TITLE: PATIENTS AND PROVIDERS EXPERIENCE OF WAITING TIMES IN A SUB-DISTRICT IN THE CITY OF JOHANNESBURG.

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CANDIDATES DECLARATION

I declare that this work is my own effort and all the sources that I have used in the report have been acknowledged and referenced. This work has not been submitted to any institution as a report for examination. This report is submitted to the school of public health as a partial fulfilment of the Master degree in Public Health in Health Systems and Policy.

Signed: _____

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DEDICATION:

To God for giving me the strength to persevere through this course despite the Circumstances that I have been facing.

ABSTRACT:

Background:

In South Africa, about 7,1 million people were living with HIV (PLWHIV) in 2016, of which 63% were co-infected with tuberculosis (TB). The country also has the largest antiretroviral treatment (ART) programme coverage in the world. The adoption of the World Health Organisation (WHO) Universal Test and Treat (UTT) policy resulted in increased ART initiation to 3,9 million by 2017. However, the resultant demand on Health Care Providers (HCP) services is a challenge with long queues and waiting times at the point of care. A number of interventions have been done to reduce the waiting times but little is known about how 'waiting' is experienced by those most immediately affected – patients and HCPs.

Objectives:

The study investigated patients' and providers' *experiences* of waiting times and how these experiences may impede or enable access to, and utilization of TB and ART services at health care facilities in a sub district in City of Johannesburg, Gauteng between 2008 and 2012.

Methods:

Both quantitative and qualitative secondary data drawn from the Researching Equity in Access to Health Care (REACH) study were analysed. Descriptive quantitative data analysis was conducted using Stata 14 while thematic content analysis was done in Microsoft Excel.

Results and Discussion:

From 13 facilities (3 ART,10 TB), quantitative data were drawn from exit interviews with 325 ART patients and 283 TB patients. Furthermore, qualitative data were collected from facility observations, and in-depth interviews (IDIs) were conducted with eight patients seeking access to treatment [ART (n=2), TB (n=1), TB/HIV (n=2) and ART/TB (n=3)]. IDIs were conducted with 17 HCP (8 ART and 9 TB). ART patients experienced unacceptably longer waiting times (1-8 hours with most patients waiting between 3-4 hours) as compared to TB patients (0-2 hours with most patients waiting between 10–29 minutes). The long waiting time in the ART services impacted negatively on the patients and HCPs and thus affected perceptions of quality of care, safety, and retention in care, resulting in poor access and utilization for patients; as well as anxiety and heavy reliance on task shifting for HCP which was inappropriate at certain times. However, some benefits of the long waiting time for the patients include peer encouragement and education on treatment compliance while in the queues. TB patients also experienced adverse effects of seeking treatment, not related to the long waiting times, but rather to the need to make frequent clinic visits which had an impact on affordability and convenience. HCPs also identified the shortage of staff as one of the major contributory factors to long waiting time.

Conclusion and Recommendations:

Long waiting time is of concern at ART clinics, while frequent clinic visits (often daily) tend to negatively affects TB patients' access to care, due to affordability issues. HCPs' and patients' views were, however, different towards the same problem, thus, this can inform planning for interventions and policy. Efforts should be made at facility level to reduce waiting times in line with prevailing norms and standards. Health-

related messages could be facilitated through use of novel mass media (including the use of television). Furthermore, appropriate task shifting policy should be developed, and support for the psychological well-being of workers should be enhanced.

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ACRONYMS

AGL	Adherence Guidelines
ART	Anti- Retroviral Therapy
CoJ	City of Johannesburg
CHC	Community Health Centre
CHP	Centre for Health Policy
DOTS	Direct Observed TB Support
ED	Emergency Department
FGD	Focus Group Discussion
FP	Family Planning
FIT	Facility Improvement Teams
GDP	Gross Domestic Product
GPDoH	Gauteng Provincial Department of Health
HIV	Human Immuno-deficiency Syndrome
HCP	Health Care Provider
ICDM	Integrated Chronic Disease Management
IDI	In-depth Interviews
IPHC	Integrated Primary Health Care
HREC	Human Resource Ethics Committee
KZN	Kwa Zulu-Natal
MDG	Millennium Development Goal
NCS	National Core Standards
NCD	Non Communicable Diseases
NDoH	National Department of Health
NHI	National Health Insurance
NIMART	Nurse Initiated Management of ART
NSP	National Strategic Plan
OPD	Outpatient Department
PHC	Primary Health Care
PWLHIV	People Who Live with HIV
QI	Quality Improvement
REACH	Researching Equity in Access to Health Care
TB	Tuberculosis
SA	South Africa
UTT	Universal Test and Treat

*Region and Sub district used interchangeably

LIST OF DEFINITIONS

ART TB: HIV positive patients that were on ART and TB treatment at the time of the study.

DOTS: TB patients coming to the facility on a daily basis to be receive and swallow TB medication in front of a health provider as a form of support to ensure that the patient has indeed taken the medication.

Down Referral: Patients that were seen at one specialised health facility (hospital or community health centre with a dedicated ART unit), were stable at that point in time after 6 months on ART and could be referred to a lower level of care for follow up. This was a policy at the time of the REACH study but that has since changed. ARTs are now available at all levels of care including PHC facilities.

HIV TB: Patients that were HIV positive and had TB but did not qualify to be put on ARTs at the time of the study according to the HIV guidelines (when ART initiation was driven by CD4 count thresholds).

Successful user: A patient that was successfully receiving services at the facility.

TB/HIV co-infected patients: Patients infected with both TB and HIV.

Tracer: A health programme that is analysed to get more information about a health. policy, for example ART and TB treatment were the tracer programmes in this study.

Unsuccessful user: A patient who was supposed to be receiving treatment at a facility but had stopped coming to the facility and was not receiving the service any longer.

Waiting Times: The time that the patient waits in the facility before they consult with a HCP. It includes the time that the patient waits before the clinic opens.

CHAPTER 1: INTRODUCTION

1.1. Introduction

This chapter provides a background literature on the contributing factors to waiting times at health care facilities for TB and HIV services in the City of Johannesburg (CoJ). It also outlines the literature on waiting times, the justifications and the aim of conducting this study.

1.2. Background

Globally, HIV and TB have contributed to an increased volume of patients needing to regularly access chronic services at Primary Health Care (PHC) facilities (UNAIDS, 2016). The global burden of HIV has increased from 33,3 million in 2010 to 36, 7 million in 2016 with 1,8 million new HIV infections reported in 2016 (UNAIDS, 2017). A total of 20,9 million (56,9%) PWLHIV (People Who Live with HIV) had access to ARTs in 2016, an increase of 13,8 million from the figures reported in 2010 (7,1 million) (UNAIDS, 2016). Over this period, World Health Organization (WHO) guidelines shifted towards UTT – all HIV patients should be initiated be on ART (UNIADS, 2016). In addition, globally 6,3 million TB cases were reported in 2014 (WHO, 2015). This burden of disease has increased the demand for health care services, putting strain on the health system due to inadequate supply to meet the demand (WHO, 2007).

Human Resources (HR) is one of six WHO building blocks of the health system that requires strengthening (WHO, 2007). There has been a critical shortage of Health Care Providers (HCPs), with an estimated global shortage of 4,3 million in 2006 (WHO, 2010). Of the 57 countries that reported shortage of HCPs, 36 were from Africa, including South Africa (WHO, 2010). An additional 2,4 million professionals are required for the 57 countries to reach their targets (WHO, 2010). Nearly all countries

experience this shortage through the mal-distribution of staff, negative work environment, skill mix imbalance and weak knowledge base (Chen et al., 2004). This inequitable distribution of supply for the high demand of health care often results in congested facilities.

Congested health care facilities often result in long waiting times for patients before consultation with HCPs, leading to patient and staff dissatisfaction (Aharonson-Daniel et al., 1996). Long waiting times was reported as a key predictor of low satisfaction in health care facilities (Lazarevik and Kasapinov, 2015). It is therefore important to address issues related to waiting time, as it impacts on access and utilization of health care services.

In the last two decades in SA, complex multiple factors have contributed to the inflow of patients at health care facilities (UNAIDS, 2013; Gilson and McIntyre, 2005; WHO, 2010; Peberdy, 2009). The aim of the progressive policy of removing user fees at PHC facilities and hospitals for pregnant mothers and children in 1994, heralding the post-apartheid era, was a positive move towards universal coverage, as well as an effort to remedy the inequities of the past. Gilson and McIntyre have argued that contrary to political fears that free services would increase demand, patients seeking care did not irrationally swamp the services because they were free but rather, service use normalised over time (Gilson and McIntyre, 2005).

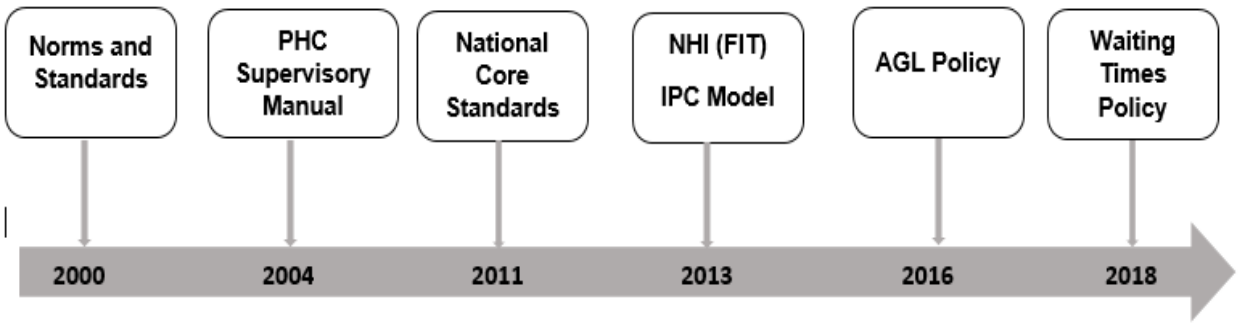
The HIV and TB epidemics in the last two decades have escalated the demand for services even further (UNAIDS, 2013). Campaigns were conducted to test more people for HIV and to screen for TB as per the country's National Strategic Plan (NSP) for 2012-2016 to meet the Millennium Development Goals (MDG) (NSP, NDoH 2011). The estimated number of PLWHIV was 7,1 million in 2016 with 63% co-infected with

TB (UNAIDS, 2017). SA has the largest ART programme coverage with an estimated three million patients initiated on ART by 2014/2015. In addition, SA has adopted the WHO's Universal Test and Treat (UTT) programme which states that all patients who test HIV positive, regardless of CD4 count should be initiated on ART (NDoH, 2016). The implementation of the UTT policy partly contributed to the increase of ART initiation to 3,9 million by the end of the 2016/2017 financial year (UNAIDS, 2017). This furthermore increased the demand for ART services.

The increased demand for services has had an effect on the South African health system, which also, has challenges with the supply. The supply side had been affected by HR shortages, for example, 33% vacant nursing posts were reported in one of the rural provinces in SA (Zachariah et al., 2009). The increased demand for services and decreased supply of HR has led to overcrowding with resultant long waiting times at facilities (Cleary et al., 2011; Sokhela et al., 2013; Rauf et al., 2008).

Many studies conducted in SA have shown that long waiting times in overcrowded facilities have resulted in patients' dissatisfaction (Cleary et al., 2011; Sokhela et al., 2013; Rauf et al., 2008). Health providers have also felt anxious about the prolonged waiting of patients at facilities (Gilson and McIntyre, 2005). As a result, since 2004 to date, there has been policy reforms to improve access to health services and reduction of waiting times, see figure 1 below.

Figure 1: Policy Reforms to address the waiting times in SA (2000-2016)



Partially in response to waiting times, the South African (SA) National Department of Health (NDoH) introduced a number of reforms. The norms and standards - a PHC tool was launched in the year 2000, looking at quality of care. In 2004, the NDoH introduced a PHC supervisory manual, followed by the National core standards (NCS) in 2011 (Primary Health Care Package, NDoH 2000; Supervisory Manual, NDoH 2004; NCS, NDoH 2011). Facility Improvement Teams (FIT) were established in the National Health Insurance (NHI) pilot facilities, to improve the gaps identified from the NCS (NHI, NDoH 2013). The Integrated PHC (IPHC) model was proposed as one of the ways of reducing waiting times for stable, chronic patients, by integrating services (Sibiya and Gwele, 2013). South Africa's Adherence Guidelines (AGL) for HIV, TB and Non Communicable Diseases (NCDs) was launched in 2016, with some of the objectives of the policy being to retain stable patients in health care by looking at different strategies to decongest/decant the health system (NDoH, 2016). Some of the strategies to reduce the waiting include: SFLA (Spaced Fast Lane Appointment), community adherence clubs (AC), which are anticipated to reduce waiting times to 1-2 hours, and the Central Chronic Medicine Dispensing and Distribution (CCMDD), where patients have pick up points for their chronic medication outside the facility. For

example, at the local pharmacy for CCMDD and at community halls or churches for the adherence clubs (NDoH, 2016).

