicines supply and distribution, transport and supervision across services (Pfeiffer et al, 2010).

WHO emphasises integration of TB and HIV service delivery across different levels of the health system, asserting that successful integration takes into consideration the local context and the status of the health system (WHO, 2007; WHO, 2010; WHO, 2011; WHO, 2012). A health system is a dynamic set of interdependent parts that have to function together to be effective (WHO, 2007; WHO, 2008c).
Multiple frameworks have been put forward to describe and analyse health systems (Atun et al., 2010). WHO (2007) proposed practical ways to organize health systems into six components or building blocks. These are: (1) service delivery, (2) health workforce, (3) leadership and governance, (4) information, (5) medical products, vaccines and technology, and (6) financing. Atun and Menabde (2008, as cited by Atun et al., 2010) present a different framework in describing a health system as a complex dynamic system located within a broad context that includes a set of interrelated functions designed to deliver a set of objectives and goals. These functions include governance, financing, planning, service delivery, monitoring and evaluation. Atun et al (2010) further propose that integration of health services should be defined and described in relation to critical health system functions.

Based on the theoretical understandings outlined above, the researcher investigated the factors influencing TB/HIV service integration in Tsandi district hospital by exploring the impact of the health system elements that cut across the vertical TB and HIV programmes (see Figure 4, page 25). The findings of this study lead to context specific recommendations on a health system strengthening approach to strengthen both programmes, while addressing barriers to integrated TB and HIV service delivery.
This study did not explore the financing and planning mechanisms of the district health system in Namibia. Planning is centralised at national level within the Directorate of Special Projects (DSP) within the MoHSS working closely with the National Planning Commission, while funding is largely a function of Treasury. These were considered to be beyond the scope of this district-based study.
CHAPTER 3: STUDY AIMS & OBJECTIVES

3.1 STUDY AIM

The study aims to describe the barriers, facilitators and opportunities of integrated TB/HIV service delivery in the Tsandi District Hospital.

3.2 SPECIFIC OBJECTIVES

i. To describe the staffing and support systems\(^6\) in place for the delivery of TB and HIV services and their integration in the Tsandi district hospital.

ii. To describe the perceptions and experiences of integrated TB/HIV service delivery in the Tsandi district hospital by district health managers, healthcare workers and TB/HIV co-infected patients.

iii. To describe the factors that facilitate or hinder the integration of TB/HIV services in the Tsandi district hospital from the point of view of district health managers, healthcare workers and TB/HIV co-infected patients.

\(^6\) The term “support systems” includes: staff training, supervision and support, referral systems or linkages for TB/HIV care.
CHAPTER 4: METHODOLOGY

4.1 STUDY DESIGN
A descriptive qualitative study design was used with key-informant interviews, focus discussion groups (FGDs), and non-participant observation. Qualitative research methodology is able to gather data reflecting the interactions, experiences, and perceptions of people (Mays and Pope, 1995a; Weiss, 1998) and was therefore suitable for understanding the experiences and perceptions of managers, healthcare workers and patients in relation to the integration TB/HIV services in the Tsandi district hospital.

The qualitative approach places more emphasis on why certain events occur in a particular context (Weiss, 1998) which is important to understand when using a health system lens as the theoretical framework as this study has done. By utilising the qualitative approach, the researcher allowed the managers, healthcare workers and patients to define the problems from their various perspectives. By interpreting the lived experiences of managers, healthcare workers and patients in Tsandi district hospital, qualitative research helped to enhance the researcher’s understanding of the nature, processes and experiences of TB/HIV integration. In this way it was possible to make an informed judgement about the successes and failures (Mays and Pope, 1995a; Yin, 2003).

4.2 POPULATION & SAMPLING
The study population included the district management team (DMT), doctors, nurses, pharmacists, pharmacy assistants, community counsellors and TB field promoters working in the Tsandi District hospital, and patients that have used TB/HIV services in the district hospital. The researcher used a non-probability purposive sampling
strategy (Ploeg, 1999; Liamputtong and Ezzy, 2005; Edwards, 2008) as outlined below. The participants were purposefully selected based on their understanding, knowledge and experiences so that they could provide optimal insight into TB/HIV service integration in Tsandi district hospital.

In addition, TB/HIV co-infected patients were purposefully selected based on their site of entry into TB/HIV clinical care (from the TB clinic, Communicable Disease Clinic, PMTCT, General Medical Ward and Outpatients Department) to get a spread of different experiences. All the co-infected patients were first accessed through the community counsellors and eight participants were drawn from those that were willing to disclose their HIV status to the researcher and other FGD participants or were living openly with HIV. The eight participants were drawn from the group of “expert patients⁷” that support other HIV infected patients in the ART Clinic. The researcher then explained the purpose of the study to each of the participants and set up appointments for the focus group discussion. Informed consent was obtained from all the participants of the day of the discussion. There were no exclusion criteria for any of the participants for the key informant interviews or focus group discussions.

Key informants were identified and invited from the District Management Team and senior healthcare workers directly involved in providing TB and HIV care in the district. Of the seven key informants contacted, five participated in the study. Two identified key informants declined to participate: one was hostile to the researcher, while the other was new to the hospital (four months) and simply did not have time to

⁷ Expert patients are individual patients living with TB and/or HIV who receive training to ensure that knowledge of their condition is developed to a point where they are empowered to take some responsibility for its management and work in partnership with their health and social care providers. They act as peer supporters to other patients in the facility. This concept has been adopted in all public health facilities providing TB and HIV care in Namibia as part of the rollout of Integrated Management of Adult Illnesses (IMAI) programme.
let the researcher explain the full details of the study. However, both felt they had nothing to contribute to the study because their managers (who had agreed to participate) had all the information that the researcher required. The participants were contacted telephonically to inform them about the study and requesting their voluntary participation. Appointments for face-to-face semi structured interviews were then set up.

The researcher conducted three focus group discussions (FGDs). Eight individuals were recruited for each FGD. The first focus group consisted of professional healthcare workers who are most involved in offering care to TB or HIV clients (nurses, pharmacist/ pharmacist assistants), while the second consisted of lay healthcare workers (community counsellors and TB field promoters), and the third consisted of TB/HIV co-infected patients. The value in the homogeneity of each group composition was that the participants were comfortable communicating with each other, and relate to their experiences in terms of both similarities and differences (Liamputtong and Ezzy, 2005).

All the eight professional healthcare workers who agreed to participate in the FGD showed up on the day of the discussion. However, two community counsellors and three TB/HIV co-infected patients did not show up for the discussion. As a result, only six lay healthcare workers and five co-infected patients took part in the last two FGDs. The eight participants of the first FGD were one professional nurse from TB ward, one enrolled nurse from TB Clinic, one professional nurse and two enrolled nurses from ART Clinic, as well as the pharmacist and pharmacist assistant from ART Pharmacy. All the nursing staff members were female, while the pharmacy staff were male. In the second FGD, the group consisted of three TB field promoters (two female
and one male) and three community counsellors (all female).

The five TB/HIV co-infected patients were drawn from the group of expert patients as outlined above (page 34). They were all Oshiwambo\(^8\) speakers. Their profiles are summarised below:

i. JT\(^9\) – a 29-year-old male patient, who was diagnosed as having HIV infection in 2008 while on TB treatment. He was on ART at the time of the study.

ii. Tate Kapito\(^9\) – a 36-year-old man, who has been living openly with HIV since 2002 and on ART since 2006. He received and completed 6 months of IPT in 2009. He is also a founder member of a local community support group.

iii. Meme Isai\(^9\) – a 38-year-old female patient who had been on ART since January 2011 and was on treatment for TB at the time of the study. She has been living openly with HIV since 1999.

iv. Mirjam\(^9\) – a 26-year-old female patient who was tested for HIV during pregnancy and received the PMTCT regimen in 2010. She also received and completed 6 months of IPT. At the time of the study, her CD4 cell count was still above the 350 cells and she was ineligible for ART.

v. Uuilka\(^9\) – a 28-year-old female patient who was referred for HIV counselling and testing for HIV from the Medical Ward. She had been on TB treatment and ART since February 2011.

While, there appears to be no general agreement about sample size in qualitative studies (Given, 2008; Marshal, 1996; Sandelowski, 2007), the researcher felt that for the purposes of this study, the 24 respondents were able to supply varied and detailed accounts.

\(^8\) Oshiwambo is the local vernacular language spoken in Tsandi district and the rest of Northern Namibia

\(^9\) Not the real names. All the FGD participants selected pseudonyms for use during the discussion.
4.3 DATA COLLECTION METHODS

The primary data collection instruments was key informants interviews and focus group discussions (FGDs), supplemented by non-participant observations. The researcher developed data collection instruments that were piloted and refined. Professional translators forward and back translated the FGD guide for TB/HIV patients from English to Oshiwambo, to see that the meaning was retained.

The key informant interviews and focus group discussion were conducted at Tsandi district hospital over a two-week period in May – June 2011. All the interviews were held in the individual participant’s offices, at a time convenient to them and lasted approximately 30 and 50 minutes. The three FGDs were held in the Communicable Disease Clinic Counselling Room, which was familiar to all the participants. The researcher provided a light meal and refreshments after each FGD, and all the expert patient participants were reimbursed the full amount for the transport costs incurred.

All interviews and FGDs were audio recorded, with the permission of the participants being interviewed. The researcher provided all key informant interviewees and FGD participants with the Participant Information Sheet and a Consent Form before conducting the interview. The Interview Guides (Appendices 1 – 3) and Participant Information Sheet and Consent Form (Appendix 5) are attached. After the interviews, the recordings were transcribed into Microsoft Word files.

A registered nurse with experience in TB/HIV service delivery assisted the researcher in conducting all the FGDs. The nurse speaks Oshiwambo, and was trained on the data collection tools during the pilot phase, prior to the actual data collection. The researcher was the moderator and conducted the FGDs with the two groups of healthcare workers in English, while the nurse took notes on the main points raised,
emotional expression, and body language. These roles were reversed during the FGD with TB/HIV co-infected patients that was conducted in Oshiwambo. While conducting all the FGDs the moderator facilitated the issues that were discussed using interview guides, and pursued issues that were spontaneously brought up by the participants (Liamputtong and Ezzy, 2005). The Interview Guides for all the FGDs are contained in Appendices 2 and 3.

The researcher also collected additional data using non-participant observation, which added an important dimension by analysing people’s behaviour in their everyday roles as healthcare workers or patients (Yin, 2003; Liamputtong and Ezzy, 2005). The observations took place during the two-week period when key informant interviews and focus groups were conducted. The Observation Checklist attached (Appendix 4) guided the data collection. In addition, the researcher had a journal in which he kept records of interviews and documented personal reflections and observations during the study. A copy of the research journal is attached (Appendix 6).

4.4 DATA ANALYSIS METHODS

The researcher based the data analysis on the conventions of thematic analysis. Data from FGDs in Oshiwambo were translated into English before analysis, to enable the researcher to fully comprehend the data. Professional translators from Inter-Capital Consultancy, a Namibian social sciences research firm translated the data. All the data was transcribed into Microsoft Word documents. Data analysis was conducted through a number of steps, with the process of analysis informing further data to be collected. In particular, data from key informant interviews informed areas for further exploration during the FGDs, document review and non-participant observations.
During the process of data collection, the researcher reviewed and analysed notes and key points from each data collection event to get an overall picture, with each event informing areas for further exploration. At the end of the data collection phase all the data collected was transcribed using Microsoft Word®. The researcher then read through all the transcripts to get an overall picture of the data collected. The data were then scrutinised several times to identify themes: a priori themes were derived from the initial questions and the literature, with more themes induced from the data based on emerging and recurring patterns and concepts. All themes were related to the key health systems factors facilitating or hindering integrated TB/HIV service delivery, and the way participants believed service delivery can be strengthened or improved.

The data that were related to the same overall construct or pattern were allocated the same code, followed by categorising the same codes into themes (thematic coding). This was an iterative process in that coding facilitated the development of themes, while the development of themes facilitated coding (Aronson, 1994; Given, 2008). Finally, segments of the data related to the same theme were then copied and pasted onto separate Microsoft Word® documents. An independent researcher was asked to verify the seeming accuracy of the category system and after discussion, minor modifications were made to it. The data were then summarised and reorganised several times through the technique of mind mapping (Brightman, 2003; Burgess-Allen and Owen-Smith, 2010; Tattersall, Watts, and Vernon, 2007). The researcher used the NovaMind™ software version 5.7.3 to facilitate the mind mapping process.

4.5 RIGOUR

While the need for rigour in qualitative research is widely documented in the literature, there is no single set of criteria that adequately addresses rigour in
In order to achieve methodological or procedural rigour the researcher has documented an accurate and detailed description of how the research was conducted.

In addition, the researcher used respondent validation, or “member checks” by cross checking interim data or research findings with the participants through feedback throughout the study. Respondent validation was used during the process of data collection, data analysis and interpretation phases (Sandelowski, 1986; Mays and Pope, 1995b; Barbour, 2001). Furthermore, the researcher triangulated data by collecting data from multiple sources through multiple methods (Mays and Pope, 1995b), and in so doing compared data collected from management, healthcare workers, community counsellors, TB field promoters and patients through semi-structured interviews, FGDs and non-participant observations.

The researcher also kept a research journal in which he clearly documented the process of data analysis and personal reflections. By maintaining this “chain of evidence” the researcher increased the reliability of the information and analysis (Mays and Pope, 1995b; Barbour, 2001; Yin, 2003). Finally, throughout the study, the researcher openly considered and acknowledged the effect the researcher may have had on the research findings (Mays and Pope, 1995b; Roberts, Priest and Traynor, 2006).

The researcher is committed to TB and HIV care, and previously worked in another
district hospital in Northern Namibia as a TB/HIV Medical Officer until May 2010. At the time of the field work (May – June 2011), the researcher was working on separate HIV project supporting correctional services institutions in Namibia. The researcher had previously interacted on a professional level with the TB/HIV Medical Officer. There was no previous contact with other participants. The TB/HIV Medical Officer facilitated access to the district hospital. The researcher informed all the participants his professional background and interest in TB and HIV care. The researcher believes that the participants’ knowledge of his professional background influenced the way participants saw and engaged with him in a positive way, because the participants viewed the researcher as a colleague and were able to open up and discuss their experiences and perceptions freely. However, given the researcher’s involvement in TB and HIV clinical care, the first reflective exercise was to examine the reasons for wanting to research this topic. The researcher is convinced of the value and feasibility of integrating TB and HIV services in a district hospital. Through the writing process, the researcher was able to excavate memories of his own practice, in which he had experienced the difficulties of trying to implement activities to integrate TB and HIV services in another rural district hospital. The researcher explored these ideas in a research journal. A sample of the research journal and personal reflections is attached (Appendix E).

4.6 ETHICAL CONSIDERATIONS

Ethical clearance was sought from the University of the Western Cape Ethical Committee and permission to proceed was obtained from the Namibian Ministry of Health and Social Services. The researcher-spent time discussing the study and

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The researcher previously worked as a TB/HIV Medical Officer at Okahao district hospital in a neighbouring district (August 2006 – May 2010).
providing information on the purpose, risks and benefits to all potential participants before obtaining written informed consent. The researcher respected the participants’ dignity, privacy, confidentiality throughout the study. All the participants were assured that they would not be identifiable in any subsequent report. In addition, all notes and tapes were kept in a lockable cabinet in the researcher’s private study. Once the final research report was written, all the tapes from the interviews were destroyed.

In order to participate, the TB/HIV co-infected patients were living openly with HIV and willing to disclose their status to the researcher and other participants. All the patients that participated in the study undertook to respect the confidentiality of other participants and not disclose the discussion to others outside of the FGD. The patients were informed of their right to refuse participation or to withdraw at any stage of the study without affecting the care they receive.

The researcher had made arrangements to refer participants traumatized at any time as a result of the study for counselling by the hospital social worker. However, due to the nature of the study, no participants were harmed or traumatized. No evidence of malpractice was uncovered during the study.

The researcher engaged the following key stakeholders throughout the study: the healthcare workers at Tsandi district hospital, District Management Team (DMT), Regional Management Team (RMT), MoHSS Research Unit and Directorate of Special Programmes (DSP) for TB, HIV and Malaria. The initial engagement with all stakeholders began in February 2009, with consultation to find out if the research questions were relevant and whether they had already been asked before.

The key stakeholders were consulted and engaged throughout the lifecycle of the research project as follows:
i. District Management Team\textsuperscript{11} (DMT): the DMT was consulted during the development of the research protocol to ensure buy-in and to obtain access to the hospital to conduct data collection. The draft research report was also shared with the DMT.

ii. Healthcare workers from the TB and HIV departments: during research protocol development to ensure buy-in and to set up appointments for data collection.

iii. The regional management team (RMT): the researcher formally approached the RMT through the Regional Director to brief the RMT on the study once ethical clearance and approval to conduct the study was obtained from the MoHSS Research Unit.

iv. MoHSS Research Unit and DSP: The researcher submitted the full protocol to MoHSS Research Unit and DSP for further review as well as to get approval to carry out the research project. In line with MoHSS regulations, quarterly progress updates and preliminary findings were submitted to MoHSS. A draft report including the preliminary findings and recommendations was shared with the DMT, MoHSS Research Unit and DSP. The final report will be shared for wider dissemination.

The process of engaging the key stakeholders and disseminating the study findings will enable the stakeholders to act on the recommendations (Chopra and Coveney, 2008; Hyder, Bloom, Leach, Syed, Peters and Future Health Systems, 2007).

The value of the study is that the findings and recommendations may be used to guide and inform the review, further development and implementation of integrated

\textsuperscript{11} The District Management Team (DMT) is located within the district hospital, with dual roles as the facility managers and is responsible for managing the Tsandi Health district, in line with the Namibian district health system.
TB/HIV service delivery at Tsandi district hospital. However, the researcher acknowledges that he has no control over the processes followed by the DMT or RMT in utilising the study findings and recommendations. The findings and recommendations may also inform the design of future models of TB/HIV care in district hospitals within Namibia and other similar settings. In addition, the study adds to the growing body of knowledge and evidence regarding integrating TB/HIV service delivery in resource-limited settings from the perspectives of health managers, healthcare providers and service users.
CHAPTER 5: FINDINGS

5.1 OUTLINE

In this chapter, the researcher provides a detailed description of the study findings on their own with minimal supporting discussion. The findings start with a description of how health care workers and patients perceive integration, followed by a detailed account of how TB/HIV integrated services are offered at Tsandi district Hospital. The rest of the findings are classified into two broad headings: (1) Barriers of Integration and (2) Facilitators of Integration. The findings are then further structured into sub-headings using the six WHO building blocks and their constituent parts, as well as patient related barriers and facilitators.

5.2 GENERAL STAFF PERCEPTIONS ON TB/HIV INTEGRATION

While the participants gave different definitions on what is meant by TB/HIV integration, there was generally a good understanding of the rationale for integrating TB and HIV services among the managers and healthcare workers. They all understood the epidemiological link between TB and HIV. They also described TB/HIV integration as the provision of appropriate TB and HIV care to co-infected clients based on the national guidelines. All the healthcare workers understood the need for collaboration and the sharing of ideas, and expressed the desire of bringing together the TB and HIV programme staff to combat TB and HIV.

*I want some improvement to these programmes, so that we can work as a team because those diseases are just the same and they are just like twins. Let me say just like twins. So we need to work as a team. We do not need to be separated, TB field promoters and community counsellors. I want this problem to be solved, so that we can be as one person.*

{TB field promoter, FGD}
5.2 TB/HIV SERVICE DELIVERY IN TSANDI DISTRICT HOSPITAL

5.2.1 Tsandi Hospital Infrastructure

Figure 5 below, is a diagrammatic representation of the organization of services in the Tsandi district hospital based on the observations of the researcher.

Figure 5: Organisation of services in Tsandi district hospital

The diagram is not drawn to scale. ANC – Antenatal Clinic; ART – Anti-Retroviral Therapy; HCT – HIV Counselling and Testing Unit; MDR-TB – Multi Drug Resistant TB Ward; StoreRm – Ward Storeroom; X-ray – Radiography Department.
Tsandi district hospital is an 80-bed district hospital. It used to be a military hospital during the period of occupation of Namibia by South Africa. It was converted into a public hospital at independence in 1990. Although most of buildings are still generally in a good condition, the hospital was never designed to cater for the public and is therefore overcrowded, with long narrow corridors.

Figure 5 above outlines the layout of the hospital: Building A houses the general ward admitting both medical and surgical cases, as well as a two bed staff ward for admitting members of staff. Building B houses the TB ward, that is further subdivided to admit both cases of drug sensitive and drug-resistant TB, and the outpatient TB clinic. Building C is an old ward that was converted into several departments that offer outpatient care: ART Clinic, ANC Clinic – offers Maternal and Child Health Services (antenatal care, postnatal care, immunisation, family planning, reproductive health care), Storeroom for HIV patients’ files, Counselling Room for ART, ART Data Clerk’s Office, Eye Clinic, Storeroom for old hospital equipment, ART Pharmacy, HIV Counselling and Testing (HCT) Unit, and Rehabilitation Unit. Building D is the traditional OPD that offers medical consultation, casualty, pharmacy, reception and medical records, laboratory, limited radiography (only x-rays), minor surgery and the afterhours dispensary. Building E houses the maternity and labour wards.

5.2.2 TB and HIV Service Delivery in Tsandi Hospital

A TB/HIV integration model was developed and implemented from August 2006, following the appointment of a fulltime TB/HIV Medical Officer. The model is based on extensive referrals with the TB and HIV entry points, as summarised below (Figure 6). The HIV and TB services provided by the hospital include
provision of standardized HIV provider-initiated testing and counselling (PITC), HIV Counselling and Testing (HCT) for persons seeking the service, prevention of mother-to-child transmission of HIV (PMTCT), screening of TB for all patients receiving chronic HIV care in the ART clinic, as well as treatment and care for TB and HIV patients.

Figure 6: TB/HIV Care in Tsandi District Hospital

Outpatient TB Services and Chronic HIV Care are offered in the TB and ART clinics respectively. The two clinics open daily from Monday to Friday, and are closed over weekends and public holidays. There is one outreach point run at Onesi Health Centre once every two weeks. Healthcare workers in the TB Clinic and TB ward offer PITC to all patients, but refer patients to the HCT Unit for the actual blood test. The TB care providers then provide HIV co-infected patients with cotrimoxazole, draw blood for CD4 cell counts and refer patients to the ART clinic for chronic HIV care when the CD4 cell count results become available. Similarly the HIV care providers in the ART clinic screen all patients for TB at initial registration and each follow-up visit, and all patients suspected as having TB submit sputum samples for microscopy and other the diagnostic work-up as needed is performed on-site. All patients diagnosed with TB are referred to the TB clinic for treatment and follow up; while qualifying patients are offered IPT according to national guidelines.
The full range of TB or HIV services is only available from either the TB or ART clinic respectively. However, patients can also access limited TB and HIV services from other sites of care within the hospital as follows:

- **Outpatient Department (OPD): PITC** – with referral to HCT Unit for the actual blood test, CPT, TB diagnosis, management of HIV-related opportunistic infections.
- **General Ward: PITC** – with referral to HCT Unit for the actual blood test, TB diagnosis, CPT, management of HIV-related opportunistic infections.
- **Antenatal Clinic (ANC) and Maternity: PITC** – conduct the blood test on site, CPT, PMTCT services including infant diagnosis and feeding, Family planning, PAP smear.
- **HCT Unit**: conducts HIV testing, collects blood samples for CD4 cell counts for HIV positive clients and refers to ART Clinic.
- **Male and female condoms for prevention** are available at all the sites of patient care in the hospital.

### 5.3 BARRIERS OF TB/HIV SERVICE INTEGRATION

### 5.3.1 Service Delivery

#### 5.3.1.1 Delivery Model

While Tsandi hospital is able to provide the full range of TB and HIV services recommended in the national treatment guidelines, the model of care relies upon extensive referrals between several service points in the hospital. Patients are sometimes not able to follow through on their referrals and cannot afford the additional transport and time to travel to seek referral services. Poor communication between staff and patients (with patients not understanding reasons...
for referral or the referral instructions) and long waiting times at the next service point were identified by four of the key informants, and in all the focus groups as major reasons why patients don’t follow through on their referrals.

Yes, I have seen such patients who when referred do not go. You know patients for one reason or the other; they might not want to follow that instruction or referral. I have seen many patients who come in sick, only to realise that they did not follow through on their (earlier) referral to either TB or HIV or both!

{Key Informant, from TB/HIV Care}

Some of the patients that participated in the focus group discussion also highlighted challenges with the referral linkages between TB and HIV services. While patient flow systems in the hospital seem to be relatively standardised, the various steps in the process from registration at reception through to getting care at the TB clinic, to collecting laboratory results, then being referred to seeing the medical officer at the ART Clinic to finally picking up medicines at the pharmacy adds up to a lengthy process with long waiting times in between each step. A 36-year-old male patient whose entry into HIV care was through the OPD and was treated for TB described the challenges encountered in the process of seeking care as follows:

Sometimes you come here in the hospital at 7 o’clock... and you leave at 5 o’clock in the evening, because you go to the TB clinic to collect your TB medicine and after collecting your TB medicines the TB people send you to the laboratory to get your results. You go back to the TB clinic to be seen. After that, you go and join the queue at the CDC to be seen by the doctor and the doctor tells you again that there is some blood they want to see. Maybe you
have less blood and they take your blood again. You only leave the hospital at 6 or 7 at night you spend the whole day here, so me I am not happy.

The current set up in which the TB and HIV services operate as separate departments within the premises of the hospital implies that the healthcare workers in the various departments are working together with regular communication. However, from the perspective of all the patients who participated in the focus group, this is not sufficient to provide the service they desire.