Of late, the Gauteng Province Department of Health has developed a draft policy that was approved on the 31st July 2018 but not yet signed into legislation, which establishes benchmark waiting times of 85-175 minutes at PHC facilities (headcount of 3000 to 9000) and 85-180 minutes at CHC facilities (headcount of 23 000 to 30 000). These waiting times are however not specific to the ART or TB services but to all streams of outpatients, including chronic diseases e.g. TB, HIV.

1.3. Problem Statement

Long queues and prolonged waiting times in facilities in South Africa over the past two decades, have resulted in dissatisfaction of the users and health providers (Cleary et al., 2011; Sokhela et al., 2013; Rauf et al., 2008). The NDoH has developed a number of quality improvement tools and policies to address the problem, including the National Core Standards (NCSs), which guide the auditing of facilities and monitoring of waiting times (NCS, NDoH 2011). Some facilities have conducted quality improvement (QI) cycles in compliance with the NCS, while others have undertaken QI approaches due to recurrent patients' complaints which demanded the NDoH and the media's attention (NCS, NDoH 2011; Mahlangu, 2014). The most common recommendations made have been that more staff and task shifting (Emdin and Milson, 2012) are required to reduce the waiting times (NHI NDoH, 2013; Munyewende and Rispel, 2014). NDoH has recently introduced/launched the Adherence Guidelines (AGL) policy in an attempt to decongest facilities and address growing demand for chronic care, including from TB and HIV patients accessing ART (NDoH, 2016).

Some studies have looked at how time spent while waiting alters the patients' waiting experience (Soremekun et al., 2011; Armstrong et al., 2015). However, little is known about patients' and providers' experiences of the waiting times, and how the waiting impedes or enables: the access and utilization of services that require chronic engagement with the system, including TB and ART services, in a densely populated urban region in CoJ District, Gauteng Province.

1. 4. Justification

Experiences of service users and their interaction with providers are important in determining in-service access and future utilization of care for patients (Chimbindi et al., 2014). Better understanding of waiting experiences will help identify the impeding and enabling factors that contribute to the access and utilisation of health care in order to contribute to future policies and practices. The results of the study will be transferable to similar settings and chronic conditions.

1. 5. Research Question

How do patients and providers *experience* in-facility waiting times, and how does this impede or enable access and utilization of TB and ART services at health care facilities in a sub district, of the City of Johannesburg District, Gauteng Province?

1. 6. Study Aim

The study aims to investigate patients' and providers' experiences of waiting times of TB and ART services at health care facilities in a sub district in CoJ, Gauteng between 2008 and 2012. The objectives are:

- To describe the waiting times of patients utilizing TB and ART services at facilities in a sub district in CoJ

- To describe patients and providers' experiences of waiting times in TB and ART services at facilities in a sub district in CoJ.
- To describe waiting times barriers and enablers to accessing TB and HIV services at facilities in a sub district in CoJ.

1. 7. Literature Review

The global burden of TB and HIV has caused an increase in the number of patients that present at health care facilities (UNAIDS, 2016). In SA, HIV positive patients were initially eligible for ART at a CD4 count of 200 (2004), then 350 (2009), then 500 (2013), and currently all the patients that test HIV positive are eligible for ART regardless of their CD4 count. This includes TB/HIV co-infected patients (UNAIDS, 2014). In addition, UNAIDS has developed a 90-90-90 strategy for both HIV and TB based on modelling estimates (UNAIDS, 2014; WHO,2015). This implies that 90% of the people who are living with HIV (PWLHIV) should know their status, 90% of those who have been diagnosed as HIV positive should be initiated on ART and 90% of these should be retained in care and virologically suppressed by 2020 (UNAIDS, 2014). Similarly, in TB, 90% of patients should be screened for TB, 90% of those diagnosed with TB should be started on treatment and 90% of those started on TB treatment should have success as an outcome (WHO, 2015). Implementation of these policies are likely to increase the demand and put more pressure on the healthcare providers. SA has adopted the WHO policies on managing patients with HIV on ARTs (NDoH, 2016). SA has through the years increased their ART initiation criteria in alignment with WHO (UNAIDS, 2016). In 2016, SA adopted Universal Test and Treat (UTT) (NDoH, 2016).

In response to the increasing demand, Minister of Health, Dr Aaron Motswaledi launched the NCS in 2011, noting that waiting times needed to be fast-tracked for improvement in the quality of care at facilities (NCS, NDoH 2011). Waiting times have also been a concern for the public in the past few years (Mahlangu, 2014). Mischack Mahlangu from “E Health News” reported a protest in 2014 in Daveyton, Gauteng, following the death of an elderly patient that was waiting in a queue for health care service. This was not the first time that the long waiting times and long queues had been put in the public eye. The E news journalists found that waiting times in PHC facilities averaged five hours in one of the urban PHC facility that operated for eight hours (Mahlangu, 2014). This study will provide detailed information on waiting times in the City of Johannesburg. These experiences, although from 2012, remain vital to unravel, as reports show that long waits remain problematic for quality care and patient satisfaction.

1.7.1. Waiting Times and Interventions to Decrease Excessive Waiting Times

According to Sastry and others, waiting times are a challenge for health care systems in Africa and elsewhere. Lengthy waiting is associated with adverse outcomes like reduced willingness to return to the health facility, and compromised patient safety by increasing the likelihood of patients leaving the facility without consultation (Sastry et al., 2015).

In addition, long waiting times contributed to patients dropping out of ART care, missing appointments and not complying with chronic medication (Miller et al., 2010). The loss of wages associated with long clinic visits posed a major challenge to optimal ART adherence in studies that were conducted in Botswana, Uganda and Tanzania (Hardon et al., 2007). Long waiting times have also aggravated tensions and

scrambles amongst waiting patients as they did not want to lose their positions in the queue and feared that the clinic might close without being seen (Campbell et al., 2011). Waiting times are not easy to manage especially in PHC facilities (Stahl et al., 2011). All these studies agree that negative consequences can result from prolonged waiting times. As a result, my research explores how the waiting times impact the patients and HCPs.

In Sub Saharan Africa, health service waiting times of four hours or more are not unusual (Wanyenze et al., 2010). In PHC facilities, the average waiting time reported in Nigeria was six and a half hours, while it was five hours in Uganda and four hours (with a maximum waiting time of twelve hours) in Botswana. (Hardon et al., 2007; Wanyenze et al., 2010). The major reason for the prolonged waiting time was the inadequate number of health care providers, given the service load, which contributed 28% to long waiting at facilities (Hardon et al., 2007).

SA has experienced a high patient load and staff shortages in facilities in the past two decades. This has resulted in long queues and prolonged waiting times (Sokhela et al., 2013; Rauf et al., 2008; Zachariah et al., 2009). There is however, no clear definition of what constitutes prolonged waiting times in different settings. Most South African specific studies on waiting times have been conducted in the Emergency Department (ED) of hospitals rather than PHC facilities (Rauf et al., 2008, EMSSA Practice Guideline, 2012). Emergency Medicine guidelines recommend different waiting times based on how stable patients are (EMSSA Practice Guideline, 2012). Unstable patients that need immediate attention should be colour coded as red and attended to immediately without waiting, and stable patients should be colour coded as green and attended to within 4 hours (EMSSA Practice Guideline, 2012). Despite

the recommendation set, patients experienced long waiting times in the ED (EMSSA Practice Guideline, 2012).

The NCS recommends that audits be conducted regularly in order to reduce the waiting times in facilities (NCS, NDoH 2011). The NCS is a quality improvement tool that was introduced in 2011 in South Africa by the DoH to address the following priority areas: waiting times, values and attitudes of staff, cleanliness, patient safety and security, infection prevention and control, and availability of basic medicines and supplies (NCS, NDoH 2011). Quality is defined as “getting the best possible results within the available resources” (NCS, NDoH 2011). In 2012, a baseline assessment/audit was conducted in all health care facilities in South Africa, and the average score on waiting times in provinces was 68%, with Gauteng scoring the highest 79% (NCS, NDoH 2012). Waiting times scored the highest in most of the facilities when compared with the other priority areas, which was regarded as good performance (NCS, NDoH 2012). There is however, no clear indication of what constitutes an acceptable waiting time in different Departments within a facility (NCS, NDoH 2011). A number of quality improvement (QI) cycles were conducted in different settings in South Africa’s health care facilities. Tshwane District hospital conducted a QI cycle in their ED between May 2006 to December 2006, the average waiting time from arrival to the time of consultation for stable patients was reduced from 545 min to 89 minutes, and the unstable patients were attended to immediately without waiting (Rauf et al., 2008). Action Research conducted in a PHC facility in Cape Town from November 2013 to July 2014, showed a reduction of waiting times from 275 minutes to 129 minutes through the introduction of QI interventions that focussed on patients flow and triaging (NCS, NDoH 2011; Sastry et al., 2015). An audit conducted in Sedibeng facility in Tshwane as part of the National Health Insurance (NHI) pilot site

showed average waiting times of between 240-300 minutes which were reduced to 120-180 minutes following QI interventions (NHI NDoH, 2013). The QI interventions included reorganising patient flow, triaging and using a booking system for chronic patients with regular reviews conducted to assess performance (NHI NDoH, 2013). Gauteng Province Department of Health has recently developed a draft policy (approved on the 31st July 2018 but not yet signed into legislation), which establishes benchmark waiting times of 85-175 minutes in PHC facilities (headcount of 3000 to 9000), and 85-180 minutes in CHC facilities (headcount of 23 000 to 30 000). These waiting times are however not specific to the ART or TB services, but to all streams of outpatients, including chronic diseases e.g. TB, HIV.

The Integrated Primary Health Care (IPHC) model has been proposed as one of the ways of reducing waiting times for stable, chronic patients, by integrating services (Sibiya and Gwele, 2013). In South Africa, an IPHC policy was endorsed in 1996 however; the implementation thereof has been a challenge (Sibiya and Gwele, 2013). A study conducted by Sibiya and Gwele revealed that the integration of services was understood and implemented differently according to varying contexts (Sibiya and Gwele, 2013). The IPHC policy in the TB/HIV context would imply that all TB/HIV services will be provided at the same time, in the same room and by the same HCPs.

A study conducted in Malawi on integrating HIV and Family Planning (FP) services showed that integration didn't affect the waiting times even though it was noted that extra resources were required (extra equipment for more rooms as compared to when the service was offered in certain rooms only and not in all the rooms (e.g. scales) (Phiri et al., 2015). Sibiya conducted a study in Kwazulu-Natal (KZN), SA, which showed a reduction in waiting times after the integration of services in facilities (Sibiya and Gwele, 2013). However, a study in Zambia showed that the integration of ART

and Outpatient Department (OPD) services increased waiting times (Deo et al., 2012). This was ascribed, partly to how the health providers in the facilities used time (Deo et al., 2012). Anecdotal evidence showed that health workers were taking longer breaks between patients, as they needed to mentally switch from one patient to the next, as they consult patients that require different services (Deo et al., 2012).

1.7.2. Patients' and Health Care Providers' Experiences of Waiting Times

Patients and HCPs have their own experiences of waiting times. Soremekun et al in 2011 studied the manner in which time is spent and how waiting affects the way in which waiting time is perceived and experienced. They suggested that waiting time that is unoccupied feels longer than waiting time that is occupied. The WHO in 2010 stated that providing other activities to reduce unoccupied time (e.g. health talks), has an effect on the waiting experience. Waiting is also affected by the patient's psychological processing and life circumstances (Soremekun et al., 2011). Men that were formally employed and were rushing to go to work experienced waiting in an ART clinic differently (and more negatively) from women that were unemployed (Cleary et al., 2011).

A study that was conducted in KZN trying to fast track repeat patients seeking chronic care at facilities brought mixed feelings among patients. The patients that were in the fast queues found the system to be efficient as they were able to attend to their other commitments afterwards, whereas those that were not fast tracked found the system to be inefficient, and were unhappy with the long wait (Sokhela et al., 2013). Patients also tend to experience the waiting time as "long" when they see the providers being involved in activities not related to offering them services (Soremekun et al., 2011).

Waiting time is an important factor that contributes to patient's satisfaction (WHO, 2010; Chimbindi et al., 2014).

Lack of resources, especially human (HR), have been stated as the common reason for long waiting times in facilities (Sokhela et al., 2013; Rauf et al., 2008). Staff shortages due to vacant, unfilled positions, and planned and unplanned absenteeism, have resulted in long waiting times for the patients (Sokhela et al., 2013). This may also have impacted negatively on the facility manager's workload and health as they in many instances have to take on the other health providers' responsibilities (Munyewende and Rispel, 2014; Sokhela et al.,2013). A study that was conducted in South African hospitals to determine how unit managers spent their time on different activities during their working hours found that 25,8% was spent on patients care activities and 11, 8% on miscellaneous activities (Armstrong et al., 2015). This is contrary to what managers should spend their time on, (i.e. managing staff) (Munyewende and Rispel, 2014). HCPs have experienced waiting times as delaying implementation of other programs because of high patient load (Sastry et al., 2015). Health managers had to leave their own administrative work in order to assist in seeing patients when the queues were long in the facilities (Munyewende and Rispel, 2014). This has resulted in anxiety and burnout as they would be unable to attend to their other responsibilities and thus risk being referred to as inefficient (Munyewende and Rispel, 2014).

This however does not negate the role of task shifting in low resourced areas. Task shifting is a process of delegating duties from more specialised to less specialised HCPs (Samb et al., 2007). Nyasulu et al demonstrated that NIMART (Nurse Initiated Management of ART) in PHC facilities in Region F City of Johannesburg, done previously by doctors in hospitals, increased ART access without compromising

quality of care. However, this shift was supported by adequate capacity building (training and mentoring), and ongoing quality assurance in a form of conducting file audits (Nyasulu et al., 2012). WHO has published guidelines on task shifting of different staff cadres. These have been successfully implemented in other countries (WHO, 2010).

1.7.3. Effects on Waiting Times on Access and Utilization of Services

Long waiting times by users was shown to have an adverse effect on both the patients and the health care providers in PHC facilities in SA (Sastry et al., 2015). The waiting experienced by patients in PHC facilities can result in low satisfaction that can lead to poor adherence to treatment and, may affect their health seeking behaviours (Wagner et al., 2007; Colebunders et al., 2007; Hardon et al., 2007). It can affect patients' compliance to treatment and contribute to defaulter rates thus affecting access, utilization and patients' health outcome (Sastry et al., 2015). Therefore, waiting times are associated with access and utilization of health care services.

1.7.4. Conceptualising Access

Access is made up of three dimensions; availability, acceptability and affordability, which are closely linked (Thiede et al., 2007). Availability refers to geographic access, acceptability refers to cultural access, and affordability refers to financial access (Thiede et al., 2007). Financial access can be direct and indirect, with long waiting times being part of the indirect cost of care-seeking (Thiede et al., 2007). The long waiting times in a facility can cause financial risk for some patients, as they might lose income during the time spent in the facility waiting to utilise health care services (Thiede et al., 2007). Utilization is often confused with access; however, utilization refers to the actual use of the health services once barriers to access have been

bridged (Thiede et al., 2007). A variety of access factors can influence the utilization of services (e.g. prolonged waiting times) and long distance from the health facility (Thiede et al., 2007). Utilization can also be affected by an individual's choice to use services based on a prior experience (Thiede et al., 2007). Prior experience can therefore determine whether the patient will use the service again or not. The balance, or dynamics, between demand and supply factors also contributes to issues of access.

1.8. Conclusion

The waiting times in the TB and ART services can be affected by multiple factors, including large patient load given available staff (demand vs supply). This has a direct bearing on the users' and the providers' experiences of the waiting time, and how that would impede or enable future access and utilization of the services.

CHAPTER 2: RESEARCH METHODOLOGY

2.1 Introduction

This chapter describes the study design, study setting, study population, sampling methods and data collection. It further describes data management and analysis used in this study. It additionally includes the ethical concerns that the researcher considered.

2.2. Study Design

The study used secondary data analysis from the mixed method REACH study that comprised of patient exit surveys, in-depth interviews for both patients, health care providers and facility observations. The quantitative and the qualitative approaches were used to draw on a conceptual framework on access (Cleary et al., 2013), exploring the dimensions of availability, affordability and acceptability.

2.3. Study Setting

This study focussed on data collected in 13 health care facilities in a sub district in CoJ District, Gauteng. There are seven sub districts, which are referred to as Regions in CoJ. The study region demographics were last updated in 2001, so the more recent district-level demographics are presented here instead. City of Johannesburg Development plan showed that CoJ District is the fastest growing district in South Africa with a population of 5,05 million in 2016, an increase of 12,87% from 2011. It has an unemployment rate of 32.3%, a 7.8% increase from 2011 (IDP SA, 2017).

At the time of the study, ART services were less decentralised than TB services in this sub district. ART was collected on a monthly basis. Patients were required to collect

their files from the clerks, be weighed, see a counsellor for pill counting and then consult with a nurse (for basic monitoring). Every six months, stable patients would also consult with a doctor who would then prescribe repeat medication. At each monthly visit, the patient would then go and collect medication from the facility pharmacy. In certain circumstances, the patient would also have to see a social worker, a dietician or have their blood taken for testing. In some ART facilities, this was done in a different building. Each of these consultations and engagements required patients to queue before they could access care. At the time of the study, a down referral process was introduced for clinically stable patients. The clinically stable patients were down-referred from the specialised ART service sites to a lower level, the primary care level, preferably close to their homes for further monitoring and management. TB patients would come to the facility for daily DOTS. This meant the patient came to a PHC facility and to be given medication to drink for that day. TB patients were therefore seen more frequently than ART patients were, though their stay at the clinic would be shorter.

2.4. Study Population and Sample

The study population for both the quantitative and qualitative components of this study was a subset of the REACH study, which focussed on 13 facilities in one sub district in CoJ between 2008 and 2012. The study population of the quantitative component comprised users of ART and TB services in the 13 facilities. The sample comprised of 325 ART and 283 TB users. No sample size calculation was needed as all the available data for CoJ that had waiting times captured were utilized from the REACH study. The study population for the qualitative data comprised of users of the service and health care providers in the13 facilities. Of 17 HCPs interviewed, nine were from the TB tracer and eight from the ART tracer. Of the eight users of the services that

had in-depth interviews (IDIs), one utilised TB, two ART, three ART/TB and two TB/HIV services. The users of the services that were interviewed were categorised into successful and unsuccessful users of the service. A successful user referred to a patient who was receiving services at the facility at the time of the interview, whereas an unsuccessful user referred to a patient who had interrupted their treatment – either previously or at the time of the interview. The number of interviews conducted led to the attainment of data saturation. Table 1 below illustrates the study participants per tracer.

Table 1: Facilities and Patients' Qualitative and Quantitative data for analysis

	Exit Interviews		**In-Depths Interviews**	
	Facilities	Patients	Facilities	Patients
TB	10	283	10	1
ART	3	325	3	2
ART/TB				3
*TB/HIV	-	-	-	2
TOTAL	**13**	**608**	**13**	**8**

*These were patients that had HIV and TB but were not yet on ART as per HIV guidelines

2.5. Data Collection

The quantitative and qualitative data were collected during the REACH study, collated and utilized with no additional data collection required.

2.6. Variables of Interest

The outcome variable of interest for the quantitative component of this study is the waiting time, which is a numerical variable measured in hours in the ART tracer and in minutes in the TB tracer. It was collected from the time that the patient entered the facility and waited, to the time that a Doctor/nurse consulted the patient. Queue is an independent variable which is a categorical variable. Questions were asked whether the patients agreed, disagreed; or both agreed and disagreed that the queues to see a Doctor/nurse were too long. Demographic variables that were looked at were age, sex, marital status, race, education, employment and facility (ART and TB) from the REACH study. Age is a numerical variable which was collected in years. Sex (male/female), marital status (married/living with a partner/widow or widower/divorced or separated and single/never married), race (african or black/other), education (no schooling/grade 1 to 12/completed diploma/completed degree) and current employment (yes-fulltime/yes-part-time or not employed) are all categorical variables. The key themes used for the qualitative component were describing the queues and waiting, explaining the queues and waiting, activities during waiting and consequences of the waiting for both patients and health care providers touching on the overarching dimension of access from the REACH study. The patients' flow and the interaction between the patients and the health providers were extracted from the field notes from the observations that were carried out in the facilities.

2.7. Data Management

The REACH quantitative data was available on STATA version 10 data set, which was password protected. The data was checked for duplicates, missing values, inconsistencies cleaned to remove errors, duplications and to ensure its

completeness. The numerical variables waiting time and age were categorised, and educational status was further categorised to allow simplicity and appropriate analysis. Waiting time was categorised into 3 categories 1-2 ,3-4 and > 4 hours for the ART tracer and 4 categories < 10, 10-29 and > 60 minutes for the TB tracer. Age was categorised into age < 30, 30-39, 40-49 and > 50 years and educational status was categorised into no education, primary, secondary and tertiary education for both ART and TB tracer. The qualitative data was made available as transcripts and the field notes, which were given a unique number identifier, and pseudonyms were developed for those that were not de-identified. All the data will be kept for five years as per the requirement of the ethics committee.

2.8. Data Analysis

The analysis of the TB and ART quantitative data was conducted using STATA 14. The variables that were analysed were waiting times, queues, facility, sex, age, marital status, race, education and employment. Median and interquartile ranges as well as tables of frequency and percentage were used where appropriate, to describe the waiting times and the demographic characteristics of the study population, stratified by healthcare facility. Box plots were used to display the distribution of waiting time for ART and TB services by facility as well as the P-values of the Kruskal wallis and One-way Anova tests done to compare their distribution. A 5% level of significance was used for this purpose. The qualitative data analysis was conducted using thematic analysis (Chase, 2011), where codes were formulated for the ART and TB tracers and then grouped into themes for each tracer looking at the patients, health care providers and observations separately. The codes and themes were organised on an excel spreadsheet. Data from the quantitative and the qualitative components were brought together in the analysis.

2.9. Ethical Considerations

Ethical approval for the primary REACH study was granted by Wits University Human Resource Ethics Committee (HREC) R14/49/2008 (Appendix 6). Permission for REACH was also obtained from the Department of Health Provincial and Local health research committees in writing and verbally by the District managers. Written informed consent was obtained from participants for the surveys and in-depth interviews. For the observations, consent was obtained from the managers after staff were informed and posters were put up in the facilities for patients and staff's information (Cleary et al., 2012; Harris et al., 2014). For this study, permission was granted to the principal investigator for the use of the data (Appendix 5). Ethical clearance for secondary data analysis, was approved by the University of the Witwatersrand HREC M160638 (Appendix 7).

2.10. Study Limitations

2.10.1. Quantitative Component:

1. Study Design: Waiting times in the TB tracer had to be collected in minutes as compared to hours, as in the ART tracer.
2. There were missing values on the waiting times data in both ART and TB tracer. In ART only 325 values were captured in stata instead of 331 and 283 captured in TB instead of 297.
3. Recall bias: Waiting times could be unreliable as the data was based on what the participants reported and not the actual waiting times.

2.10.2 Qualitative Component

1. Secondary data leaves no opportunity in the research process to return to participants to clarify issues or follow up on responses that may have brought further clarity to the issue of waiting times

2.11. Dissemination of the Research Report

The results will be shared with Wits University School of Public Health in a form of a research report. They will also be disseminated to the Provincial and the City of Johannesburg Research committees.

CHAPTER 3: RESULTS

3.1. Introduction

This chapter provides the findings of quantitative and qualitative data analysis. The quantitative data was analysed using Stata 14 and the qualitative data was analysed using Microsoft Excel. The quantitative data relates to the exit interviews' variables described and analysed for the users of the ART and TB services. The quantitative data was collected in 13 facilities, 325 exit interviews conducted in three facilities offering ART services and 283 conducted in ten facilities offering TB services. The qualitative data shows the demographics of both users and HCPs in the TB and HIV tracer and also the summary of the results according to the codes and themes developed for users and HCP from the IDI and observations from both tracers.

3.2. Quantitative Data Findings

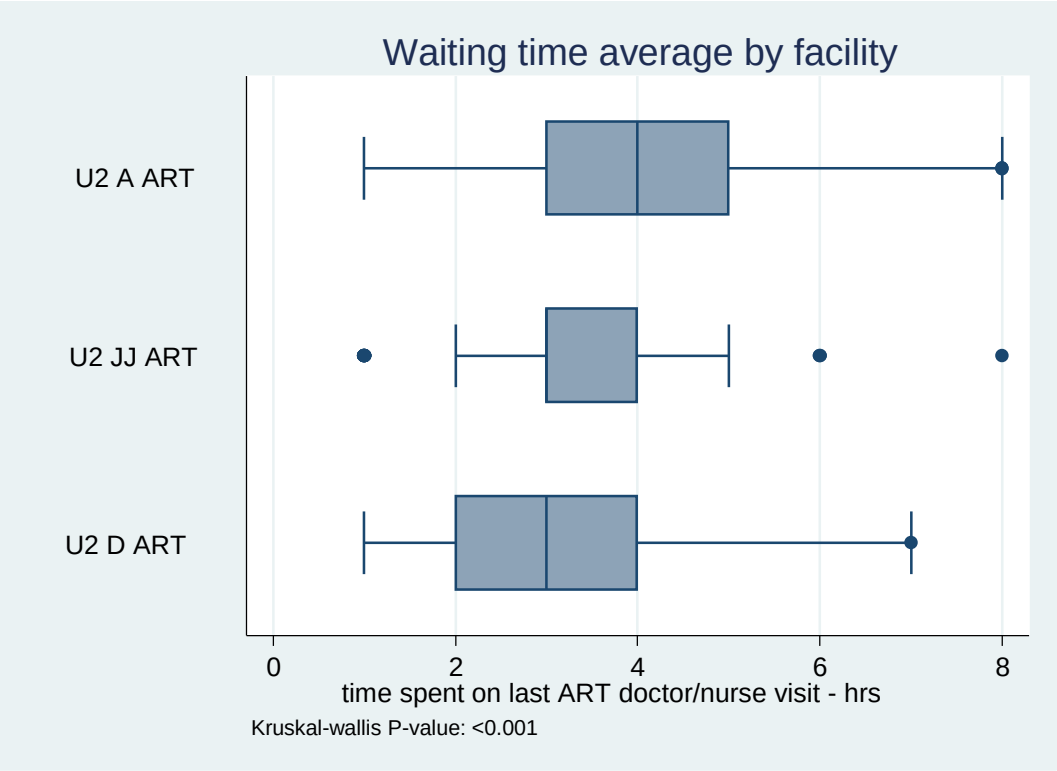
3.2.1. ART Tracer

Exit interviews were conducted on a total of 325 patients utilizing ART services in three facilities in CoJ as shown in Table 2. The mean age of all patients was 37.8 years (±8.8) and there were no marked differences across facilities, with a range of 20 to 66 years. The majority of the patients were females (80.6%), Africans (98.8%), single (65.8%), having secondary education level (77.8%), and unemployed (72.4%). In addition, majority of the patients (65.5%) agreed that the queues were too long. See table 2 below.