These people do not work together at all, like me I have said I am taking TB and HIV medicine. Sometimes they give me a date to come to hospital this week for HIV and then come back next week for TB. Even if you ask to say, “Can you give me the same date?” Those people at pharmacy there will tell you, “It means we have to count more medicine. You must take your medicine just 30 days” and it is a lot of problem for us.

{TB/HIV Co-infected Patient – FGD}

The physical separation of services could be strenuous for co-infected patients who might be frail to shuttle between the all the service points. In addition, this creates an additional burden to the patient who is required to visit the hospital several times in a month to access care and services. Another patient who is currently taking both TB and HIV medicines concurred:

I have to come here to hospital to take blood for HIV and then next week I have to come again (back to the hospital) and give the sputum for TB. Then I come to see the doctor again after another week. I am always here in the hospital. Every time I am in the hospital.
5.3.1.2  Inadequate Infrastructure

The shortage of workspace in which to consult and counsel patients, store supplies and appropriately dispense medicines was identified as a major barrier to TB/HIV integration during all the key informant interviews and focus groups with healthcare workers. The HIV counselling unit is limited to a single room, restricting the number of counsellors who could work there and thus the number of clients who could be served. The space constraint causes overcrowding in the building the ART Clinic shares with other services. This disrupts the flow of patients, who then get lost within the chaos.

*The ARV clinic also is... it shares the same building with various other departments including Rehabilitation, Eye Clinic, Antenatal Clinic and Immunisation. So it is a bit crowded. The flow of patients is not quite so good because of that. We tend to have challenges with patients getting lost within these departments or some patients coming to our clinic and yet maybe they are supposed to go to Rehab (Rehabilitation Department) or Eye Clinic. So the location is really a challenge.*

{Key Informant – TB/HIV Healthcare Worker}

The researcher also observed that the ARV pharmacy is very small, uncomfortably hot and lacked adequate lighting. The pharmacy staff dispenses antiretroviral, cotrimoxazole, and other ancillary medicines through the pharmacy door with patients sitting in an overcrowded corridor. These conditions created an environment unfavourable for proper dispensing and counselling. Indeed, lack of workspace at the pharmacy was also perceived as a barrier to providing a quality service services. A healthcare worker participating in a focus group highlighted the challenge as follows:
Another problem we have there at pharmacy is we have to dispense medicines through the door. We cannot even counsel patients because there is too much movement in this place. Some are going to Eye Clinic, others to physiotherapy, others to the doctor, others are here for immunisation. They are all passing through. Even those that want to pick up medicines at pharmacy will be sitting by the same door. So tell me, how can we do our job there?

{Healthcare worker from ART Clinic – FGD}

In addition, most of the healthcare workers perceive the current infrastructure as a major barrier to creating a safe environment for HIV positive and TB patients, as the shortage of workspace created an environment unfavourable for implementing appropriate and adequate infection control measures to minimise the risk of nosocomial transmission of TB.

It is a disaster we cannot even separate those that are coughing from the rest of the HIV positive patients. Even the OPD here is very small. We cannot even follow the national guidelines for infection control. Otherwise, we have to ask the patients to go outside. But you know it gets very hot in summer they all want to come inside.

{Key Informant – TB/HIV Healthcare worker}

While the managers and healthcare workers underlined the shortage of workspace as a major barrier to TB/HIV integration, two key informants also expressed feelings of powerlessness in overcoming this barrier at the present moment. The following quote illustrates this.
Honestly now as it is there is nothing we can do really. It’s quite challenging.

Now that there are renovations, the powers that be will always tell you that there is nothing we can do until the renovations are over. So right now as it is there is nothing we can do really.

{Key Informant – TB/HIV Healthcare worker}

However, most of the managers and healthcare workers were optimistic that the ongoing renovations would offer a solution to the problem.

**5.3.1.3 Unmet Demand for Care**

All the managers and healthcare workers interviewed discussed the need to expand the current ART outreach services to other sites in the district. However, they also highlighted that this would be difficult with the current staffing levels and available vehicles.

*I think there is a need for the extension of the (ART) outreach to the far sides, those difficult to reach sides like Onamandongo and Okateidhi, because most of the people are from that side. This outreach is only helping those from near Onesi (referring to the current outreach service at Onesi Health Centre).*

{Professional Nurse – FGD}

*No, but that is not possible. The minute that we start doing outreach in a lot more places who will see the patients here? Because there is only 4 of us working in the ARV clinic, if we are going out it means we close this clinic that also gives a lot of problems to a lot of patients.*

{Enrolled Nurse – FGD}
All the patients that participated in the focus group also expressed the desire to see ART outreach services extended in the district due to financial constraints and other challenges in getting transport to travel to the hospital. One participant spoke of waking up very early so as to get transport to Tsandi and having to sleep at the police station after failing to get transport back to his village.

*I do not know why they are not coming to give us outreach in Oshitudha. We have asked them many times, but they are not coming. There are many people there. They do not even have money to come here. Our clinic does not even have a nurse, so people are dying. We want them to come and give us medicines in our village.*

{TB/HIV co-infected patient – FGD}

### 5.3.2 Health Workforce

#### 5.3.2.1 Shortage of Healthcare Workers

All the managers and professional healthcare workers interviewed during the study drew attention to the shortages of staff, especially nurses and medical officers. The reduced staff levels in the hospital increase the workload of the staff providing TB and HIV services, because of high patient flow. Such workloads place a huge burden on the staff, often leaving them exhausted. In addition, the heavy workloads also limit the amount of time healthcare workers can devote to each client, making it difficult to provide adequate and recommended care according to the national policy guidelines. This has weakened the quality of integrated TB/HIV services provided in the hospital.

*I would say that the generally the district hospital is very short staffed. This is even worse at the CDC... There is also 1 doctor for TB/HIV. This man suffers alone. I think there should be two or three doctors so that patients can be*
properly seen. How can one doctor sometimes see 90 or more patients per day?

{Key informant – TB/HIV Healthcare Worker}

But it’s not always that we do everything by the guidelines because sometimes you have a hundred patients here and there is only two of you in the ART clinic. ... and we want just to see these patients and let them go and the doctor will also be tired and so sometimes they don’t even have time to, to even ask patients if they are pregnant or not.

{Professional Nurse – Focus Group Participant}

An important factor behind the shortage of staff in the district is the high number of health workers who leave the rural area for jobs in urban areas. This has meant that quite a few healthcare workers who were experienced in providing integrated services have left their posts but were replaced by newly qualified staff. This situation ends up further compromising the quality of TB and HIV care provided.

So we don’t have enough nurses. You see we are in a rural area, most of the nurses we have here are young and after one or two years of working here in the village they all resign to go to the big city, Windhoek, where life is.

{Key Informant – DMT}

5.3.2.2 Inadequate Training of Healthcare Workers

All the healthcare workers that participated in the study drew attention to the limited opportunities for training on the medical management of HIV and TB as a barrier to the implementation of TB/HIV integration. Most of the standard curriculum on TB
and HIV management targets doctors and pharmacists in the country\textsuperscript{12}. This means that most nurses, pharmacist assistants and other healthcare workers were never trained on the standard national treatment guidelines on TB and HIV.

\begin{quote}
Most of the training is done in Windhoek, at the national level and they only invite doctors or pharmacists. So most of the doctors here have gone for training for TB and HIV and the pharmacist has gone for some of the trainings, but the pharmacist assistant has never been invited for any training.

So much of the training for the pharmacist assistant and the nurses is done on the job.
\end{quote}

{Key informant}

Although lay workers felt they could offer an adequate level of services under the direct supervision of nurses, the lay workers perceive that the nurses are not always willing to provide the necessary level of support, as some of the nurses did not understand TB and HIV.

\begin{quote}
You know some of the nurses they give us support on our job, but some they are not interested because they do not understand at all, about what is TB and HIV. They don’t understand.
\end{quote}

{Community Counsellor – FGD}

In addition, the lay workers’ lack of appropriate training in TB and HIV, as well as their rudimentary professional experience, meant that these were not able to fully

\textsuperscript{12} The Directorate of Special Programmes (MoHSS) runs regular training courses on the medical management of TB and HIV through the International Training & Education Center for Health (I-TECH – Namibia). The target participants for these courses are mainly medical officers and pharmacists. Training workshops for the rest of the healthcare workers are usually organized by the poorly funded National and Regional Health Training Centres. As a result fewer healthcare workers have attended training on the standard national curriculum based on Namibian treatment guidelines (MoHSS, 2007c).
participate in the integrated programme.

*We only have this basic training for counselling when we had training for TB and for TB and HIV. We had only few counselling sessions on how to counsel a patient, but not in more detail like community counsellors... That’s also the problem.*  

{TB Field Promoter – FGD}

The arrangement in Tsandi district hospital is that there is a fulltime TB/HIV medical officer. While this arrangement is meant to improve the quality of care and provide for a continuum of care for TB and HIV patients, it results in other medical officers not getting adequate exposure to TB and HIV patients. Because some of the medical officers either had limited experience or never received any formal or in-service training in TB and HIV care, they lacked the skills and motivation to engage extensively in patient care.

*We wish to have more staff that are working in the hospital trained on TB and HIV. For example, if the ART doctor is not here, the TB/HIV doctor is not here, all the other doctors sometimes refuse to come and see the patients.*  

{Nurse – FGD}

*Only the doctor who is working there with specifically specialising in that field has the skills. But those who are just general doctors they really don’t have enough experience, they need to be trained also. Because like the doctor went for a workshop and there is really a need to be helped at CDC, like a doctor to standby so that they can help the patient, they don’t know what to do. Because sometimes there will be just nurses only and no doctors, because they (the other medical officers) do not have experience to give ARV.*
A number of key informants and focus group participants repeatedly mentioned the development of medication side effects as one of the challenges they faced concerning provision of care to TB/HIV co-infected patients. One key informant said:

*Another one is in terms of side effects (referring to challenges). We see quite a number of side effects especially if now someone is taking both TB drugs and ARVs. I’ve seen some develop moderate to sometimes serious side effects to those drugs. So those are some of the challenges.*

While the hospital has a formal in-service training plan that includes sessions on TB and HIV, all the healthcare workers and managers also mentioned the lack of enforcement of the in-service training plan as a barrier to addressing their local training needs with regards to TB and HIV management. There are no regular in-service training sessions occurring in the hospital for all staff, and post-training briefing only occurs in the ART Clinic. A review of the hospital’s training register showed long time lags in-between training sessions. The in-service committee of the hospital is currently non-functional, and some of the appointed members that have left the hospital have not been replaced. One key informant viewed the additional roles as in-service committee members as burden to staffs.

*The biggest problem of the in-service committee was that it’s a committee where we are adding work on staff that is already having other duties. So it never really took off.*
5.3.2.3 Staff Rotation

Another factor that significantly influenced the implementation of the integrated TB/HIV services in the hospital was the practice of rotating nursing staff on a regular basis between various departments in the facility. Nurses were rotated for periods ranging from one to three months. According to the district management team this practice was meant to distribute the workload and provide opportunities for the healthcare workers to gain experience in different areas of healthcare provision. Unfortunately, this practice often led to the transfer of healthcare providers who had received appropriate in-service training in TB or HIV care from TB Clinic, TB Ward and CDC to other departments. This situation obviously reduced the level of the support the nurses could give in terms of TB and HIV services and undermined the provision of high quality TB/HIV services.

*We are very understaffed and at the same time our staff keep on rotating within the hospital departments and some of them are new to that department and they don’t know anything. It will take up to a month for them to catch up on what is happening. And then they go again.*

{Key Informant – TB/HIV Healthcare Worker}

*Unfortunately, all the nurses who work in the (ART) pharmacy change rotations every three months. So pharmacy always complains that by the time the nurse has been trained to be able to use the dispensing system in the pharmacy and to properly counsel patients they are moved to the next department and that always cause problems for them.*

{ART Nurse – FGD}
5.3.2.4 Management and Administrative Support

Management and administrative support were perceived to be weak by most of the healthcare workers interviewed. Healthcare workers repeatedly mentioned the apparent lack of guidance and administrative support from the DMT as one of the factors behind the failure to maintain continuity and fully integrate TB and HIV services in the district. Most of the healthcare workers drew attention to the fact that the level of commitment and support from the DMT was limited concerning TB and HIV services. This situation obviously precluded the involvement and support the DMT could give to the TB and HIV programmes in terms of ensuring the availability of trained personnel, materials and space.

...and the other thing is for the district management, like the administrative people to pay more attention to the programmes. At least to provide the resources which are needed for the programmes. It’s only when the programmes can go ahead.

{Professional Nurse – FGD}

I will have to clarify one thing. By saying in charge, are we saying who is overall in charge or who is actively in charge? Because those are two different people... (laughs). Well, officially yes because they are the managers. So in their job description you will make them supervisors day to day, but that’s mainly on paper. They are not really involved on a day to day basis, unless there is a problem or you go to them.

{Key Informant – TB/HIV Healthcare worker}

5.3.3 Information: Recording and Reporting

Most of the healthcare workers interviewed understood the need for collecting routine
monitoring data in patients with either TB or HIV or both conditions to track response to treatment and to assess quality of care and programme effectiveness. However, they also drew attention to the fact that the multiple monitoring systems with different reporting requirements were a barrier to the implementation of TB/HIV integration.