Table 2: Characteristics of Study Sample by Facility for ART services

Study sample characteristics		U2 A ART	U2 JJ ART	U2 D ART	Total
Sample size		N (%)	N (%)	N (%)	N (%)
		132(40.6)	87(26.8)	106(32.6)	325(100)
Age (years)	mean (SD)	38.6 (8.6)	36.7 (8.3)	37.7 (9.4)	37.8 (8.8)
	<30	21(15.9)	17(19.5)	21(19.8)	59(18.2)
	30-39	56(42.4)	37(42.5)	48(45.3)	141(43.4)
	40-49	41(31.1)	27(31)	22(20.8)	90(27.7)
	>50	14(10.6)	6(6.9)	15(14.2)	35(10.8)
Sex	**Female**	116(87.9)	66(75.9)	80(75.5)	262(80.6)
	Male	16(12.1)	21(24.1)	26(24.5)	63(19.4)
Race	**African/Black**	132(100)	83(95.4)	106(100)	321(98.8)
	Coloured	0(0)	4(4.6)	0(0)	4(1.2)
Marital status	**Married**	14(10.6)	14(16.1)	9(8.5)	37(11.4)
	Living with partner	8(6.1)	9(910.3)	14(13.2)	31(9.5)
	Widow/widower	10(7.6)	6(6.9)	5(4.7)	21(6.5)
	Divorced or separated	10(7.6)	6(6.9)	6(5.7)	22(6.8)
	Never married (single)	90(68.2)	52(59.8)	72(67.9)	214(65.8)
Highest level of education	**No Education**	2(1.5)	6(6.9)	6(5.7)	14(4.3)
	Primary Education	22(16.7)	13(14.9)	16(15.1)	51(15.7)
	Secondary Education	105(79.5)	64(73.6)	84(79.2)	253(77.8)
	Tertiary Education	3(2.3)	4(4.6)	0(0)	7(2.2)
currently employed	**Yes, full-time**	21(16)	14(16.5)	19(17.9)	54(16.8)
	Yes, part-time	14(10.7)	9(10.6)	12(11.3)	35(10.9)
	No	96(73.3)	62(72.9)	75(70.8)	233(72.4)
Queues	**Disagree**	18(13.6)	15(17.2)	42(39.6)	75(23.1)
	Agree	104(78.8)	60(69.0)	49(46.2)	213(65.5)
	Both Agree and Disagree	10(7.6)	12(13.8)	15(14.2)	37(11.4)

Fig 2: Waiting time for ART services in the City of Johannesburg (2008 -2012)



The outcome variable of interest is the waiting time, which was measured by the time that a patient waited to see a doctor or a nurse at the facility. The average time spent on last ART doctor/nurse visit was 4h (IQR:3-4), as shown in figure 2. There were some significant variations between facilities with the median waiting time for ART services being 4h (IQR:3-5) at U2 A ART hospital, 3h (IQR:3-4) at the U2 JJ ART hospital and 3h (IQR:2-4) at U2 D ART health care centre. The waiting time ranged between one to eight hours. Most of the patients waited for 3 to 4 hours (51.4%). The waiting time for ART services was shorter in U2 D ART facility and quite longer in U2 A ART hospital.

Table 3: Analysis of waiting time for ART services

Characteristics		ART waiting time categories			
		1-2h	3-4h	>4h	Total
Sample size		77(23.7)	167(51.4)	81(24.9)	325(100)
Age (years)	mean (SD)	39.6 (9.7)	37.0 (8.6)	37.6 (8.)	37.8 (8.8)
	<30	10(16.9)	36(61)	13(22)	59(18.2)
	30-39	33(23.4)	73(51.8)	35(24.8)	141(43.4)
	40-49	20(22.2)	43(47.8)	27(30)	90(27.7)
	>50	14(40)	15(42.9)	6(17.1)	35(10.8)
Sex	Female	59(22.5)	133(50.8)	70(26.7)	262(80.6)
	Male	18(28.6)	34(54)	11(17.5)	63(19.4)
Race	African/Black	76(23.7)	166(51.7)	79(24.6)	321(98.8)
	Coloured	1(25)	1(25)	2(50)	4(1.2)
Marital status	Married	10(27)	18(48.6)	9(24.3)	37(11.4)
	Living with partner	5(16.1)	20(64.5)	6(19.4)	31(9.5)
	Widow/widower	2(9.5)	14(66.7)	5(23.8)	21(6.5)
	Divorced or separated	4(18.2)	13(59.1)	5(22.7)	22(6.8)
	Never married (single)	56(26.2)	102(47.7)	56(26.2)	214(65.8)
Highest level of education	No Education	3(21.4)	9(64.3)	2(14.3)	14(4.3)
	Primary Education	15(29.4)	27(52.9)	9(17.6)	51(15.7)
	Secondary Education	59(23.3)	127(50.2)	67(26.5)	253(77.8)
	Tertiary Education	0(0)	4(57.1)	3(42.9)	7(2.2)
currently employed	Yes, full-time	12(22.2)	24(44.4)	18(33.3)	54(16.8)
	Yes, part-time	7(20)	21(60)	7(20)	35(10.9)
	No	58(24.9)	120(51.5)	55(23.6)	233(72.4)
Facility	U2 A ART	27(20.5)	48(36.4)	57(43.2)	132(40.6)
	U2 JJ ART	19(21.8)	54(62.1)	14(16.1)	87(26.8)
	U2 D ART	31(29.2)	65(61.3)	10(9.4)	106(32.6)
Queues	Disagree	26(34.7)	37(49.3)	12(16)	75(23.1)
	Agree	36(16.9)	111(52.1)	66(31)	213(65.5)
	Both Agree and Disagree	15(40.5)	19(51.4)	3(8.1)	37(11.4)

Most of the patients 51.4% waited between 3 and 4 hours, regardless of their demographic status e.g. age, sex, race, marital status, education or employment status. Majority of the patients agreed that the queues were long despite some of them waiting for 1-2 hours.

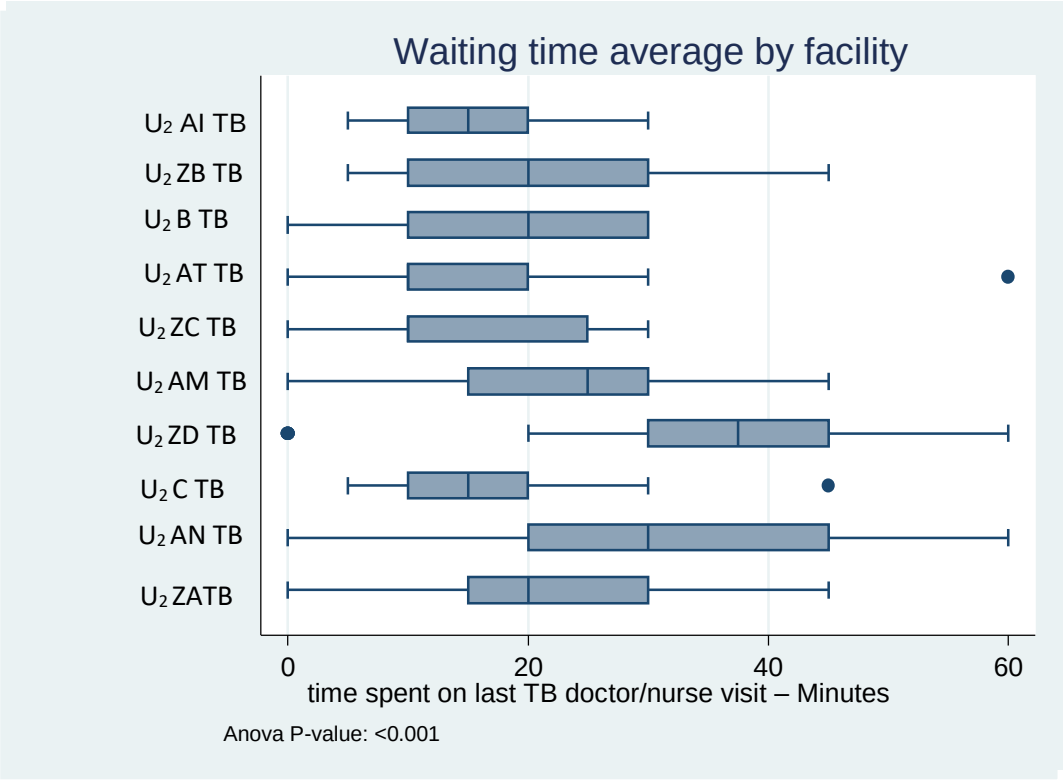
3.2.2. TB Tracer

Exit interviews were conducted on a total of 283 patients utilizing TB services in 10 facilities in CoJ. As shown in table 4, the age range for study participants was 18-64, with between 30 and 39 years old (36%), and the least were above 50 years. All the patients were of African race, with males utilizing TB services slightly more than females. The majority of patients utilizing TB services were single/never married with widows/widowers utilizing the services the least. Most of the patients were unemployed and had secondary education. Majority of the patients (92.9%) also disagreed that the queues were too long.

Table 4: Characteristics of Study Sample by Facility for TB Services

Study Population Characteristics		U2 A1 TB	U2 ZB TB	U2 B TB	U2 AT TB	U2 ZC TB	U2 AM TB	U2 ZD TB	U2 C TB	U2 AN TB	U2 ZA TB	Total
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Sample Size		25 (8.8)	30 (10.6)	31 (11.0)	27(9.5)	28 (9.9)	29 (10.2)	30 (10.6)	24 (9.5)	31 (11.0)	28 (9.9)	283(100)
age group	**<30**	5(20)	6(20)	11(35.5)	9(33.3)	5(17.9)	3(10.3)	9(30)	7(29.2)	10(32.3)	7(25)	72(25.4)
	30-39	10(40)	12(40)	10(32.3)	7(25.9)	10(35.7)	11(37.9)	9(30)	7(29.2)	12(38.7)	14(50)	102(36)
	40-49	5(20)	8(26.7)	6(19.4)	4(14.8)	8(28.6)	8(27.6)	5(16.7)	5(20.8)	7(22.6)	5(17.9)	61(21.6)
	>50	5(20)	4(13.3)	4(12.9)	7(25.9)	5(17.9)	7(24.1)	7(23.3)	5(20.8)	2(6.5)	2(7.1)	48(17)
sex	**Female**	13(52)	15(50)	12(38.7)	9(33.3)	14(50)	12(41.4)	17(56.7)	13(54.2)	18(58.1)	15(53.6)	138(48.8)
	Male	12(48)	15(50)	19(61.3)	18(66.7)	14(50)	17(58.6)	13(43.3)	11(45.8)	13(41.9)	13(46.4)	145(51.2)
marital status	**Married**	1(4)	3(10)	4(12.9)	6(22.2)	4(14.3)	4(13.8)	5(16.7)	1(4.2)	2(6.5)	5(17.9)	35(12.4)
	Living with partner	0(0)	0(0)	0(0)	6(22.2)	4(14.3)	6(20.7)	4(13.3)	0(0)	4(12.9)	6(21.4)	30(10.6)
	Widow/widower	2(8)	0(0)	3(9.7)	0(0)	0(0)	1(3.4)	2(6.7)	1(4.2)	0(0)	1(3.6)	10(3.5)
	Divorced or separated	2(8)	5(16.7)	3(9.7)	1(3.7)	1(3.6)	5(17.2)	0(0)	1(4.2)	2(6.5)	1(3.6)	21(7.4)
	Never married (single)	20(80)	22(73.3)	21(67.7)	14(51.9)	19(67.9)	13(44.8)	19(63.3)	21(87.5)	23(74.2)	15(53.6)	187(66.1)
highest level of education	**No Education**	1(4)	3(10)	0(0)	0(0)	0(0)	1(3.4)	0(0)	0(0)	1(3.2)	0(0)	6(2.1)
	Primary Education	3(12)	3(10)	7(22.6)	7(25.9)	9(33.3)	8(27.6)	8(26.7)	5(20.8)	3(9.7)	2(7.1)	55(19.5)
	Secondary Education	20(80)	22(73.3)	24(77.4)	20(74.1)	18(66.7)	19(65.5)	22(73.3)	19(79.2)	27(87.1)	26(92.9)	217(77)
	Tertiary Education	1(4)	2(6.7)	0(0)	0(0)	0(0)	1(3.4)	0(0)	0(0)	0(0)	0(0)	4(1.4)
current employment	**Yes, full-time**	4(16)	6(20)	6(19.4)	5(18.5)	5(17.9)	3(10.3)	7(23.3)	4(16.7)	5(16.1)	5(17.9)	50(17.7)
	Yes, part-time	1(4)	4(13.3)	2(6.5)	1(3.7)	2(7.1)	4(13.8)	3(10)	3(12.5)	2(6.5)	0(0)	22(7.8)
	No	20(80)	20(66.7)	23(74.2)	21(77.8)	21(75)	22(75.9)	20(66.7)	17(70.8)	24(77.4)	23(82.1)	211(74.6)
the queues to see a doctor or nurse are too long at this clinic	**Disagree**	25(100)	29(96.7)	30(96.8)	19(70.4)	25(89.3)	25(86.2)	30(100)	21(91.3)	30(96.8)	28(100)	262(92.9)
	Agree	0(0)	1(3.3)	0(0)	5(18.5)	1(3.6)	4(13.8)	0(0)	2(8.7)	1(3.2)	0(0)	14(5)
	Both agree and disagree	0(0)	0(0)	1(3.2)	3(11.1)	2(7.1)	0(0)	0(0)	0(0)	0(0)	0(0)	6(2.1)

Figure 3: Distribution of waiting time to access TB services at different facilities (2008-2012)



Most of the patients waited between 10-29 minutes with the exception of U2 AN TB and U2 ZD TB where most patients waited for a much longer period.