The managers and healthcare workers stated that the current monitoring systems for TB and HIV were complex in nature, requiring the collection of large amounts of different data using separate paper tools and electronic registers. Different staffs reported these data to multiple stakeholders at different times.

*You know to be honest it’s not easy for us because we have a lot of reporting that is required by different people at different times... So you can see we have a lot of reporting that goes around and it’s very difficult to keep track of what reports are there and who is reporting to who.*

*(Key Informant – DMT)*

*They are too many (registers for TB and HIV services). You can go there and see for yourself! I don’t think it’s taking too much time but for TB because I don’t think there is a lot of patients, but maybe for the CDC I think it takes a lot of time.*

*(Key Informant – TB/HIV Healthcare worker)*

The researcher observed up to six different monitoring systems managed by different departments, and reported to different Directorates in the MoHSS:

- PMTCT data were collected using paper tools at Antenatal Clinic, Maternity and Post Natal Clinic. The District Health Information Systems (DHIS) Officer captured these data electronically, and reported nationally to the Directorate: Primary Health Care Services.
At OPD, TB and HIV related data were also collected using paper tools and again captured by the DHIS Officer for reporting to the Directorate: Primary Health Care Services.

Several paper tools were used to collect TB data in the TB Clinic. These include the sputum register, TB register, IPT register, MDR-TB register. These data were then supposed to be captured electronically, but the staff was not trained to use the electronic TB register.

Similarly, there were several paper tools in use at the ART clinic: patient record cards, pre-ART register, ART register, IPT register, and a locally designed appointments register for patients’ follow up dates. The ART data clerk captures all this information using the electronic Patient Monitoring System (ePMS\textsuperscript{13}).

However, the staffs from the ART pharmacy also use a different set of paper tools to collect information from the same patients and capture it on the electronic Pharmacy Management Information System (ePMIS\textsuperscript{14}).

The General and TB Wards also capture information on admitted patients and submit it daily for capturing into the DHIS.

All the participants also drew attention to the fact that very few healthcare workers had received adequate training in the use of the monitoring systems or in data analysis. For instance while there was a computer for use with the electronic TB register (ETR), there was no staff member trained in using the ETR. During the focus

\textsuperscript{13} The ART electronic Patient Monitoring System (ePMS) captures all the patients’ information as recorded on the treatment cards by the clinician. This includes demographic details, family planning, adherence, current treatment regimen if on ART, side effects, CPT, IPT, TB treatment status. The ART data clerk captures this information into the system after each patient visit.

\textsuperscript{14} The ART Pharmacy uses the electronic Pharmacy Management Information System (ePMIS) to capture the details for patients on ART. This information is limited to the demographic details, current regimen, ART pick up dates. The dispensing pharmacy staffs capture this information at each pharmacy visit. The ePMS and ePMIS are not linked.
group discussion, some of the nurses felt that one of the reasons other medical officers did not come to see patients in the ART clinic was that the medical officers did not know how to fill out the patients records and reports, and had never been trained.

While the hospital generates several reports regularly, there is very limited data analysis, dissemination and use in the hospital. Instances where data are used included the tracing of TB and ART defaulters, and the submission of a quarterly report to the regional authorities. According to the key informants the rest of the data that are collected are never used locally to improve service delivery. Examples of such data include patients’ age, sex, HIV clinical staging, opportunistic infections, causes of poor adherence or loss to follow up, side effects, serum creatinine, liver function tests, CD4 cell counts, viral load, TB status among HIV co-infected patients, TB culture and drug sensitivity, and family planning/contraceptive use.

In addition, quality checks on reported data are minimal and the reporting systems are not linked. This sometimes leads to important differences in the reported data, e.g. the figures for reported numbers of defaulters from the ePMIS and ePMS differed significantly.

5.3.4 Medical Products and Technology: Laboratory Services

While most of the required laboratory tests are performed at the local laboratory, some of the tests such as CD4 cell counts, full liver function tests and hepatitis B surface antigen, have to be sent to the reference laboratory in Oshakati hospital, 110km away and this then results in long waiting times for results and missing specimens.

_The lab does most of the tests that we want and with those tests that they can’t do they send to Oshakati and the results don’t always come back on time._
Sometimes you wait 2 weeks, 3 weeks for a result that you are supposed to have in 48hrs, 72hrs. It doesn’t come back. They say they send it away to Oshakati. You phone Oshakati they say they never received it.

{Professional Nurse – FGD}

5.3.5 Leadership and Governance

5.3.5.1 Collaboration and Coalitions with other Sectors

Some of the managers and healthcare workers interviewed mentioned the apparent lack of mechanisms to enhance collaboration and coalition building with other role players in the district as one of the challenges to fully integrate TB and HIV services in the district. This acts as a barrier to providing a continuum of care from the hospital to the community. Two key informants stressed the fact that while there were community NGOs involved in TB and HIV, the healthcare workers did not know what the NGOs were doing. One healthcare worker illustrated the challenge as follows:

_I understand we are supposed to be working with these NGOs, like formally. But as it is here I know of a couple of NGOs who are here with their programmes to assist these HIV affected people. However, we have never really communicated formally on how best we can assist each other since we are looking at the same patients. But they are there in the community, sometimes giving patients projects to do, sometimes they even giving them food. But we don’t work formally with them. They just do their own thing. I cannot approach them._

{Key Informant – TB/HIV Healthcare worker}

The managers and healthcare workers also expressed the need for closer collaboration.
with other sectors and community NGOs as a means of improving TB and HIV care in the community.

5.3.5.2  Limited Patient Involvement in Planning for Service Delivery

While Tsandi district hospital has several planning mechanisms for TB and HIV care, the healthcare workers interviewed described very little involvement of TB/HIV co-infected patients in the planning processes of the entire TB and HIV services. The main reasons for the limited involvement of patients were (1) patients were perceived to complain too much, and (2) limited time to consult patients on their needs due to the staff shortages.

_We don’t even have time for our staff, how can we consult the patients? You know the patients complain too much, ... You know the hospital is short staffed and we can only afford to give the patients the basic care according to the national guidelines. We can’t listen to each and every patient for their individual needs._

{Key Informant – DMT}

While there was limited involvement of patients in planning overall service provision, the core staff working in CDC and TB described some level of involvement of individual patients in planning their own disease management within the ART services. In contrast, the TB services took little or no steps to consider individual patients’ needs. The lack of involvement of patients in the TB services sometimes leads to major disagreements between the staff and patients, with the patients abandoning treatment or leaving hospital against medical advice. One key informant highlighted this as follows:
In TB that’s where we are having a serious problem. There is really no patient involvement there. If you are having TB you are told what to do, they are not involved in most of the planning. At the end of the day you sometimes end up having quarrels with some patients who will not be agreeing with these plans that are made without their involvement.

{Key Informant – TB/HIV Healthcare worker}

Some of the healthcare workers expressed the desire for greater patient involvement in the planning process of their own disease management, as well as for overall TB and HIV service provision.

5.3.6 Access Barriers

The healthcare workers and patients interviewed repeatedly mentioned socioeconomic factors that had a negative impact on the TB/HIV co-infected patients’ ability to access and utilise services or to maintain treatment adherence once enrolled into care.

5.3.6.1 Financial Constraints and Other Economic Barriers

ARVs are only available at the ART clinic and one outreach point, while TB medicines are widely available at all PHC clinics in the district. The healthcare workers and patients described financial constraints and other economic challenges leading to poor treatment adherence as some of the barriers limiting patients’ access to TB and HIV care in the district. These include: (1) distances from the hospital, (2) lack of transport to the hospital, (3) no money to pay for transport to travel to the hospital. The following quotes illustrate this.

...adherence to treatment and follow-up dates. That is the biggest challenge. Sometimes because the patients, they don’t have money or they talk of distances. Ah, environmental factors like this time of the year where there are
floods and everything. So it’s a challenge now to really put them on their 
treatment and follow up schedules.

{Key Informant – TB/HIV Healthcare Worker}

There needs to be a big change there and when it comes to those TB and ARV 
patients, sometimes patients are coming from far areas ...I mentioned already 
there is a big challenge there when it comes to transport for patients to come 
and collect his/her medicine.

{TB Field Promoter – FGD}

Healthcare workers and patients also highlighted the lack of food as one of challenges 
faced patients in the district. These leads to poor treatment adherence as some of the 
medicines have to be taken with food to reduce the risk of gastrointestinal and other 
side effects.

I don’t know why the government does not give us food. A long time the 
government used to, to say if you have HIV you get a grant, a disability grant 
to help you. At least those days we had a little money to buy food and to come 
to the hospital and see the doctor. Nowadays some people are defaulting this 
medicine. It’s not because they don’t want the medicine. They don’t have food 
at home. Even money to come to hospital they don’t have. They are just 
staying there at home and some are dying.

{TB/HIV co-infected patient – FGD}

5.3.6.1 Stigma and Discrimination

Some of the healthcare workers and patients interviewed perceived that HIV-related 
stigma and discrimination were barriers to providing integrated TB/HIV care,
especially in the overcrowded space the ART clinic shares with other services. Some focus group participants underlined this as follows:

...we cannot give health education in that area because other patients will hear what we are saying and start with stigmatisation and say that CDC people are the ones that are living with HIV or those things.

{Healthcare worker – FGD}

... and these people start to say, to point fingers at us in the community that these people that go to that CDC are people with HIV.

{TB/HIV co-infected patient – FGD}

In addition, several patients felt that they were sometimes discriminated against when seeking care and treatment from OPD as a result of having TB and HIV. The following quote illustrates this.

When you go there to the OPD, they just look at your card and say this one is on ARV, this one has TB, go and see your TB doctor. They do not even ask you why you are there. Even if you have a headache, they just send you to CDC to see the TB and HIV doctor. Those people do not care about us.

{TB/HIV co-infected patient – FGD}

In contrast, most of the managers and healthcare workers interviewed did not think that stigma and discrimination were still influencing patients’ access to care and treatment in their community.

I do not think these years there is stigma and discrimination for both TB and HIV, because people are now open and they can speak their conditions to their families. And they are supported by other family and neighbours.

{Community Counsellor – FGD}
Similar perceptions were shared by one female patient who has been living openly with HIV for more than 10 years said that she was not worried about stigmatisation in the community anymore.

*But me I don’t have a problem with people pointing a finger at me because I am alive and I am well and I am working for my family. And so if people point a finger at me to say I have HIV, I even laugh at them and say that, “Yes I have HIV” and I start teaching them about HIV and TB.*

{ TB/HIV co-infected patient – FGD }

### 5.4 FACILITATORS OF TB/HIV SERVICE INTEGRATION

#### 5.4.1 Service Delivery

##### 5.4.1.1 Management

A number of vertical programmes are being run in Tsandi district hospital. Although these programmes have their own work plans, management structures, funding and reporting systems, most rely on the same district staff and resources to implement their activities. The common staff pool managing different programmes is a facilitator to integration as this reduces fragmented planning. For example, a professional nurse within the hospital serves as the Special Programmes Coordinator and facilitates TB and HIV integration and collaboration. In addition, the full-time TB/HIV medical officer facilitates integration of TB and HIV related clinical care in the district hospital, as well as monitors all aspects of the HIV and TB programme implementation in the district, identifies problems and proposes actions to the District and Regional ARV Committees.
5.4.2 Health Workforce

5.4.2.1 In-service training – ART and TB Units

Some of the healthcare workers have managed to attain some form of competence on TB and HIV care, including TB/HIV integration, through in-service training. In the TB Ward and TB Clinic all new nursing staff receive in-service training on the medical management of TB, laboratory monitoring of TB patients and recording and reporting using the standard national tools. The ART clinic has a more organised and regular in-service for all staff working fulltime in the department or rotating through the department.

In addition, in the ART Clinic, when staff members undergo specialized training, they brief their colleagues on the training objectives and content. This practice allowed some of the trainees to transfer some of their knowledge and skills to others. A nurse from the department who participated in the focus group discussion said:

...then at the same time like in ARV, we normally conduct refresher meetings or refresher trainings where we touch on this topic this month, and may be another one next month, for all the staff who are working in the department. So that we continue to be aware of any latest changes, just to remind ourselves of what we are supposed to be doing.

{Nurse – Focus Group Discussion}

5.4.2.2 Task Sharing

A strategy adopted and used to alleviate the shortage of professional healthcare workers in the hospital has been to share the tasks among the healthcare workers. Nurses play a pivotal role in supporting the CDC pharmacy staff with dispensing and counselling of patients. There is also some form of task sharing between the nurses
and the medical officer, with nurses reviewing and prescribing ARVs for stable patients that do not have complains.

In addition, there is also significant task-sharing between nurses and TB field promoters and community counsellors. These two cadres of lay workers are employed by the Namibian Red Cross Society and have received minimal training in TB and HIV services. They were actively engaged in providing adherence counselling, HIV counselling and testing, tracing patients, and ensuring TB DOT. The researcher also observed community counsellors assisting with the retrieval of patients’ files and records and recording basic patient details at initial registration such as weight, height, address and other socio-demographic details.