Table 5: Analysis of waiting time for TB services

Characteristics		<10 min N (%)	10-29 min N (%)	30-59 min N (%)	60 min+ N (%)	Total N (%)
Sample size		47 (16.6)	124 (43.8)	101 (35.7)	11 (3.9)	283 (100)
age group	<30	11 (15.3)	21 (29.2)	35 (48.6)	5 (6.9)	72 (25.4)
	30-39	22 (21.6)	44 (43.1)	34 (33.3)	2 (2)	102 (36)
	40-49	8 (13.1)	31 (50.8)	20 (32.8)	2 (3.3)	61 (21.6)
	>50	6 (12.5)	28 (58.3)	12 (25)	2 (4.2)	48 (17)
sex	Female	22 (15.9)	55 (39.9)	52 (37.7)	9 (6.5)	138 (48.8)
	Male	25 (17.2)	69 (47.6)	49 (33.8)	2 (1.4)	145 (51.2)
race	African/Black	47 (16.6)	124 (43.8)	101 (35.7)	11 (3.9)	283 (100)
marital status	Married	9 (25.7)	18 (51.4)	7 (20)	1 (2.9)	35 (12.4)
	Living with partner	2 (6.7)	15 (50)	12 (40)	1 (3.3)	30 (10.6)
	Widow/widower	3 (30)	2 (20)	4 (40)	1 (10)	10 (3.5)
	Divorced or separated	1 (4.8)	12 (57.1)	8 (38.1)	0 (0)	21 (7.4)
	Never married (single)	32 (17.1)	77 (41.2)	70 (37.4)	8 (4.3)	187 (66.1)
Highest level of education	No Education	2 (33.3)	2 (33.3)	2 (33.3)	0 (0)	6 (2.1)
	Primary Education	6 (10.9)	23 (41.8)	23 (41.8)	3 (5.5)	55 (19.5)
	Secondary Education	38 (17.5)	97 (44.7)	74 (34.1)	8 (3.7)	217 (77)
	Tertiary Education	1 (25)	2 (50)	1 (25)	0 (0)	4 (1.4)
current employment	Yes, full-time	12 (24)	22 (44)	13 (26)	3 (6)	50 (17.7)
	Yes, part-time	1 (4.5)	12 (54.5)	8 (36.4)	1 (4.5)	22 (7.8)
	No	34 (16.1)	90 (42.7)	80 (37.9)	7 (3.3)	211 (74.6)
Facility	U2 A1 TB	4 (16)	18 (72)	3 (12)	0 (0)	25 (8.8)
	U2 ZB TB	7 (23.3)	10 (33.3)	13 (43.3)	0 (0)	30 (10.6)
	U2 B TB	4 (12.9)	18 (58.1)	9 (29)	0 (0)	31 (11)
	U2 AT TB	5 (18.5)	19 (70.4)	2 (7.4)	1 (3.7)	27 (9.5)
	U2 ZC TB	6 (21.4)	15 (53.6)	7 (25)	0 (0)	28 (9.9)
	U2 AM TB	2 (6.9)	13 (44.8)	14 (48.3)	0 (0)	29 (10.2)
	U2 ZD TB	4 (13.3)	2 (6.7)	18 (60)	6 (20)	30 (10.6)
	U2 C TB	5 (20.8)	14 (58.3)	5 (20.8)	0 (0)	24 (8.5)
	U2 AN TB	7 (22.6)	1 (3.2)	19 (61.3)	4 (12.9)	31 (11)
	U2 ZA TB	3 (10.7)	14 (50)	11 (39.3)	0 (0)	28 (9.9)
the queues to see a doctor or nurse are too long at this clinic	Disagree	42 (16)	112 (42.7)	98 (37.4)	10 (3.8)	262 (92.9)
	Agree	4 (28.6)	6 (42.9)	3 (21.4)	1 (7.1)	14 (5)
	Both agree and disagree	1 (16.7)	5 (83.3)	0 (0)	0 (0)	6 (2.1)

The majority of patients (43.8%) waited between 10 to 29 minutes before accessing TB services. Of the 31 patients in U2 AN TB, 4 (12.9%) waited for over 60 minutes. Most of the patients in those facilities (92.9%) disagreed that the queues to see a doctor or nurse for TB services were too long.

3.3. Qualitative Data Findings

3.3.1. Facility observations and in-depth interviews with patients and HCPs

The three sources of qualitative data were i. observation notes from trained field workers, and transcripts of in-depth interviews with ii. patients and iii. health care providers from 13 facilities, see table 6 below.

Table 6. Data sources for qualitative data

PATIENTS		**HEALTH CARE PROVIDERS**		***FACILITY OBSERVATION**	
ART/TB	3	-	-	-	-
TB/HIV /ART	2	-	-	-	-
TB	1	TB	9	TB	10
ART	2	ART	8	ART	3
TOTAL	**8**	**TOTAL**	**17**	**TOTAL**	**13**

* Vertical programmes were observed separately

In-depth Interviews (IDs) were conducted on patients from selected sites. These IDIs explored the patients' experiences of being diagnosed with, accessing and receiving services at the facility. HCPs were interviewed from selected sites. Their IDIs explored career pathing, professional role and how that is different from the daily roles they had to assume, experiences with management of patients and dealing with challenges in the health system. Trained fieldworkers and researchers observed the space, activities and people at each facility, including interactions and waiting times. Observations were documented as diary entries, and through weekly debriefings amongst the field teams.

3.3.2. Themes and Codes for the ART and TB Tracers

Set within the overarching conceptual framework of “access”, the IDIs and observations were coded thematically as shown in the table 7 below’.

Table 7: Themes and Codes from the TB and ART Tracers

THEMES	Describing the waiting/ queues	Explaining the waiting/ queues	Activities when waiting	Consequences of the waiting /queue
CODES	Waiting in the Queues	Full Clinic	Use of time by patients	Patients Satisfaction
	Length of the Queues	High Workload	Use of time (Efficient and Inefficient use of time by HCP)	Adherence to Treatment
	Speed of the Queues	Migration		HCP Attitude
	Multiple Queues	Down referral		Patients Attitude
	Confusing Queues	Shortage of Staff		Quality of care
	Waiting Times	Poor Record Keeping		
	Interventions on Waiting Times	Lack of Resources		
		Patients Perspective: Frequent Repeat visits and incompetent HCP		

Four thematic areas were developed: describing the waiting/queues, explaining the waiting/queues, activities done while waiting and consequences of the waiting/ queue. The dimensions of affordability, availability and acceptability, which describes access are incorporated into the findings of the IDIs and observations’ transcripts.

THEME 1: DESCRIBING THE WAITING /QUEUES

Participants described their experience of waiting in various ways: the actual waiting times, length of the queues, speed of the queues, multiple queues, confusing queues and interventions on waiting times.

Waiting and Length of the Queues

Observations in ART clinics generally described the queues as long and that patients queued and were waiting before the clinics opened. A patient in the ART clinic stated:

> *"I find people waiting on the queues outside because the clinic is not yet opened. I will greet them and join the queue (Tsidiso Mlahleki, Facility V ART).*

In an A4 signpost, a clinic indicated the opening hours as of 7h00 to 16h00, Monday to Friday. However, the health care workers arrived late.

> *She says she doesn't know why the clinic staff are not here. I think it's because the clinic opens at 07h00. "Ah it depends, they can come at 07h45, or at 08h00 or at 08h30. It depends on their mood really". (U2 ART OBS)*

The HCPs attested to the long queues and attributed that to the large number of patients that they had to see.

> *"One of the problems is the number of patient ya (meaning 'yes') when a patient comes and sees so many patients unfortunately they have to queue and respect the queuing system and the filing system" (Dr N, Facility D ART).*

Patients sometimes try to take the system for granted and skip the queues intentionally; while other patients, like the new patients who unintentionally find themselves at the front of the queues, are then reprimanded by the other more experienced patients.

"*Out of frustration one of the patients rushed when the other man wanted to join the front of the queue. No, the queue starts there" (OBS, Facility JJ ART).*

Most observations in TB clinics confirmed that queues were short. When the researchers arrived in the morning, often, there would be 2 or 3 patients that were waiting. Waiting was also minimized for TB patients as their files were already with TB services. Those who came for TB treatment would go straight to the file container without queuing at the reception (unlike in ART clinics).

"You must remember those patients who come here every day they don't queue, they just come in and we give them the treatment (Student Nurse, Facility B TB).

Speed of the Queues

In the ART clinics, the movement of the queues were variable. The queues in certain departments tended to be faster in the morning and then slowed down as the day went on, whereas other departments remained congested for most of the day.

"*The pharmacy queue seemed to be the fastest. Pharmacy queue seems to be flowing fairly smoothly, the queue at the front of the room, on the right-hand side is congested and extremely slow" (OBS, Facility D ART).*

However, as the day went, "the pharmacy queue gets longer and slower" (OBS, Facility D ART).

In contrast to the patients in the ART clinic, the queues in TB services moved very fast especially because they were short.

"And when they arrive here they take treatment then they go (Student Nurse, Facility B TB).

Multiple Queues

Patients in the ART clinics had to join multiple queues, for different purposes. Before they could see a nurse or a doctor or get their medication, they had to be weighed and have their tablets counted. In addition, they often queued to collect test results from previous visits and ensure their folders were up-to-date:

> *"There was a queue for patients who just finished attending the adherence classes who were just about to start with their treatment, there was also a queue for patients who were waiting for their files to be stamped, there was a queue for those who were going for pill counting, the other queue was for those who were going to the doctors' consultation rooms and those who were going to the pharmacy (OBS, Facility D ART).*

In their interviews, ART patients from different facilities confirmed the multiple queues in which they had to wait before they were seen, as stated by one of the ART patients:

> *"They will arrange our files, after we go to the scale, we weigh, they do pill count and check if you are taking your medication properly, then after they write down the weight and tablets that are left and take you to the consultation room", (Tsidiso Mlahleki, Facility V ART)*

On the other hand, the TB patients were weighed, consulted and got medication from the same room, usually with the same provider. The only patients who had to join multiple queues were those who required injections, where a professional nurse was authorised to give injections.

> *"… there is an injection room opposite the TB clinic. The patient must wait and then get the injection come back, the ticks are made you get your green card and go home" (OBS, Facility C TB).*

Confusing Queues

The ART patient responses and observations made in the ART clinics attested to confusing queues. It was reported that the queues were very close to each other and were not always clearly signed/marked making it difficult for patients to know which queue to follow.

> *"We sit at wrong queues "(Malusi Moloi, Facility D ART).*

> *"The queues are most confusing for the first time users of the services, not entirely clear what a first-time user would do when they arrive" (OBS, Facility D ART).*

One of the patients expressed that the queues were confusing even to the HCPs themselves who work at the ART clinic:

> *"She (HCP) will, between the two (patients), show one of them to sit elsewhere, and that person will say it was not her who is supposed to move, only to find out that she is sending away the one who was not at the front of the queue and sending the one who was at the front to the back of the queue "(Jabulile Masondo, Facility B TB).*

However, HCPs felt it was a matter of patient education and orientation to the queuing system, which fell within the scope of staff working at the helpdesk:

> *"Ya (meaning yes) that's the role of the helpdesk to help and orientate them where to go", "Ya they know they are already educated…" (Dr N, Facility D ART).*

In contrast to the multiple confusing queues in the ART clinics, the following was observed in the TB services.

“The queuing system is very organized – not overloaded “(OBS, Facility ZD

Waiting Times

Patients in the ART services experienced prolonged waiting times. One of the patient stated

> “*Four to Five hours”, referring to the waiting times. (Tsidiso Mlahleki, Facility V ART).*

In addition, a patient that was on both TB and ARTs attested to the prolonged waiting times, especially as the services were not integrated:

> *“We go to Tala we wait there, we go to the scale to weigh, and leave the files, then from the scale we go back to our sits, and sit down we will wait for the doctor to come, when doctors are there we will be called according to the files and then we will see the doctor, after seeing the doctor we will go to the pharmacy to collect medication then you take it and go home that’s it (Thabisa Zulu, Facility A ART TB).*

Prolonged waiting has an impact on affordability either directly or indirectly for the patients. Some patients got hungry while waiting in long queues and would then require money to buy food. One of the patients complained.

> *“If I am late, I come out of the house at about 7h05 and I will stay in the clinic until 11am. By that time, I am already hungry”. (Tsidiso Mlahleki, Facility V ART)*

Jabulile Masondo was an HIV positive patient not yet on ART who attended only the TB clinic. She thought that the reason the patients wait for long was because they were perceived by the staff to come late to the clinic.

"So when you go the clinic late then you end up complaining that they don't attend you but at the clinic nurses always says that we should be there early so that they can give us their attention', (Jabulile Masondo ,Facility B TB ART).

In contrast to the prolonged waiting times in the ART clinic, patients in the TB clinic were attended to quickly.

" The average waiting time was 10 minutes" (OBS, Facility AN TB).

One of the TB HIV co-infected patients who was on ART and TB treatment shared the same experience about the TB services: She said.

"No it doesn't take long that side (meaning TB side) it's unlike on this side (meaning ART side)", (Lesedi Ledwaba, Facility B TB).

TB patients would start complaining if they waited longer than 10 minutes which is what many considered to be the average waiting time because the services were often fast and were expected to be fast.

"*The patients we see complain that they have been waiting for 45 minutes because the TB sister has gone for tea", (OBS, Facility C TB).*

Despite the short, quick, organised queues and reduced waiting times in the TB clinic, patients were expected to come more frequently than the ART patients, some had to come daily to get their medication or injections. One of the staff said.

"You must remember those patients who come here every day they don't queue, they just come in and we give them the treatment ", (Student Nurse, Facility B TB).

This has a bearing on affordability for some of the patients to come to the facility as most of them are unemployed. One of the TB staff members said :

" Majority are unemployed", said the VCT counsellor (VCT Counsellor, Facility C TB).

Interventions for the queues

In an attempt to reduce the waiting times in one ART clinic, the program manager had come up with an innovative queuing system for patients who had been on treatment for a while and were clinically stable to reduce their waiting times:

> *"With a repeat, the person still comes every month but they start at the admin, then have their pills counted, then go straight to the pharmacy (Program Manager, Facility D ART).*

THEME 2: EXPLANATIONS OF THE QUEUE /WAITING

The patients and HCPs believed that the reasons behind the prolonged waiting and long queues were the full clinic, busy clinic, high workload, and shortage of HCPs, lack of accountability where the HCPs arrive late for work, leave early and take extended lunch and tea breaks without consequences. The patients also perceived that the long queues could be due to HCPs' incompetence and frequent repeat visits for patients.

Full Clinic

The observations made in the ART clinics revealed that the facilities were full and the allocated waiting areas were not adequate for the patients to wait. In one of the ART facilities, it was full in the waiting area with patients occupying the T shaped space and some sitting on spilling over benches (OBS, Facility JJ ART). One of the patients explained why she thinks the clinic was full by saying.

> "…b*ecause there are many patients attending that clinic" (Tsidiso Mlahleki, Facility V).*

The TB clinics were not as full as the ART clinics but the clinics remained busy in varying degrees throughout the day.

> "*They are all equally busy in the morning (OBS, Facility AM TB) and the whole day they are busy until 16h00 (OBS, Facility AI TB).*

High workload

A HCP in one ART clinic felt that the long queues and prolonged waiting times were due to the high workload of staff:

> *"My workload is too much. Sometimes, when it's full. We don't go for tea", (Admin Clerk, Facility D ART).*

A HCP in another ART clinic agreed that the demand for services had been gradually increasing without an increase in the number of staff.

> "*Patient numbers have increased. We see more than 100 patients on a daily basis. [Picking up motivation letter for senior medical officer post reads]: Jan: 1300, Feb: 1160 (our lowest), March: 1380, April: 1414, May: 1623, June: 1732, July: 1655, Aug: 1528 (Program Manager, Facility D ART).*

The health care providers in the TB facility also described experiencing a high workload load though they recognised that their patients' workload vary from day to day. She said.

> *"You know that they differ by the day because sometimes you get 30 sometimes you get 25 and sometimes you get 18, you see that! If the day is busy, It's when you had 35 to 38 ", (Auxiliary Nurse, Facility D TB).*

The HCPs specified the different tasks that they had to do in a day that are added to their normal duties. The TB HCP said.

"Workload here is too much there is that paper work that you have to do" (Student Nurse, Facility B TB).

Migration

The HCP thought that migration was also part of the contributing factors to the long queues. The enrolled nurse and operational manager said.

> *"We have patients flocking from all over, some KZN, Cape Town and Lesotho", said the enrolled nurse (Enrolled Nurse, Facility D ART).*
>
> *"Migration impacting on patients' load? "Yes, plenty from other countries, plenty: Mozambique – they speak Portuguese-, Lesotho, Zimbabwe" (Programme Manager, Facility D ART).*

Down Referrals

Down referral of ART patients to lower-level sites (this process had just started at the time of the study) had increased the workload in the referring centres as medication had to be pre-packed for patient collection in primary care clinics, thus slowing down staff capacity. The program manager said.

> *"They are not only servicing patients at B directly but are also packing medication for patients at the two down-referral sites in AT and NN" (Programme Manager, Facility D ART).*

Despite being referred out to other facilities, some of the patients would come back and this, she felt, slowed down the process even further.

> *"They felt safer at B" than going to the new sites. You would down-refer them and the next month, they would be back at B for their treatment (Programme Manager, Facility D ART).*

Shortage of Staff and Task Shifting

The shortage of staff in the ART clinic contributed to the prolonged waiting times and long queues. The observations made in the ART clinic were that the queues moved slowly when some of the HCP were not physically there.

> *"…when there is a shortage of doctors, queues get stuck" (OBS, Facility D ART).*

The HCP believed that the shortage of staff was because of the high demand and vacant positions not being filled when HCP leave. The program manager said.

> *"Vacant posts not filled. In Oct 2006, a pharmacist was hired full time but he resigned in March 2008 and this post still hasn't been filled" (Programme Manager, Facility D ART).*

The shortage of staff had led to HCPs task shifting to try and close the gaps. The HCP said.

> *" Actually counselling is not my job, I am a nurse but I end up doing the non-Nursing duties for the sake of the patient", (Enrolled Nurse, Facility D ART).*

The shortage of staff was also a challenge in the TB clinic according to the observations made and most of the staff were task shifting. Managers also find themselves doing clinical work to assist. Some cadres of staff were allocated to do work that was outside their scope of practice and this could impact on the quality of care.

"TB services for instance at D are run by a nursing assistant which really needs a lot of me intervening in that area. Basically, yes, TB services are nurse driven, but it should be a professional nurse (Professional Nurse, Facility C TB).

Even non-clinical staff were taught to carry out work that was not within their scope. The following observation was made and confirmed by a general worker in another facility.

"…the cleaner was wearing a green coat, calling the patients into the consultation room and checking their results (OBS, Facility C TB).

"At the TB room I help out maybe by giving them their treatment" (general worker, Facility B TB).

The staff shared their own experiences of shortage of staff and nurses leaving the public sector. One of the professional nurses said.

"Nurses leave public sector because of the patient load. We attract but we never retain; people decide no, I am leaving, you find a nurse saying or I am going into business a nurse saying ah ah I am going to the private (Professional Nurse, Facility C TB).

Poor record keeping

The ART clinic observations showed that the poor record keeping by HCPs was contributing to the long queues.

"Having spent a good few hours inside the room looking for records amongst envelopes of unfiled "latest" blood results dating back a number of months, I am not particularly surprised that the queue is jammed at this entry point' (OBS, Facility D ART)

Incompetent HCP and Frequent Repeat visits

Patients in the ART clinic share their experience of what they thought caused the prolonged waiting times. The patients said.

> *"Because there are many patients attending that clinic "and "I did ask the sister, that sister doesn't have much knowledge about HIV" (Tsidiso Mlahleki, Facility V ART).*

> *"I want to stop, is this thing of booking me every month, I don't like it, I want them to give me repeats so that I can manage to go and make a living for myself (Malusi Moloi, Facility D ART).*

Lack of Resources

The staff were equally frustrated with the lack of IT resources and thought that this was contributing to the waiting times.

> *"This thing of writing with a pen takes time, but then, if we can use computers, things will be more faster (Admin Clerk, Facility D ART).*

THEME 3: ACTIVITIES DURING WAITING

Use of Time by Patients

While waiting, patients occupy themselves with different activities. In the ART clinics, patients were often observed to be chatting to each other, some would argue over the queues and others would talk about general matters.

> *"Yes, there we do have argument it is because some people do not follow the line" (Jabulile Masondo, Facility B TB ART).*

"If there is anyone that I know in the queue, I will talk to them (Malusi Moloi, Facility D ART).

In contrast, the patients in the TB clinics did not seem to chat much as they spent limited time in the TB clinic as compared to the ART clinic.

"They don't talk to each other they just sit and wait for their turn get their pills and go home," (OBS, Facility ZC TB).

The TB clinic had many posters on the walls and some of the patients read the posters as they waited:

"I think this clinic has the most posters than any other clinic we have visited. There are posters of various things on three gigantic green boards (one has 34 posters on it!)" (OBS, Facility C TB).

Use of time by the health care providers

Use of waiting time by HCPs to benefit the patients was also explored in this study. Some HCPs spoke of trying to efficiently and creatively utilise time to the benefit of the patients, while they waited, and to reduce their waiting times. The enrolled nurse said.

"I start with adherence classes because you find that some of them have to go to work after the class and by the time that the counsellors come in" (Enrolled Nurse, Facility D ART).

In an addition, the TB clinic auxiliary nurse made sure that the room is adequately prepared so that the patients do not have to wait for long. The auxiliary nurse said.

"I must make sure that all the pills that are dispensed a lot in the room are there, at least if they are finished they should be finished maybe in the afternoon

because when patients are here they mustn't wait for a long time (Auxiliary Nurse, Facility D ART),

. In the TB clinic, the waiting time in the morning was used for prayer,

"Mrs Primrose Suiping comes and tells us that "we first in the mornings, please come and join us." (OBS, Facility C TB).

On the other hand, there seemed to be inefficient use of time by the HCP from the patients' perspective and observation notes. The HCP arrived late and left early, seemed to be working less hours than stipulated on the working hours' signage, took extended breaks, disappeared during the course of the day and spent time on other personal activities while patients were waiting. One HCP said (contrary to what is on the signage):

"Mm mm not from 7 to four Monday to Friday. Seven till four Monday to Thursday then Fridays its seven till one o'clock "(Pharmacist Assistant, Facility D ART).

Observations made from the ART clinic showed that the clinic opened late and patients wait for two hours before the clinic opens (OBS, FACILITY D ART). One of the patients said.

"Supposed to open at 07h00 but come between 07h30-08h00. The staff at the ART clinic also come late and leave early. "(OBS, Facility D ART).

In both ART and TB clinics, observations were made of HCP taking extended breaks (tea and lunch times).

"The big nurse who was the first to go to the tearoom, she left the room at about 11h40 and went to the reception in front of the seats next to the door, she stood there with the other nurse talking/chatting "(OBS, Facility D ART).

"But at 12 o clock they all close their offices and go on lunch whether there are patients or not. The lunches go on for long time – 1h30-2hours (OBS, Facility AN TB).

Some of the HCPs were observed spending time on their personal mobile phones or engaging in activities that did not appear to be related to the patients who were waiting:

"has to leave patient to get to the phone, can sit and talk for quite a long time" (OBS, Facility JJ ART).

"Dr.N. comes strolling in from outside. I didn't spot him leaving so don't know how long he's been gone" (OBS, Facility D ART).

"Some of the clinic HCP were just all over the place as if they had nothing to do and yet people were waiting to be attended to (OBS, Facility D ART).

THEME 4: CONSEQUENCES OF THE WAITING / QUEUE

Patients' Satisfaction

Observations made in the ART clinic showed that the patients were dissatisfied about the long queues and prolonged waiting times.

"The only thing they were complaining about was the line "(OBS, Facility A ART).

Some patients were also complaining that the HCP seemed not to have the same understanding of the sequence of the queues

> *"While the patients were excited that they were told by Dr N that they don't have to go for pill counting, one of the counsellors called them to come and count their pills and they got upset, one of them was even swearing at the doctor for having moved them from where they were" (OBS, Facility D ART).*

New patients were also complaining as they did not know where to go and which queue to follow.