5.4.2.3 Regional and National Level Supervision

Tsandi district hospital enjoys regular supervision from the regional and national level officers responsible for TB and HIV. The regional management team (RMT) conducts regular joint TB and HIV supervisory support visits, and holds quarterly TB/HIV review meeting through the Regional ARV Committee. Each quarter the committee reviews the district’s progress towards set targets and indicators for both TB and HIV, discusses challenges and proposes solutions. Supervisory support visits from the national level were not regular. However, there is regular contact between programme staff and national level usually through fax or telephone. A key informant described the level of support from the RMT as follows:

There is quite a lot of supervision from first the regional. They always make follow-ups and actual supervisory visits. And then there are quarterly review meetings, where issues of TB and HIV are discussed. So there is quite a good supervisory effort from the region.
5.4.3 Leadership and Governance

5.4.3.1 Structure and Strategy

All health activities in Tsandi district – public facility, private facility and vertical programmes – are coordinated by the District Coordinating Committee (DCC). The Principal Medical Officer (PMO) heads the DCC, and is responsible for the strategic planning and management of health in the districts. The DCC is composed of district health management team (DMT) members who meet regularly. Other healthcare workers occasionally participate in the DCC meetings as invited.

The District Management Team (DMT) has a key role in ensuring that the system delivers a coherent and effective service. Tsandi district hospital uses two mechanisms to ensure that there is adequate planning and strategy development for TB and HIV service provision. The first mechanism is the inclusion of TB and HIV activities into the annual hospital strategic plan. The second mechanism is the District ARV Committee, which meets monthly to review all TB and HIV-related activities in the district, discusses challenges and proposes solution to the DMT. The committee is composed of representatives from all the hospital departments and DMT, and is set up with clear terms of reference. The PMO is the chairperson, with the TB/HIV Medical Officer as the deputy chairperson and the Special Programmes Coordinator provides secretariat services.

*The ARV committee is also set up with clear terms of reference that has come from national level and is supported by regional level that looks at TB and HIV within the region. So the role is to plan and to review TB and HIV activities and to find challenges and discuss challenges and to find solutions to the challenges.*
While the ARV committee is representative of all the departments, the process of developing the strategic and operational plans for the hospital remains reserved for the DCC only. In addition, the strategic and operational plans are not widely disseminated to all the healthcare workers. The lack of involvement of other healthcare workers is illustrated in the following quote:

... the managers they really don’t involve everyone. No, no! Whenever they come to involve these people, these nurses and doctors, it’s only because they don’t understand something or they want some clarification. Otherwise, they are not actively involving these other staff from the departments. That’s how I see it.

{Key Informant – TB/HIV healthcare worker}

5.4.3.2 ART Patient Involvement – Expert Patients and HIV Qual™

The ARV programme is currently utilising expert patients as a means of improving the level of care they provide. These expert patients are involved in providing support to newly diagnosed patients and those that have challenges with adherence. In addition, the ARV programme is also implementing the HIV Quality of Care (HIV Qual™) programme in which they involve patients in the planning process. However, there is still a need for greater involvement of the patients in the planning

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15 Expert patients are individual patients living with TB and/or HIV who receive training to ensure that knowledge of their condition is developed to a point where they are empowered to take some responsibility for its management and work in partnership with their health and social care providers. They act as peer supporters to other patients in the facility. This concept has been adopted in all public health facilities providing TB and HIV care in Namibia as part of the rollout of Integrated Management of Adult Illnesses (IMAI) programme.

16 Built upon a model of quality improvement consultation that was developed in New York State, the goal of HIVQUAL is to improve the quality of care delivered to persons living with HIV. A software program has been developed through HIVQUAL to facilitate measurement of quality. Namibia piloted HIVQUAL in 16 clinics in 2007, and since rolled out to all major hospitals in the country (Health Qual, 2012).
process as already discussed above. One key informant described the level of involvement as follows:

... Some of them are actually in the HIV Qual\textsuperscript{TM} Committee whereby if we are discussing quality issues one of the committee members is from these support groups. So we try to engage them. However, sometimes we are not very successful.

5.4.4 Medical Products and Technology

5.4.4.1 Laboratory Services

The provision of HIV counselling and testing in TB services and TB screening in HIV services is an important component of the integrated programme in Tsandi district hospital. The local laboratory performs the full range of basic tests required to diagnose and monitor TB and HIV treatment as per the national guidelines. These include Full Blood Count (FBC), sputum microscopy, urinalysis, creatinine, liver enzymes, syphilis (RPR) and pregnancy test. CD4 cell counts, hepatitis screen, full liver function tests, urea and electrolytes, and TB culture are sent to the reference laboratory in Oshakati, as discussed above.

The standard of care for HIV testing is the use of HIV rapid tests using standardised national algorithms. As part of the task-sharing practices highlighted above, the community counsellors who have been trained and certified competent based on a national curriculum perform most of the HIV counselling and testing. The community counsellors are placed strategically in the CDC and all 13 primary health care (PHC) clinics that feed into Tsandi hospital. They work under the direct supervision of certified nurse counsellors.
5.4.4.2 Procurement and Supply of Essential Medicines

All the managers and healthcare workers expressed satisfaction with the current distribution of essential medicines required for the successful care and treatment of TB/HIV co-infected patients in the district hospital. All the service points in the hospital, including TB clinic, stock most of the essential medicines for TB and HIV care as per the national guidelines, except ARVs that are only available from the CDC and one outreach point in the district.

TB medicines, cotrimoxazole preventive therapy (CPT), isoniazid preventive therapy (IPT) and multivitamins are readily available from the TB clinic, TB ward, CDC and all PHC clinics. The efficiency of the current distribution of medicines was summarised by one key informant as follows:

*The current set up ensures that all medicines are available for both TB as well as HIV patients. A few problems here and there, but mainly those are from the central medical stores where the medicines come from. That’s where they might sometimes tell you, “This one is not there” during that time of ordering, they come maybe later on. But we have never really had a problem of stock running out or any of those things.*

{Key Informant}
CHAPTER 6: DISCUSSION

6.1 INTRODUCTION

In the results, the researcher has provided a detailed description of the study findings, relating them to the key health system components as defined by WHO (2008b): service delivery, health workforce, leadership and governance, information, medical products and technology. In this chapter the main findings are discussed, and are compared to other studies in resource-limited settings, with some critical debate offered.

Namibia has embarked on integrating TB and HIV services with the expected outcome that patients “... have access to a continuum of care and support services for TB and HIV/AIDS diagnosis, in all health care facilities and home based care services in public and private sector” (MoHSS, 2007b: 44). This study was conducted to examine the key factors that impact on the model of integrated TB/HIV service delivery implemented in a rural district hospital in the country. The study reveals that neither management, staff nor co-infected clients are satisfied with the current model, which presents a number of constraints to the vision “of a continuum of care and support services.”

Several factors influenced whether and to what degree Tsandi district was able to achieve integration of TB and HIV services. These are: (1) model of care and nature of referral links; (2) the availability and use of human resources and workspace; (3) the system of rotating staff among departments in the hospital; (4) the supply and mode of providing medicines to patients; (5) information systems, recording and reporting arrangements; (6) and the amount of follow-up and supervision of the
integrated services. These factors and their impact on the integrated programme are discussed below.

6.2 MANAGEMENT SYSTEMS AND PLANNING

Implementing joint TB/HIV service delivery has a high priority in Namibia (MoHSS, 2007b; MoHSS, 2007c). At national level, there is an agreed policy on coordination of TB and HIV programmes and a national coordination body for TB/HIV collaborative activities was established in 2006 (MoHSS, 2007c). At district level, this commitment is translated into the creation of the ARV Committee to plan and review joint TB and HIV activities in the district, as well as the appointments of the Special Programmes Coordinator and the TB/HIV medical officer. Despite these mechanisms for TB/HIV collaboration, staff and TB/HIV co-infected patients alike felt that there was not sufficient coordination of services: the TB and HIV programmes still functioned separately in terms of daily operations. Whilst there are clear national policy guidelines for the clinical management of TB and HIV co-infected guidelines, these policy guidelines fail to adequately address the complexity of integrating TB and HIV programmes within an overburdened and fragile health system.

While the need for collaboration between TB and HIV programmes to address the TB/HIV co-epidemic was recognised early in the epidemic there was limited collaboration until recently (Reid et al, 2006; WHO, 2012). The goal of collaborative TB/HIV activities is to decrease the burden of TB and HIV in people at risk of or affected by both diseases through collaboration between programmes (WHO, 2012). The ProTEST initiative piloted in Malawi, South Africa and Zambia demonstrated the feasibility of TB and HIV programmes collaborating at all levels to provide comprehensive prevention, care and support for people living with HIV/AIDS and TB
(Reid et al, 2006; WHO, 2004b; WHO, 2012). The ProTEST interventions were informed by local needs based on local situational analysis. Key factors that contributed to the success of these include increased human capacity through training on TB and HIV care, improved interaction among healthcare workers and on-going post training support (WHO, 2004b). However, studies from Uganda (Okot-Chono, Mugisha, Adatu, Madraa, Dlodlo and Fujiwara, 2009) and Ethiopia (Kassa, Jerene, Assefa, Teka, Abraham, Aseffa and Deribew, 2012) report of poor uptake of implementation of collaborative activities due to poor joint TB/HIV planning and coordination, lack of leadership, inadequate dissemination of policies and limited investment in resources to support TB/HIV collaborative activities.

6.3 TB/HIV COLLABORATION AND SERVICE INTEGRATION

Despite policies, strategies and guidelines, the lack of a common understanding on how to operationalise TB/HIV integration at the institutional level has been identified as a barrier to integrated TB/HIV service delivery in other countries such as South Africa and Vietnam (Atun et al., 2010; Conseil, Mournier-Jack and Coker, 2010; Perumal, Padayatchi, Stiefvater, 2009; Shigayeva, Atun, McKee and Coker, 2010). Smit, Church, Milford, Harrison and Bekink (2012) also describe how the lack of clear national guidelines on integration has been identified as barriers of delivering integrated sexual and reproductive health and HIV care in South Africa.

Although the TB and HIV programmes largely depend on the same hospital staff to deliver services in Tsandi district hospital, the TB and HIV services are physically separate which means the same patient receives care in two separate places, sometimes with duplication of activities and follow-up. There are also multiple recording and reporting systems that feed up to different vertical programmes at
These findings suggest that there is a need to develop a sustainable integrated approach to the provision of TB and HIV services at both policy and service-delivery levels. Fundamentally, the continued scale up of HIV services should include concurrent efforts that support TB and HIV service integration within a broader primary care context to promote more integrated and sustainable approaches (Reid et al, 2006). Simultaneously the knowledge and experiences gained over the last decades must be shared between the historical public health-based approach to TB control and the rights-based approach of HIV programmes (Reid et al., 2006; Perumal, Padayatchi and Stiefvater, 2009).

6.4 REFERRALS AND MODELS OF TB/HIV CARE

The study found that whilst the current model of care at Tsandi district hospital requires extensive referrals between service points, the referral linkages are not functioning as intended. The effectiveness of this referral model is being undermined by poor communication between staff and patients, overcrowding that means that patients get lost within the facility, long waiting times and duplication of appointment dates.

These findings in Tsandi district hospital are consistent with the current literature. WHO (2012) emphasises that the major weakness of TB/HIV integration models that rely on referral is that patients may be lost if referral fails for example due to cost or transportation. Okot-Chono et al (2009) describe limited referrals between TB and HIV clinics in five districts in Uganda, as a major barrier to TB/HIV integration. The authors also reported that some referred patients did not return for care due to financial constraints, fear of inadequate privacy in HIV clinics, and difficulties in
locating services within facilities.

As a result of the challenges with referral links, WHO (2012) recommends that the “one-stop service” model could be efficient in settings with high TB/HIV co-infection rates and in resource limited settings with staff shortages. The “one-stop service” model offers fully integrated TB/HIV service delivery, with a range of activities to provide patient centred care by the same trained healthcare worker at the same visit. This model has already been successfully implemented in the Sizonq’oba Study in Tugela Ferry, KwaZulu-Natal in South Africa (Gandhi et al, 2009), and Khayelitsha, Western Cape South Africa (Garone, Hilderbrand, Boulle, Coetzee, Goemaere, Van Cutsem and Besada, 2011).

While the “one-stop service” and other models with closer integration are more appropriate in the sub-Saharan African region because of the high prevalence of HIV among TB patients, such models require more staff training and appropriate infrastructure to maintain adequate infection control measures. This study found that within Tsandi district hospital there was a shortage of workspace, with inadequate infrastructure for implementing proper infection control measures which currently constrains the ability to offer a one-stop shop.

Poor health system infrastructure as a barrier of TB/HIV integration has also been reported in other low- to middle-income countries (Ledigo-Quigley et al, 2010), particularly in sub-Saharan Africa such as Malawi, rural Rwanda South Africa Uganda and Zambia (Gasana et al, 2008; Harris et al, 2008; Kumwenda et al., 2011; Loveday and Zweigenthal, 2011; Nansera et al., 2010).

However Gasana et al. (2008) found that integrating TB/HIV services in a rural Rwanda was feasible, requiring simple modification and innovative use of resources.
to minimise nosocomial transmission of HIV (Ledigo-Quigley et al, 2010; WHO, 2012). During the Sizonq’oba study in Tugela Ferry, KwaZulu-Natal, Gandhi et al (2009) demonstrated that with minor infrastructural modifications, appropriate infection control measures and staff training on infection control, it is feasible to implement TB/HIV service integration in high burden settings. Perumal, Padayatchi and Stiefvater (2009) also describe successful low cost infection control interventions in an urban TB clinic and a specialist TB hospital in Durban, South Africa. These include proper and innovative triaging of patients, with fast tracking of coughing patients, scheduling new and follow-up patients on separate days, as well as open and well-ventilated, sheltered waiting rooms.

6.5 HEALTH WORKFORCE

The study found that despite some in-service training activities on the management of TB and HIV, staff shortages and few staff trained on TB and HIV care were barrier of integrated TB/HIV service delivery. Similar experiences from Rwanda, Uganda, Zambia and other low- to middle-income countries suggest that understaffing, shortages of critical staff and a lack of knowledge and skills lead to overburdened staff, and insufficient or compromised quality of integrated TB/HIV services delivered (Gasana et al, 2008; Harris et al, 2008; Ledigo-Quigley et al, 2010; Nansera et al, 2010; Okot-Chono, 2009).

In addition, inadequately trained staff working in TB and HIV units may compromise the quality of care offered by not prescribing recommended treatment due to the fear of increased side effects and synergistic toxicities. This challenge in managing co-infected clients has been documented in Brazil, Malawi, South Africa and other countries in sub-Saharan Africa (Abdool-Karim, et al., 2004; Daftary et al., 2010;
Durovni, et al.; 2010; Kumwenda et al., 2011). Durovni et al (2010) describe how fewer TB/HIV co-infected patients were started on IPT in Rio de Janeiro clinics due to healthcare workers’ fear of side effects developing among the cohort of patients studied. Furthermore, if the side effects are not managed appropriately and aggressively, they may lead to patients abandoning treatment, which contributes, to poor treatment outcomes (Reid et al., 2006; WHO, 2010).

This study found instances of task shifting and sharing in order to alleviate staff shortages in Tsandi district hospital. For example, some tasks were shared between the medical doctor and nurses, as well as nurses and community counsellors in the ART clinic. The World Health Organization (WHO, 2008d) has already recognised the critical role of task shifting as a reasonable method to meet the urgent health needs resulting from the HIV epidemic. Experiences from Malawi, Lesotho, and South Africa have also demonstrated the feasibility of task shifting among healthcare workers, including initiating and monitoring ART with non-medical officers (Zachariah, Ford, Philips, Lynch, Massaquoi, Janssens, and Harries, 2009). In South Africa nurse-based models for ART delivery have been developed to improve access and geographical coverage to ART (Colvin et al., 2010; Dohrn, Nzama, and Murrman, 2009; Loveday and Zweigenthal, 2011).

Successful implementation of task shifting to improve access to ART requires comprehensive training of healthcare workers on standardised protocols and guidelines, as well as simplified recording and reporting tools (Colvin, et al., 2010; Zachariah, 2009). However, experiences from Lesotho, Malawi and South Africa show that there may be some initial resistance to task shifting from other healthcare workers, professional bodies and councils (Colvin, et al., 2010; Zachariah, 2009). In
Tanzania, decision makers, healthcare workers and patients raised concerns with regards to informal task shifting as this led to the proliferation of cadres with vague and overlapping responsibilities (Dolvo, 2004). Therefore attention must be paid not only to the training of healthcare workers, but to policy and regulatory issues, reorganisation of healthcare facility routines as well as addressing staff relationships and attitudes (Colvin, et al., 2010; Dohrn, Nzama, and Murrman, 2009; Zachariah, 2009).

The apparent lack of follow-up and supervision of the integrated programme by the district management team obviously precluded the leadership and management support the DMT could give to the TB and HIV programmes in terms of ensuring the availability of trained personnel, materials and space as discussed above. Also critical was the limited support of TB/HIV activities from some of the medical officers and nurses. Experiences with integrating family planning services into voluntary counselling and testing (VCT) units in health facilities from two regions of Ethiopia demonstrate that lack of follow-up and supervision, as well as overburdened staff not willing to take up additional roles including supervision of lay counsellors were major barriers to service delivery (Yoder and Amare, 2008).

In a participatory quality improvement intervention in a health district in KwaZulu-Natal, Doherty, Chopra, Nsibandé and Mngoma (2009) found that regular support and supervision improved data use for PMTCT programme monitoring, as well as ownership of programme performance. Frimpong, Helleringer, Awoonor-Williams, Yeji and Phillips (2011) have also demonstrated that supportive supervision improved performance and motivation among primary healthcare workers in Ghana. Therefore, adequate attention needs to be paid to the role of direct supervision and support of
healthcare workers to improve programme performance with regards to TB and HIV integration.

6.6 RECORDING AND REPORTING

The study found complex and multiple recording and reporting systems, with most of the data collected neither analysed on site nor utilised in any meaningful way to improve service delivery. Poorly designed data collection systems resulting in poorly coordinated care have been reported in several studies from South Africa, Uganda and Zambia (Garrib, Stoops, McKenzie, Dlamini, Govender, Rohde and Herbst, 2008; Kancheya et al, 2011; Kawonga, Blaauw and Fonn, 2012; Okot-Chono, 2009).

Experiences from South Africa and Zambia show that too much data was collected with the current TB and HIV monitoring and evaluation (M&E) system, with healthcare workers perceiving data collection as extra work (Garrib et al., 2008; Kancheya et al., 2011; Kawonga, Blaauw and Fonn, 2012). In an assessment of the South African HIV monitoring and evaluation (M&E) system Kawonga, Blaauw and Fonn (2012) found that there was limited data analysis, interpretation or data use. This may lead to poor quality data, which further compromises the ability to assess quality of care or programme effectiveness.

Mphatswe, Mate, Bennett, Ngidi, Reddy, Barker and Rollins (2012) have demonstrated that simple and practical quality improvement interventions lead to significant improvements in the quality of PMTCT programme data. The authors demonstrated that training healthcare workers on data collection, with feedback for health information personnel and programme managers, monthly data reviews and data audits at healthcare facilities in KwaZulu-Natal over a 12-month period improved data completeness and accuracy.
6.7 ADDRESSING SOCIOECONOMIC BARRIERS

This study identified financial constraints and socioeconomic challenges as the major causes of poor treatment adherence among TB/HIV co-infected patients in Tsandi district hospital. Socioeconomic and cultural barriers to ART and TB treatment adherence have also been reported in Ethiopia, India, Uganda and Zambia. These include financial constraints, lack of food, stigma and discrimination (Chileshe and Bond, 2010; Gebremariam, Bjune and Frich, 2010; Joglekar, Paranjape, Jain, Rahane, Potdar, Reddy and Sahay, 2011; Sanjobo, Frich and Fretheim, 2008; Senkomago, Guwatudde, Breda and Khohnood, 2011).

Experiences from Peru show that community-based ART combined with microfinance support and psychosocial support tailored according to individual patient’s needs resulted in better treatment outcomes (Munoz et al., 2011). In Malawi, synchronising patients’ appointment dates for both TB and HIV resulted in a reduction in the numbers of patients lost to follow-up and an improvement in the number of co-infected patients started on cotrimoxazole prophylaxis and ART (Wandwalo et al, 2010). These findings suggest that interventions to address the TB/HIV co-epidemic should not be limited to only clinical care for patients. In order to improve access to services and treatment outcomes, a holistic approach that also takes into consideration the patients’ financial and material, psychosocial and spiritual needs is more effective. This requires greater collaboration and coalitions with actors from outside the health sector.

In a study that explored patients’ experiences accessing TB/HIV care in South Africa, Daftary et al (2010) found stigma and discrimination as one the major reasons for patients not accessing care. Co-infected patients in this study in Tsandi district
hospital shared the same perspective, while some of the healthcare workers attending to them felt that stigma was not a problem. This finding demonstrates the value of consulting with patients when designing health care interventions, as health workers cannot always represent their patients’ values correctly. Okot-chono et al (2009) describe how the lack of involvement of patients and communities in the planning process led to poor participation in community sensitisation activities in Uganda. Reports from Bangladesh, Brazil, Nigeria, Tanzania and Thailand demonstrate that with additional support and funding from domestic and international sources, context-specific approaches to TB control that integrate community participation are more successful (Open Society Institute, 2006). While patients know what services they need from the healthcare system their expectations are rarely met, and despite clear evidence that their views influence whether or not they utilise the available services they are rarely consulted in the planning process (Harries et al, 2010; Dudley and Garner, 2011). There is increasing evidence for the that patients and their communities need to be involved in the planning process when designing healthcare interventions as they can share their own experiences on the gap between policies and practice and their perspectives on the socio-economic impact of the disease (Open Society Institute, 2006; Harries et al, 2010; Dudley and Garner, 2011).

6.8 LIMITATIONS

This study did not explore the financing mechanisms of the district health system in Namibia, as funding is largely a function of Treasury. These were considered to be beyond the scope of this district-based study. A review of the financing mechanisms would have identified if there were funds available for implementing TB-HIV collaborative activities, and how the procurement of resources to strengthen TB/HIV collaborative activities is prioritised in Namibia.
The study methodology did not include an in-depth assessment of the effectiveness of the TB/HIV integration in Tsandi district hospital, and would therefore be complemented by a quantitative assessment. Some of the limitations identified by the researcher are inherent in the qualitative methodology:

i. During the interviews, there may have been respondent bias, with some of the respondents saying what they thought the researcher wanted to hear. For example, because the Namibian Ministry of Health has recommended integrated TB/HIV service delivery as the standard model of care, some of the key informants may not have been comfortable admitting that they disagreed with the model and were reluctant to implement it. However, the researcher reduced respondent bias by creating a favourable environment for free and honest communication. All the participants were assured of their confidentiality, and that the researcher was interested in their actual perceptions and experiences, so that policy could be improved.

ii. Dynamics that arise within the focus group discussions can sometimes yield unreliable results as a result of the dominance of a handful of individuals in the discussion, and reluctance for individuals to express differing opinions (Given, 2008). In addition, in this study interpersonal relationships could have had an impact on the individual’s willingness to speak as all the participants in each FGD already knew each other. The researcher minimized FGD bias by establishing rapport and encouraging all the participants to share their perspectives and experiences. As the topic under discussion for the TB/HIV co-infected patients was sensitive in that participants disclosed their HIV status, it was valuable that they already knew each other (all were drawn from
the group of ‘expert patients’ as discussed above) and were comfortable talking about their HIV status during the FGD.

iii. The researcher has a good working knowledge of Oshiwambo and was able to follow the discussions with patients and lay workers. However, all the data was translated into English before analysis to enable the researcher to fully comprehend the meaning. During this process of translation some meaning may have be lost. Professional translators reduced the impact of this limitation.

iv. The final limitation relates to the non-participant observations. This was demanding, requiring a substantial amount of time and skills to record events accurately and completely (Liamputtong and Ezzy, 2005; Yin, 2003). The researcher therefore developed a comprehensive observation checklist based on the literature review (see Appendix 4). In addition, the researcher followed up on observations and document reviews as suggested by some of the respondents.

Despite these limitations, the study provides an in-depth understanding of the challenges, barriers, opportunities and facilitators of TB/HIV integration in the context Tsandi district hospital. These findings may be common to many other district hospitals in rural Namibia.
CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

This study has important implications on the delivery of TB and HIV care in co-infected patients in Tsandi district hospital and other rural district hospitals in Namibia. The study has found that neither management, staff nor co-infected clients are satisfied with the current model and identified several important barriers to providing an efficient and quality integrated TB/HIV services in the context of Tsandi district hospital. It has also found some facilitators that offer a way forward in improving the service.

There is a need to address the negative impact of these factors including programmatic, infrastructural and health workforce challenges in order to successfully implement sustainable integration of TB and HIV service delivery at Tsandi district hospital level. It is evident that the existing integration between the TB and HIV programmes is fragile if the constraints discussed in this study are not promptly addressed. An intersectoral approach, with community involvement is required to address stigma socio-economic barriers to sustainable TB/HIV integration.