> *"there was a man who was complaining about him being new at the clinic and that he has been asking people about where he needs to go and no one has given him the right information, but he eventually joined the queue to the pharmacy "(OBS, Facility D ART).*

Some of the sick patients would leave the facility without being attended to because of the queues.

> *"One of the patients started complaining that a patient can't just leave the clinic without being attended yet they can see that the patient needs to see the doctor (OBS, Facility D ART).*

The professional nurse confirmed that the patients were dissatisfied with waiting and she had to stop what she was doing and attend to the patients.

> *"They come in between, complaining, you have to stand up, open some files, go and try to retrieve a file for the patient because they left the patient waiting while they are still doing something of course ", (Senior Professional Nurse, Facility D ART).*

While patients in the ART clinic were complaining of waiting for long hours, 4-5 hours, patients in the TB clinic complained if they waited for more than 40 minutes. The expectation was that they would come in, collect their TB treatment and they should be done in 10 minutes.

> *"The patients we see complain that they have been waiting for 45 minutes because the TB sister has gone for tea "(OBS, Facility C TB).*

> *"Say what about TB treatment then he mumbles something I can't hear but shows that he is clearly not satisfied with the clinic" (OBS, Facility C TB).*

Adherence to Treatment

One of the patients in the TB clinic had previously interrupted treatment at another facility because of queues. He said

> *"I decided I was no longer going there ". Looking at the queues in the nearby baby clinic he said "you see the line" pointing to the baby queue "it's not alright "OBS, Facility C TB).*

The reasons to interrupting treatment were also explored in this study. Some of the patients thought that patients were interrupting treatment because of how the staff treated them.

> "The way sisters are not treating the patients right "(Malusi Moloi, Facility D ART).

> "Some of the patients have already quited because of the treatment that they get" (Tsidiso Mlahleki, Facility V)

In contrast to the patients, HCPs thought the reasons that patients interrupted their treatment included non-disclosure to family or employers (e.g. patients would not have

disclosed to their employers and would miss the clinic when the employers start to question their absence from work) lack of affordability and advice by family to use herbal medication. They said.

"*They haven't disclosed to their bosses" (IDI, COO).*

"I didn't have money for transport ", (Senior Professional Nurse ……]

" they (relatives)] said no I mustn't take ARVs I must take muti from the inyanga," reported the Senior Professional Nurse and the Pharmacist.

HCPs' Attitudes

Attitudes of the HCPs differed, with some HCPs wanting to help the patients.

" The lines are moving. They don't take tea and lunch together and patients are never turned away despite the long queues" (OBS, Facility JJ ART).

Some HCP explain that they go an extra mile in an attempt to assist the patients not to wait longer and do duties that should have been done by other cadres of HCP.

"Actually counselling is not my job, I am a nurse but I end up doing the non-Nursing duties for the sake of the patient (IDI, Enrolled Nurse Facility D ART).

However, some patients perceived some of the HCPs to be rude and irritable because of the long queues. One of the pharmacist assistant was irritable and shouting in a loud voice and said.

"Next".

One of the nurses was observed disclosing the patients' confidential information in an attempt to control the queue.

> *"As the queues were complicated, one of the nurses came trying to determine how the queues were going and trying to allocate the patients according to where they are going, but she was shouting asking if all of them came for 3TC D4T and Stocrine and when no one was responding she was getting more irritated (OBS, Facility D ART).*

Certain patients were given priority by the staff, and were taken to the front of the queue as other patients waited. Some of those that were given priority were prisoners, and a probable staff member. The 'displaced' patients were not happy about it but did not complain. The following observations were made.

> *"The [dressed in] all-white woman then comes out of Sr P's office she is accompanied by an admin HCP and goes straight to the clinician without having to wait in the queue. The patients in the queue don't object, maybe they think she is a staff member also because she looks very smart (OBS, Facility D ART).*

Even though most of the patients did not complain, one of the patients voiced his frustration about unequal treatment. This was a patient brought to the clinic by the community councillor.

> *"To me that sister, that is in charge of the clinic, some of the people she treats very badly, but because I was brought by the counsellor, because she is afraid I might tell the counsellor "he said (Tsidiso Mlahleki, Facility V).*

Patient Attitudes

The patients had their own attitudes and perception about the staff that could be aggravated by the prolonged waiting:

"Whether we come here early or late, it is always the same because one can never get a better treatment, the HCP here is useless because they don't do their work like they love what they do "(OBS, Facility D ART).

After being seen by a nurse another patient said:

"ag, this sister thinks that we beg for medication' asked for cough mixture but not given to her" (OBS, Facility D ART).

The patients became irritable to other patients as they get to the pharmacy which was the last queue to wait in. An irritable man in the pharmacy snaps

"NEXT" to another patient who was not paying attention (OBS, Facility D ART).

"Other patients shout and shout and shout to each other "(OBS, Facility JJ ART).

Despite the fact that the waiting was long and some patients were upset and irritable to wait for that long, there were also benefits to the prolonged waiting as it gave treatment-experienced patients time to talk and encourage other patients.

"If you are a new member they will always accommodate you – they encourage you, speak about treatment, and explain issues, people are talking myths out there, you see us, it's so long we've been on treatment" (OBS, Facility JJ ART).

The HCP reported on the behaviour of the patients in response to the queues. Some felt that patients were deliberately coming "late" towards closing time knowing that they would not be chased away but that this would enable them to skip the morning queues. The HCP said.

"…maybe the patient walks in at about 11 o'clock. Because the clinic closes at 1 o'clock. …it's a half day and they know that "(Pharmacist Assistant, Facility D ART).

Quality of Care

Some of the HCP were roving, as a result, in a day they would be in one service point for few hours and then move to another service point. The Program manager of one of the ART facilities was concerned about the quality of care that could be indirectly affected and compromised by the roving as they would rush through their work to move to another service point. The programme manager explained.

"…the counsellors are placed at the clinic on a rotational basis – they rotate between the VCT, PMTCT and ART sites (Programme Manager, Facility D ART).

The time spent with the patient during a consultation was generally observed to be "short". However, as one programme manager explained, the time spent with a patient does not necessarily determine the quality of care received:

"You can spend 10 minutes with a patient and not provide quality care" (Programme Manager, Facility D ART).

CHAPTER 4: DISCUSSION

4.1. Introduction

This chapter discusses the results from both the quantitative and qualitative analyses and draws on the literature reviewed. The different data sources (observations, HCPs and patients' interviews, and patient exit surveys) are triangulated, and integrated in the discussion.

4.2. Discussion

The results from both quantitative and qualitative data showed that there was a difference in waiting times between the ART and the TB services, with waiting times at the ART clinics being longer than those at the TB clinics. In this study, the ART waiting times ranged from 1-8 hours with most patients (51.4%) waiting between 3-4 hours. This was in contrast to the waiting times at the TB clinics where patients waited for less than 2 hours with the majority (43.8%) of the patients waiting between 10 to 29 minutes. The qualitative data also showed similar findings with an average waiting times of 4-5 hours at the ART clinic and an average of about 10 minutes at the TB clinic. The main contributing factor to this waiting time differences was that, ART patients had to go through multiple queues before consultation by a HCP or collection of ARTs from the pharmacy. Whereas, a TB patient went directly to the TB room for DOT daily with their files usually kept in the treatment room. Similarly, at the time of the study, TB services were more decentralised than ART services and were thus more available geographically and numerically. These findings are in keeping with the waiting times reported at PHC facilities in Sub Saharan Africa and in SA. Wanyese et al (2011) noted that waiting times of about 4 hours were common in Sub Saharan Africa. Mahlangu in 2014 also affirmed that waiting times in SA averaged 5 hours at a

PHC clinic that opened for 8 hours. However, the studies were not conducted specifically at ART or TB clinics.

Additionally, this study showed that the long queues at the ART clinics were unacceptable to the majority (65.5%) of the patients, even for those that waited for a relatively short time. By contrast, at the TB clinics, the queues were acceptable to virtually all (92.9%). This is in keeping with the report by Sokhela et al (2013) who commented that patients in fast queues and those not waiting for a long time, found the system efficient and acceptable as compared to patients who waited in the queues for a long time.

Sastry et al in 2015 showed that long waiting times by users had an adverse effect on both patients and HCPs, as found in this study too. Patients were dissatisfied and complained, while HCPs were anxious about the repeated complaints that they had to deal with. The dissatisfaction of the patients due to the long waiting times resulted in adverse effects for the patients (for example, some patients left the facility without being attended to, while others interrupted treatment). This impacts negatively on the availability and affordability, as these patients have to come back on another day, of which they might not necessarily afford transport, as most were unemployed, or time off work, and thus, may interrupt treatment (Sastry et al., 2015). Other studies have also shown that a low level of satisfaction can lead to poor adherence, compromised patients ‘safety, and poor compliance to treatment, affecting health seeking behaviour of patients (Wagner et al., 2007; Colebunders et al., 2007; Hardon et al., 2007; Sastry et al in 2015). The acceptability of the services by the patients affects their access and retention in care (Thiede et al., 2007). Patients with high viral loads as a marker of non-adherence in ART services have often pointed to the unacceptability of the services, as witnessed by clinicians.

SA has no clear national standardised indication of what constitutes an acceptable waiting time or a short/long waiting time. Instead, baseline assessments have been conducted in facilities as per National Core Standards and any positive change from the baselines is recorded as an improvement, based on each facility (NCS, NDoH 2011). However, the new draft policy of the Gauteng Province Department of Health (approved on the 31st July 2018 but not yet signed into law), states that benchmarked waiting times should be 85-175 minutes in PHC facilities (headcount of 3000 to 9000) and 85-180 minutes in CHC facilities (headcount of 23 000 to 30 000) (GDoH, 2018). These waiting times are not specific to the ART, TB or TB/ART co-infected patients (bearing in mind that 63% of the patients are co-infected) but to outpatients with all integrated service. My study focussed on TB and ART services, as vertical programs, but most of these patients are co-infected, and a more integrated approach is needed.

Additionally, findings from this study have shown that many ART patients started to queue before the clinic opened and experienced the queues as multiple, slow moving, and confusing. Conversely, patients at TB clinics found the queues to be organised and fast. Despite the primary data collection in 2012, lengthy waiting times have continued to challenge the health system with implications for patient satisfaction and, in the rare cases, patient survival. Cullman in 2016 reported the increase in demand for ART services throughout the years in response to the changes in ART policy (for example the universal test and treat [UTT]). The adoption of WHO policies, has put more strain on the health system, and thus, has imparted the waiting times. Thus, waiting time policies are still being developed to address these challenges.

Studies have also shown that men that are formally employed are often in a rush to get to work; thus, they experience waiting at the ART clinic differently from women that were unemployed (Cleary et al., 2011). In men's experience, the waiting time is long

(Cleary et al., 2011). However, in this study, waiting did not appear to be experienced differently by gender or employment status. All had to wait for their turn to be attended to, except for those patients that had special needs (e.g. prisoners, very ill, and staff members) and all experienced longer waiting periods more negatively than shorter waiting times.

Soremekun et al in 2011 stated that patients tend to experience waiting times as “long” when they see the providers being involved in activities not related to offering patient services. This was evident in this study, because the patients reported that the HCP were taking extended tea and lunch breaks, opening the clinic late, leaving early and talking for extended periods over the phones. The patients had their own experiences about the role of the HCP which differed to the actual roles of the HCP in light of shortages of staff (for example the enrolled nurse having to do adherence counselling before she does her actual role of taking patients’ vital signs). The patients felt that some of the factors contributing to the long queues were administrative and clinical incompetence or incapacity of the HCPs. Poor record keeping and thus, missing files contributed to patients waiting for a long time in the queues. Lost files also indirectly compromised quality of care and patients’ safety. Opening a new file (duplicate file) meant that the information from the old file that had the patients’ clinical information and medical history is replaced by an empty file, compromising crucial decisions in the patients’ clinical management. This is currently a challenge in the health system with increased number of duplicated patients’ files and unconfirmed lost to follow up that are being observed on the new electronic ART register, the tier.net.

Patients also felt that the HCPs were slow, incompetent and often failed to correctly rebook patients for follow-up. However, this was the current policy at the time of the REACH study where patients were issued only a month’s supply of medication at a

time. The policy has subsequently changed, and stable ART patients are able to get a maximum of 2 months' worth of treatment while stable TB patients are able to get a maximum of 1 month's medication, instead of coming daily to the facility for DOT (NDoH, 2015). Furthermore, stable ART patients can be decanted to AC, CCMDD and SFLA and only seen annually by a clinician (NDoH, 2016).

HCP experienced long waiting times but generally understood this to indicate a high demand, which was not met by the limited supply for services. The HCPs considered that the high demand for services especially ART services was due to changes in policy, and the significant population growth from in-migration. HCPs also identified shortages of staff as a major factor contributing to the long waiting times due to limited supply. These findings were in keeping with findings from multiple research studies that reported lack of HR as the main reason for the long waiting times at facilities (Sokhela et al., 2013; Rauf et al., 2008). Findings in this study indicated that the shortage of staff was due to resignations, vacant positions that were not filled. NDoH has acknowledged this (Rudasa, 2017) ; however, financial constraints remain a challenge for the NDoH with vacant positions not filled promptly thus, further aggravating the shortage of staff.