7.2 DISTRIBUTION OF STUDY FINDINGS

A draft copy of the findings was shared with all the healthcare respondents for comments and validation. A final copy of the study findings will be shared with the District Management Team, Regional Management team, and the Directorate: Policy Planning and Research of the Ministry of Health and Social Services for further dissemination. Much of the discussion of the study findings and recommendations with the staff and management has been through email, instant messengers and other web-based communication applications as the researcher has left Namibia.
7.3 RECOMMENDATIONS

The study has found that the current model of TB/HIV care is not efficient and the existing integration of HIV and TB services remains fragile if the constraints discussed in this study are not promptly addressed. With some infrastructural modifications, as discussed below, it is possible for Tsandi district hospital to fully integrate TB/HIV service delivery. A number of infrastructural, programmatic, health workforce challenges and socio-economic barriers could be addressed locally in order to strengthen TB/HIV service delivery in Tsandi district hospital. This can be achieved if the following are given proper consideration:

i. **Leadership and governance**

Strengthen healthcare leadership and governance at the district and regional levels to ensure that TB/HIV integration and collaborative activities are implemented according to the national policy guidelines through advocacy and capacity building training targeting the DMT to increase ownership of the activities at district level. The DMT must take the lead role in planning, reviewing and supervising all TB/HIV activities in the district.

ii. **Infrastructural Modifications**

The successful implementation of integrated TB/HIV services at Tsandi district hospital requires infrastructural improvements to create a safe environment for co-infected patients and staff, as well as improve patient flows. These infrastructural improvements range from minor changes to major renovations to ensure adequate infection control. While awaiting the completion of on-going renovations in the hospital, the TB clinic could be moved to Building C (see Figure 5 below), with concurrent establishment of separate well ventilated, sheltered outdoor waiting areas
for TB and other patients accessing care in the same building. The Counselling Unit, ART pharmacy, Eye clinic and ANC must be relocated within the same building to improve patient flow, with clearly marked rooms to avoid patients from getting lost.

![Diagram of proposed infrastructural changes to Tsandi Hospital]

**Figure 5: Proposed Infrastructural Changes to Tsandi Hospital**

The two new outdoor patient waiting areas will improve infection control, reduce congestion and improve patient flow inside the building. This should be combined with additional infection control measures. This simple and practical modification will allow the TB and HIV units to establish a mechanism to provide the full package of integrated TB/HIV services under the same roof, using the medical officer. The
patients can then be transferred back to the ART Clinic after successful completion of TB treatment.

iii. **Strengthen infection control measure in all departments in Tsandi district hospital**

There is a need to establish and strengthen infection control measures to reduce the risk of nosocomial transmission of TB, including training of all healthcare workers and fast tracking of all coughing TB patients through the TB clinic and other service points.

x. **Synchronise of TB/HIV Clinic Visits**

This option is also simple, practical and does not require additional resources to be procured. The TB Clinic and ART Clinic under the guidance of the Special Programmes Coordinator and TB/HIV medical officer must increase the level of collaboration and coordination leading to the synchronization of the follow-up dates for all TB/HIV co-infected patients. Interventions can include the following:

- Each week all TB/HIV co-infected clients to be given appointments on same day, for instance reserve each Thursday for clients who need to use both services.

- ART Pharmacy to dispense ART and TB medicines at same time.

  - This would reduce the number of visits to the same hospital by patients for care in two clinics on different days, leading to reduced costs for the patients.

iv. **Improve the access to antiretroviral medicines (ARVs) and decentralise HIV services**

Expand the number available service points from where patients can access ARVs to
include PHC clinics. However, this will require rethinking the current standard of practice that relies on medical officers to initiate ART and follow up all patients at a national policy level. This will reduce the congestion at the district hospital, while improving access to care and reducing both the direct and indirect costs for the patients.

v. **Address socioeconomic barriers to adherence to ensure access to care, treatment and support**

Establish and strengthen the social support services in the district to provide patients with access to material, financial, psychosocial and nutritional support. To achieve this, the district must adopt an intersectoral approach that involves all the appropriate governments sectors, nongovernmental organisations and donors to ensure greater collaboration at all levels of the health system through the existing Tsandi Constituency AIDS Committee.

vi. **Improve knowledge and skills of all healthcare workers through training**

Train all healthcare workers (clinicians and lay workers) in both TB and HIV services and in the management and support required by co-infected clients, to enable them to provide integrated services. The training could include the management of medication side effects through appropriate mentorship and in-service training of all healthcare workers.

vii. **National Level Recommendations**

The findings from this study also highlight the need for the National TB and Leprosy Control Programme (NTCLP) and National AIDS Coordinating Programme (NACOP) to support districts to plan, coordinate and invest resources in TB/HIV collaborative activities and integrated service delivery. This could include policy
dissemination, joint training of healthcare workers and a revision of the monitoring systems to reduce the amount of data collection tools and reports.

MoHSS could provide rural allowances and other initiatives that retain healthcare workers in based rural areas and allow task shifting through legislation and policy changes to address the shortages of critical healthcare workers such as doctors, professional nurses and pharmacists.
REFERENCES


MoHSS (Ministry of Health and Social Services) and UNAIDS. (2011). “*No Namibian Should Die from AIDS,*” Universal Access in Namibia: Scale up, Challenges and Way Forward. Windhoek: Ministry of Health and Social Services and UNAIDS.


APPENDICES

APPENDIX 1: KEY INFORMANT INTERVIEW GUIDE

Name of interviewer: Dr Raymond Chimatira

Date of interview:

Introduction: My name is Dr Raymond Chimatira and I am carrying out a research project focusing on the integration of TB/HIV services in Tsandi district hospital. This project is in partial fulfilment of the requirements of the degree Masters in Public Health with the University of the Western Cape.

Pseudonym: __________________________________________________________

Role of Interviewee: ___________________________________________________

How long have you worked at Tsandi district hospital? ______________________

Questions: (Notes: the following questions will be used as a general framework for the interview. The questions may be pursued in a different order, and you may allocate more time depending on the most relevant issues for discussion with each individual participant).

SUPervision AND LEADERSHIP

i. What do you understand by the term TB/HIV integration?

ii. Does the district have a specific strategic health plan for providing care and services for TB/HIV co-infected clients? (Probe: If yes, is this plan consistently implemented and adhered to? Are the specific goals, objectives, and performance targets clearly articulated and communicated to all the staff?)

iii. Who participates in defining and prioritising health needs and services for TB/HIV co-infected clients in the district?
ORGANISATION AND MANAGEMENT OF SERVICE DELIVERY

iv. To what extent are activities from the National TB Control and National HIV Programme coordinated/ collaborated in the district to ensure integrated TB/HIV service delivery? (*Probe: Who heads each of these programmes in the district? What are their roles? To whom are they accountable? Are there forums to share information?)

v. Are there any strategies to ensure access to TB/HIV care in the district? (*Probe: What are they? Have they been effective?)

vi. What are the referral patterns for clients diagnosed with TB or HIV? (*Probe: Under what circumstances and to who are clients referred? To the best of your knowledge, how often are clients lost or do not follow up on the service referrals between points of care? What are the common reasons cited by patients for not utilising the service referrals?)

vii. What are the biggest barriers that limit your district hospital’s ability to provide integrated TB/HIV care? (*Probe to cover the following areas: Staffing levels and staff motivation, staff skills, quality of care, patient scheduling or clinic opening hours, location, support from co-workers, support from regional or district management team)

HUMAN AND PHYSICAL RESOURCES

viii. How would you describe your staffing levels? (*Probe: very well staffed, adequately staffed, or under staffed).

ix. Do you think the staff in the district is well trained in the relevant national guidelines and policies? *Explain.*
Who is responsible for the clinical supervision at each point of care in order to ensure quality of care?

Is there a system in place to ensure that the training and continuous education needs of staff are met? *(Probe: Who identifies the training needs? Are there any formal plans or policies? Where does this learning take place?)*

In your own opinion, do you think that the facilities and equipment used to offer integrated TB/HIV service delivery are adequate and well located? *Explain.*

Do you think TB/HIV services are accessible to and appropriately used by co-infected clients? *(Explain) Probe: Are there any opportunities to increase accessibility of care to TB/HIV co-infected clients?*

Describe the routine systems for the collection, reporting and analysing data on TB and HIV? *(Probe: For each programme, where are the data collected? Who receives the data and manages the information?)*

Is the information collected, analysed and used at the point of generation or merely reported up to a higher level? *(Probe: What is the level of motivation of the staff for performing data analysis?)*

Is health information systems data incorporated into basic management and planning activities? *Explain or give examples.*

What mechanisms are in place to ensure that essential medicines for caring TB/HIV co-infected clients are readily available at the points of care within the district hospital?
xviii. Do you think that the current distribution and dispensing system meets the needs of TB/HIV co-infected clients? (explain) (Probe: Is there any room for improving the distribution and dispensing system? Do you feel that there is a need to improve the capacity of existing staff in pharmaceutical management?)

FACTORS EXTERNAL TO THE DISTRICT HEALTH SYSTEM

xix. Are there any other factors that you feel impact on the district hospital’s ability to provide a continuum of care to TB/HIV co-infected clients? Probe to cover: Government policy and guidelines, Donor relationships and funding, Culture, stigma and clients health care seeking behaviour, Patients/clients not aware of the services)

xx. What other individuals or groups do you collaborate with, or do you plan to collaborate with, in order to provide a high quality of TB/HIV care?

CLOSING

xxi. Is there anything else you would like to add? Are there any questions that I can answer before we end the session?

Thank you very much for participating in this interview. The information you have provided has been very helpful.
APPENDIX 2: FACILITATOR’S GUIDE FOR FGD – HEALTHCARE WORKERS (Professional HCWs, Community Counsellors and TB Field Promoters)

Venue and date of the FGD:

Greet participants as they arrive. Ask them to take a seat and make themselves comfortable. Also distribute the participant information sheet and consent form for participants to review and sign.

1. INTRODUCTION OF FACILITATOR AND NOTE TAKER

Welcome and thank you for coming today. My name is Dr Raymond Chimatira and this is Sr Nangula Kashipolo. We are gathering information on the integrated TB/HIV service delivery in Tsandi district hospital. I will be leading the discussion. My role, for the most part is to make sure we get through our agenda, keep to the time frame, and to make sure that you all have a chance to talk. Sr Kashipolo will help me do these things, and she will be taking notes. In addition we will also be audio taping the session, which will ensure that we record the discussion accurately. The discussion today will take approximately one hour.

2. PARTICIPANT INTRODUCTION

Now, let us go around the room and have each of you introduce yourselves. Tell me generally who you are (explain to use pseudonym for recording purposes), which department you work in, and your role in caring for clients with TB/HIV co-infection. You can also add any other information about yourself you want to share with the group.
3. PURPOSE OF THE FOCUS GROUP DISCUSSION

As I mentioned earlier this focus group discussion is part of a research project and mini-thesis, which is being carried out in partial fulfilment of the requirements for the degree Masters in Public Health in the School of Public Health, University of the Western Cape. We have asked you here to talk about your perceptions and experiences in providing integrated TB/HIV services, both about the things you like and the kinds of problems you may have encountered in the course of your duties. We are also interested in hearing about other services that you are not currently providing.

4. CONFIDENTIALITY

All the information we collect here today is confidential. We will not identify any of the participants. For example, we will not use your name, address, or any other identifying information in reports or other materials related to this study. Honesty is appreciated because we want to learn from the good and the bad experiences that you have had.

5. CONSENT FORMS

Before we begin the discussion, I would like you to sign the consent forms given to you. The consent form will be our record that you agreed to participate in the focus group discussion and that you agreed to the audio-taping.

6. COMPENSATION

At the end of the focus group discussion a sandwiches and cool drinks will be served to all participants. You will also be reimbursed the full amounts for all the transport costs that you incurred to come here.

7. INSTRUCTIONS

Let me begin our discussion by reviewing a few things about how we will run the
session. During this discussion, we would like you to focus on topics that are of particular interest to us. We are interested in what everyone has to say about our discussion topics. If someone throws out an idea that you want to expand on, or if you have a different point of view, please feel free to speak up. Please respect the views and opinions of others, and do not disclose the discussion to others outside of the FGD session. Occasionally, I may have to interrupt the discussion in order to bring us back to a particular topic to make sure that we cover everything on our agenda.

There are several ground rules that we will follow during this session:

i. We want all of you to express your opinions about the discussion topics. We are interested in multiple points of view about them. There are no right or wrong answers, and we are not here to resolve any issues you may bring up.

ii. Please do not hold side conversations. We want to be able to hear you from everyone, and side conversations will disrupt the discussion.

iii. Please speak up so that everyone can hear you, and also because we will be recording the session.

Do you have any questions so far?

SERVICE AVAILABILITY, UTILISATION AND ACCESS

i. What do you understand by TB/HIV integration?

ii. What are the most important TB/HIV related care/services that you are providing? *(Prompt: medical care and treatment, TB screening, sputum collection/ laboratory services, nutrition support, on-going counselling, support groups etc)*
iii. What are the roles played by the various health care workers? (e.g., community counsellors, TB field promoters, nurses, pharmacists, pharmacist assistants, doctors, social workers).

iv. Where are these health care workers/ service providers located?

v. How do you coordinate the clinical care and other activities related to TB/HIV care? (Prompt: How do you communicate? How often do you meet to discuss integrated TB/HIV service delivery?)

QUALITY OF SERVICES

vi. Are you satisfied with the quality of TB/HIV services that you offer? (Prompt: clinical consultation, medical laboratory services, counselling, pharmacy/medicine refills). Why/why not? (Probe: adequacy of staff, misallocation of staff, support from peers and co-workers, and the level supervision received, the availability of the relevant clinical guidelines and policies, in-service training and continuing education needs).

vii. Are you satisfied with the range of TB/HIV services that you are able to offer to your TB/HIV co-infected clients? Why/why not? (Probe: adequacy of staff, misallocation of staff, numbers of appropriately trained staff, knowledge and skills, support from the district management team, in-service training, and continuing education needs).

viii. Are you satisfied with the location of the services you are currently offering? (Probe: why not? What is reasonable? Is there adequate space? In what instances are patients referred from one point of care to the other? How do patients flow from one point of care to the other?).
ix. Are there instances when you have felt particularly satisfied or motivated during your work with TB/HIV co-infected clients? *Give examples.*

**BARRIERS**

x. Are there any instances when you have felt particularly demotivated or frustrated while caring for TB/HIV co-infected clients? *Give examples.* *(Probe: did you tell your supervisor or the district management about your experience? How did they respond? Were they helpful?)*

xi. While providing TB/HIV care to co-infected clients, have you experienced any problems in delivering the services? *(Probe: shortage of equipment, level of support from the district management/co-workers, transportation problems, overcrowding of patients, workload, infection control, hassle by clients, language or cultural barriers).*

**UNMET NEED**

xii. What services or care do you feel you should be providing to TB/HIV co-infected client, but are unable to provide? *(Probe: nutrition support/food, medication refills, counselling, outreach clinics etc).*

**ORGANISATION AND MANAGEMENT OF SERVICE DELIVERY**

xiii. What would be the single most important change you would suggest to improve TB/HIV service delivery?

xiv. What recommendations would you make to the district management team in order to improve TB/HIV service delivery in Tsandi district hospital?

**CLOSING**

xv. Is there anything else you would like to add? Are there any questions that I can answer before we end the session?
Thank you very much for participating in this focus group discussion. The information you have provided has been very helpful.
APPENDIX 3: FACILITATOR’S GUIDE FOR FGD – TB/HIV CO-INFECTED PATIENTS

Venue and date of the FGD:

Greet participants as they arrive. Ask them to take a seat and make themselves comfortable. Also distribute the participant information sheet and consent form for participants to review and sign.

1. INTRODUCTION OF FACILITATOR AND NOTE TAKER

Welcome and thank you for coming today. My name is Sr Nangula Kashipolo and this is Dr Raymond Chimatira. We are gathering information on the integrated TB/HIV service delivery in Tsandi district hospital. I will be leading the discussion. My role, for the most part is to make sure we get through our agenda, keep to the time frame, and to make sure that you all have a chance to talk. Dr Raymond Chimatira will help me do these things, and he will be taking notes. In addition we will also be audio taping the session, which will ensure that we record the discussion accurately. The discussion today will take approximately one hour.

2. PARTICIPANT INTRODUCTION

Now, let us go around the room and have each of you introduce yourselves. Tell me generally who you are (explain to use pseudonym), how old you are and when you started receiving care in the Tsandi district hospital. You can also add any other information about yourself you want to share with the group. (Probe to confirm their point of entry into HIV care i.e. medical/ out patients, PMTCT, VCT or TB).

3. PURPOSE OF THE FOCUS GROUP DISCUSSION

As I mentioned earlier this focus group discussion is part of a research project and mini-thesis, which is being carried out in partial fulfilment of the requirements for the
degree Masters in Public Health in the School of Public Health, University of the Western Cape. We have asked you here to talk about your perceptions and experiences in seeking and receiving TB/HIV service, both about the things you like and the kinds of problems you may have encountered in getting care and treatment. We are also interested in hearing about other services or help you may need that you are not currently receiving.

4. CONFIDENTIALITY

All the information we collect here today is confidential. We will not identify any of the participants. For example, we will not use your name, address, or any other identifying information in reports or other materials related to this study. Honesty is appreciated because we want to learn from the good and the bad experiences that you have had. It will not affect the care you receive in any way.

5. CONSENT FORMS

Before we begin the discussion, I would like you to sign the consent forms given to you. The consent form will be our record that you agreed to participate in the focus group discussion and that you agreed to the audio-taping.

6. COMPENSATION

At the end of the focus group discussion a sandwiches and cool drinks will be served to all participants. You will also be reimbursed the full amounts for all the transport costs that you incurred to come here.

INSTRUCTIONS

Let me begin our discussion by reviewing a few things about how we will run the session. During this discussion, we would like you to focus on topics that are of particular interest to us. We are interested in what everyone has to say about our
discussion topics. If someone throws out an idea that you want to expand on, or if you have a different point of view, please feel free to speak up. Please respect the views and opinions of others, and do not disclose the discussion to others outside of the FGD session. Occasionally, I may have to interrupt the discussion in order to bring us back to a particular topic to make sure that we cover everything on our agenda.

There are several ground rules that we will follow during this session:

i. We want all of you to express your opinions about the discussion topics. We are interested in multiple points of view about them. There are no right or wrong answers, and we are not here to resolve any issues you may bring up.

ii. Please do not hold side conversations. We want to be able to hear you from everyone, and side conversations will disrupt the discussion.

iii. Please speak up so that everyone can hear you, and also because we will be recording the session.

Do you have any questions so far?

SERVICE AVAILABILITY, UTILISATION AND ACCESS

i. What are the most important TB/HIV related care/services that you are now using or have used in the past? *(Prompt: medical care and treatment, nutrition support, on-going counselling, support groups)*

ii. What type of healthcare workers are you obtaining services from? *(e.g., community counsellors, TB field promoters, nurses, pharmacists, pharmacist assistants, doctors, social workers).*

iii. Where are the healthcare workers located?

iv. How do the health care workers coordinate your TB and HIV care? How do they communicate?
SATISFACTION WITH SERVICES/ QUALITY OF SERVICES

v. Are you satisfied with the particular TB/HIV services you have used (Prompt: clinical consultation, medical laboratory services, counselling, pharmacy/medicine refills). Why/why not?

vi. Are you satisfied with the range of TB/HIV services that you are available to you? Why/why not?

vii. Are you satisfied with the location and hours of operation of the services you are currently using? (Probe: why not? What is reasonable?).

viii. Are there instances when you have felt particularly welcome, comfortable, motivated by any health care worker/service provider? Give examples.

BARRIERS

ix. Are there any instances when you have felt particularly unwelcome, uncomfortable or inconvenienced while seeking care? Give examples? (Probe: did you tell the health care worker or their supervisor about your experience? How did they respond? Were they helpful?).

x. While seeking TB/HIV care, have you experienced any problems in trying to get services? (Probe: unhelpful attitudes, distance to receive service, transportation problems, inconvenient opening hours, long waiting times to see a health worker/service provider once you are in the facility, hassle by staff or other clients, language or cultural barriers).

UNMET NEED

xi. What services or care do you need, but are unable to get? (Probe: nutrition support/food, outreach services, medication etc).
xii. What concerns do you have about getting services or care for yourself in the future?

xiii. What would be the single most important change you would suggest to improve TB/HIV service delivery?

xiv. If there were one thing you would change about TB/HIV service delivery in Tsandi district hospital, what would it be?

CLOSING

xv. Is there anything else you would like to add? Are there any questions that I can answer before we end the session?

Thank you very much for participating in this focus group discussion. The information you have provided has been very helpful.
APPENDIX 4: OBSERVATION CHECKLIST

Site: ____________________________ Date & Time: ________________________

Notes on what to observe:

- Write short notes during data collection, using abbreviations and acronyms to document what is happening, and what is being said.
- Note people’s body language, moods, attitudes and the interactions among participants.
- Document events, informal conversations, and any other information that could be relevant.
- Soon after observation, expand the notes into a descriptive narrative.
- Review the expanded notes and add final comments.

STRUCTURED OBSERVATION GUIDE:

<table>
<thead>
<tr>
<th>Category:</th>
<th>Includes:</th>
<th>Researcher to note:</th>
</tr>
</thead>
</table>
| i. Verbal behaviour & interaction | • Who speaks to whom & for how long?  
  • Who initiates interaction? | • Profession of speakers?  
  • Dynamics of interaction? |
| ii. Physical behaviour & gestures | • What people do?  
  • Who does what?  
  • Who interacts with whom?  
  • Who is not interacting? | • Interaction among participants; staff-staff?  
  • Staff-patient?  
  • Patient-patient? |
| iii. Space & infrastructure | • Organisation of TB & HIV services? | • Who does what?  
  • Where are they located?  
  • TB infection control practices. |
| iv. Human Traffic | • People who enter, leave or spend time at the observation site | • Where people enter & exit  
  • How long they stay  
  • Who are they?  
  • Patient flow from one service to the other? |
Dear ________________________

I am Dr Raymond Chimatira, a student at the University of the Western Cape. I am gathering information related to the integration of tuberculosis (TB) and HIV/AIDS services in the Tsandi District Hospital, Namibia.

Why am I doing this?

I am required to undertake a research project and submit a mini-thesis in partial fulfilment of the requirements for the degree Masters in Public Health in the School of Public Health (SOPH), University of the Western Cape. I will be carrying out interviews, focus discussion groups, and non-participant observations, in Tsandi district hospital. I am accountable to Dr Vera Scott (Supervisor, SOPH) who is contactable on +27 21 959 2630 or c/o SOPH Fax: +27 21 959 3084 or by email at verascott@mweb.co.za.
**Who are the participants?**

The participants are the district management team, health care workers, TB Field Promoters, Community Counsellors, and patients co-infected with TB/HIV within the Tsandi District Hospital, Namibia.

**What is expected from the participants in the study?**

I will ask you some questions concerning your experience and perceptions on the integration of TB/HIV services within Tsandi district hospital. I am requesting you to take part in an *interview/ focus group discussion/ observation (*delete inappropriate). Each interview will last approximately 45 – 60 minutes, while each focus discussion group will last approximately one hour and will be tape-recorded. All the information collected will be treated confidentially, and only the researcher and supervisor will have access to it.

**What can participants expect?**

Once the research project is completed, feedback will be provided to all participants in the form of summarised and detailed reports.

**Can you withdraw from the study?**

Certainly, you may withdraw from the study at any time, without having to give a reason. You are free to ask questions during the interviews or focus group discussions. You do not have to talk about anything you do not want to, and you may end the interview at any time. The study is voluntary and if you are a patient, refusing to participate will not be influencing your access to care.

**Any further questions?**

Are there any questions about what I have just explained? Remember, more information may be obtained from Dr Raymond Chimatira at (065) 252030 or 081
306 6486. If you are willing to participate in the study, please read and sign the consent form below.
CONSENT FORM  
Challenges, Barriers and Opportunities in Integrating TB/HIV Services in Tsandi District Hospital, Namibia

Participant’s agreement

I have been informed about the purpose of the study, and what my participation involves. I also understand that I can withdraw from the study at any time, without having to give a reason and that the study is voluntary. I also understand that confidentiality will be maintained and that the findings of the study will only be used for research purposes.

Researcher’s agreement

I shall keep all the information collected during the research confidential and use a pseudonym of your choice in all documents. The contents will be used for the purposes referred to above, but may be used for published or unpublished research at a later stage without further consent. Any change from this agreement will be renegotiated with you.

Participant’s Signature: ________________________ Date: ____________________

Interviewer’s Signature: ________________________ Date: ____________________
APPENDIX 6: PERSONAL REFLECTIONS ON RESEARCH PROCESS

JOURNAL EXTRACTION: END OF WEEK REVIEW, WEEKENDING FRIDAY 03 JUNE 2011.

I visited Tsandi District Hospital this week, and completed all the three FGDs. I also spent some time observing the flow of patients in the ART Clinic and spent time in the TB Ward and TB Clinic.

I received positive feedback from the healthcare workers that were interviewed during the FGD. They all felt that this study had provided them a platform to voice their opinions and to reflect on their roles as healthcare workers.

I also got positive feedback from the TB/HIV co-infected patients. This was the first time they had sat down to share their experiences with an outsider. They all opened up to share their life stories. It was a humbling experience to sit there and absorb their personal experiences. It was like I was back in a Behavioural Science and Community Medicine lecture in Medical School once more! I remembered the holistic approach to patient care based on the bio-psychosocial model!

This study, particularly experiences from this week, has enabled me to understand better the factors that facilitate or hinder the functioning of integrated TB/HIV service delivery in a resource poor district like Tsandi and to think about simple, practical and feasible suggestions to improve it.

I have also had time to reflect on my own practice and experiences as a healthcare worker. This study experience will be useful to me in my future role as a public health practitioner who intends to practice in sub-Saharan Africa.
What could I have done differently?

Given more time and resources, I would have liked to interview more healthcare workers and TB/HIV co-infected patients to obtain their perspectives about the integrated TB/HIV in Tsandi district hospital. Also, I would have liked to travel into the district to interview some patients that have been lost to follow-up at their homes to understand the study setting better. And could their own experiences have been different from the “expert patients”? This was not possible due to poor transport facilities in these areas and also due to my time and budgetary constraints.