The shortage of staff had, in both ART and TB services, resulted in task shifting. Task shifting is acceptable and allowed in certain settings, as long as it is within acceptable ethical and legal frameworks, as it was in this study in the ART services (for example, nursing assistants assisted with counselling duties). Nyasulu et al in 2012 demonstrated its efficiency in NIMART with professional nurses attending ART patients as opposed to doctors. However, task shifting if done inappropriately can compromise patients' safety and quality of care, for example, in TB services where a cleaner was issuing medication to patients. The pressure of task shifting and

undertaking multiple tasks might lead to burnout for staff and even adverse health effects on the HCPs. Munyewende and Rispel in 2014 showed similar findings that indicated that HCP, especially managers were burnt out and had anxiety, as they were unable to attend to their other responsibilities. This is a common observation in PHC facilities to date, where the facility managers are consistently consulting patients because of staff shortages, instead of attending to their managerial duties. In preparation for the NHI, NDoH has implemented a number of strategies to increase the production of HCP mainly through increasing staff levels (NDoH NHI White Paper, 2017).

Aside from the shortage of staff (especially those with clinical skills), paper work, and multiple registers that had to be completed, and this increased the workload in TB services. In this study, the paper work was the responsibility of the enrolled /staff /student nurse who ran the clinic. The NDoH has started utilising clerks for this function especially in high volume facilities.

Down referral was initiated as a way of reducing the workload (Nyasulu et al., 2012) but in this study it seemed to have increased the workload, as the process was still new. At the time of the data collection, ART clinics were still responsible for pre packing medication to the down referral sites. This was time consuming and HCPs mentioned that some of the down-referred patients were returning to the referring facilities for reasons such as stigma (e.g. patients would not want to access care in communities where they reside and are known). The decentralization of ART services from hospitals to PHC facilities, where ART patients are mostly managed by nurses instead of doctors, has partially addressed the workload challenge (Nyasulu et al., 2010). My observation is that since the period of the study, the workload has been addressed even further through the current Adherence guidelines policy where medication for

stable patients is prepacked by an external pharmacy supplier with only once a year visit to the facilities (NDoH, 2016).

To understand whether patients and the HCPs agree that the patients load in ART clinics were increasing, or whether it was leading to full clinics with long queues and waiting times, their views and experiences were compared. Patients in ART clinics experienced long waiting times, as well as multiple and confusing queues whereas the HCPs felt that these queues were straightforward and necessary. Additionally, in the HCPs experience, the shortage of staff was the major contributory factor, whereas, the patients ascribed the contributing factors to lack of governance/inefficient use of time by HCPs and staff incompetency. This was however in contrast to the TB clinic, in which the patients and HCPs both expressed short waiting time experiences, and the only concern for the patients was the inconvenience and, for some, the unaffordability of frequent clinic visits, thus hampering access.

Patients and HCPs started the day with singing and prayer every morning (the activity that the patients enjoyed) despite the long waiting time, before the facility opened. Studies conducted in PHC facilities with TB patients have shown that prayer can strengthen the relationship between patients and HCPs, and help to deal with power dynamics (Lewis and Green, 2009).

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter covers the conclusion of the study and the recommendations based on the findings of the study.

5.2. Conclusion

Although waiting times were long and of concern in the ART clinic, in the TB clinic, it was fairly short (92.9% of the patients disagreed that the queues were long) and of no concern. However, TB patients had frequent clinic visits which impacted negatively on access due to affordability. The TB patients found the short waiting times of about 10 minutes in the TB clinic acceptable, whereas the waiting times in the ART clinic were experienced as unacceptable. Efforts should be made at facility level to reduce waiting times in line with prevailing norms and standards. Waiting seemed democratic and was not specific to race, gender, age, education level or employment status. All patients had to wait to access ART or TB services.

The views of the HCPs and the patients were notable and can be used in planning for interventions to inform policy. e.g. patients experienced the queues as confusing patients' flow should be visible in every facility with the right signage for patients. Interventions could be developed for the use of time for both patients and HCPs, e.g. health educational videos for patients, so that they do not experience the long wait. The managers should take governance seriously so that staff are accountable for the use of their time especially in low resourced facilities.

Task shifting is a good innovation in response to the severe shortage of staff; however, if not done correctly, it can have negative consequences on the patients' health

outcomes (Nyasulu et al., 2012) . Task shifting should be within the legislative framework and should be supported by training, mentoring and ongoing quality assurance.

5.3. Recommendations

1. Policies on appropriate task shifting should be developed that will legally support implementers – Policy on Task shifting of TB/HIV services to staff /enrolled nurses e.g. these cadre of HCP were and are still currently running TB services in the facilities, they should be capacitated so that their current duties fits in with their Job Description
2. Signage on patients' flow should be visible in every facility and clearly labelled, including signage for Doctors rooms, counsellors, pharmacy etc.
3. Regular health talks by health promoters can be conducted regularly while health-related DVDs can be playing so that patients' time are occupied with health-related messages (most facilities have TVs).
4. The HCPs can have monthly group debriefing by a psychologist so that their work challenges do not affect their psychological wellbeing.

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TABLES:

Table 8: Socio-demographics of ART only patients (Qualitative Data)

Pseudonym	Age	Sex	Marital Status	Language	Highest Level of Education	Occupation	Who did they stay with	Year of HIV Diagnosis	Treatment Success
Malusi Moloi	37	Male	Single	South Sotho	STD 5	Soldier /Unemployed	Stays with uncle and the 2 brothers	2005	Successful ART
Tshidiso Mlahleki	Born 1957 (52)	Male	Married	Not Documented	Grade11	Unemployed	stays with the wife and one daughter	Prior to 2008	Successful ART

Table 9: Socio-demographics of TB treatment only patient (Qualitative)

Pseudonym	Age	Sex	Marital Status	Language	Highest Level of Education	Occupation	Who did they stay with	Year of HIV Diagnosis	Treatment Success
Lerato Modise	23	Female	Single	Sesotho	Not documented	Counsellor at the same facility	Mother, sister 2 kids	HIV Negative	TB Successful at C clinic

Table 10: Socio-demographics of ART/TB patients

Pseudonym	Age	Sex	Marital Status	Language	Highest Level of Education	Occupation	Who did they stay with	Year of HIV Diagnosis	Treatment Success
Thulani Zondo	35	Male	Single	Tswana	Std 5	Unemployed	Stays with his brother	2009	ART Defaulter, TB successful
Thabiso Zulu	38	Female	separated	Not Documented	std 9	Unemployed	stays with his 2 children	2009	Successful on ART and TB treatment

Naledi Tso	33	Female	Single	Zulu	Not Documented	Unemployed	Stays with grandmother, 2 children and 2 siblings	Dx 2004 but took it seriously 2007	ART Defaulter, TB unclear

Table 11: Socio-demographics of TB/HIV/ART patients

Pseudonym	**Age**	**Sex**	**Marital Status**	**Language**	**Highest Level of Education**	**Occupation**	**Who did they stay with**	**Year of HIV Diagnosis**	**Treatment Success**
Jabulile Masondo	42 (born 1968)	Female	Single	Sesotho	Not Documented	Not Documented	Stays with 2 kids, 19 and 5 years.	Not Documented	Successful TB user , but HIV +
Lesedi Ledwaba	38 (1971)	Female	Single	Zulu	Standard 4	Domestic Worker	Stays where she works with 3 other people	Dx in 1996	TB defaulter, ART successful

Table 12: Socio-demographics of ART Health Care Providers

Pseudonyms	**Age**	**Gender**	**Marital Status**	**Language**	**Occupation**	**Who does she/he stay with**
Karabo Shabangu	50yrs	Female	Married	Zulu	Programme Manager	Husband and 2 children
Nomathemba Mxeke	30-34	Female	Married	Zulu	Social Worker	Husband and a kid
Ntaka Ngwabe	43	Male	Married	French	Doctor	Wife and 3 kids, 4 students
Zodwa Mbeki	Not Documented	Female	Single	Zulu	Assistant Pharmacist	Alone
Azania Mhlongo	55-64	Female	Not Documented	Zulu	Senior Professional Nurse	4 people
Ayanda Ncube	Not Documented	Male	Not Documented	Not Documented	Outreach Officer (COO)	Not Documented
Motheo Gabaza	Not Documented	Female	Not Documented	Not Documented	Data Capturer/Admin Clerk	Not Documented

Table 13: Socio-demographics of TB Health Care Providers

Pseudonyms	Age	Gender	Marital Status	Language	Occupation	Who did she/he stay with
Sinazo Sibanda	25-30	Female	Single	Zulu	Student Nurse B	Six other people(Parents and siblings)
Lethabo Hlako	60	Female	separated	Sesotho	Home Based Carer/DOT supporter	Stays with her 2 children
Nhlanhla Dube	50 (45-54)	Female	Married	Zulu	Operational Manager B	Stays with her 2 kids and husband.
Nokuthula Mbau	25-34	Female	Single	Zulu	VCT Counsellor C	Stay with boyfriend and their 2 kids
Masego Simelane	45	Female	Divorced	Setswana	general worker C	stays with 2 children and 2 grandchildren
Violet Tshabalala	53	Female	Single	Not Documented	Auxiliary Nurse at D Clinic D	Stays with 2 sons
Evelyn Mathatha	No age	Female	Married	Zulu	VCT Counsellor D clinic D	Stays with family
Tiisetso Thokoa	Not Documented	Female	Married	Tswana	Health Promoter D	Not Documented
Primrose Suiping	54	Female	Married	Tswana	professional Nurse/OPS manager D	3 Children and 2 grandchildren

APPENDICES

APPENDIX 1: PLAGIARISM DECLARATION

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

SENATE PLAGIARISM POLICY: APPENDIX ONE

I Mamothe Machaka Helen Ratshefola (Makgabo) Student number: 0312895P am a student registered for the degree of MPH in the academic year 2014-2019.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to
- acknowledge the source of the ideas or words in my writing me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: _____ Date: 22 February 2019

APPENDIX 2: ART AND TB EXIT INTERVIEW

SECTION 1: SOCIOECONOMIC AND DEMOGRAPHIC BACKGROUND QUESTIONS ABOUT THE RESPONDENT, HIS/HER HOUSEHOLD AND HOUSEHOLD HEAD

READ OUT:

I am going to start by asking you a few questions about you and your household. When I talk about your household, I am including all the people who live in your house and who share the same food with you.

When I talk about your household head, this is the person who usually makes the important decisions in the household.

1.1 Sex		Male	1
		Female	2
1.2 Note the race of the respondent. If you are not certain, ask: How would you describe yourself racially?		African/Black	1
		Coloured	2
		Asian/Indian	3
		White	4
		Other (specify)	
1.3 What was your age at your last birthday? Fill in one block only	_____ Year born	_____ Years	
1.4 Who is the head of your household? By this, I mean, who is the person who usually makes the important decisions in the household. Indicate relationship e.g. father, mother not name.	_____ Relationship		**If respon-dent HHH, go to 1.9**
1.5 Code sex of HHH. If not clear ask: What is the sex of your HHH?		Male	1
		Female	2
1.6 Code position in HH of respondent. If unclear, ask: What is your position in the household, in relation to the household head such as …read out a few relevant options. Tick one block only		Head/acting head	1
		Husband/wife/partner	2
		Son/daughter/stepchild/adopted child	3
		Brother/sister/step brother/step sister	4
		Father/mother/step father/step mother	5
		Grandparent/great grandparent	6
		Grandchild/great grandchild	7

	Other relative (e.g. in laws or aunt/uncle)	8
	Non-related persons (tenant, boarder, lodger)	9
	Don't know	99
	Other (specify)	

1.7 What was the age of your HHH i.e. husband / father / mother etc. at his/her last birthday? fill in one block only	_____ Year born	_____ Years

1.8 Does your HHH i.e. husband / father / mother etc. stay with you for at least 2 weeks each month?	Yes	1
	No	0

1.9 What is your current marital status? Tick one block only	Married	1
	Living with partner	2
	Widow/widower	3
	Divorced or separated	4
	Never married (single)	5
	Other (specify)	

1.10 What is YOUR highest level of education? Tick one block only If the person is NOT the HHH ask What is the highest level of education of your HHH i.e. husband / father / mother etc.	**Type of education**		**You**	**Your HHH**
	No schooling		0	0
	Highest grade passed in school (1-12)			
	Completed diploma/certificate		13	13
	Completed degree		14	14
	Other (specify)	**You**		**Your HHH**

1.11 Are you currently employed working or earning money? If the person is NOT the HHH ask Is your HHH i.e. husband / father / mother etc. currently employed?	**Type of employment**	**You**	**Your HHH**
	Yes, full-time	1	1
	Yes, part-time	2	2
	No	3	3
	Don't know	99	99

If no or don't know go to

1.12 If respondent employed ask: Are you self-employed or do you work for someone else? If HHH employed, ask Is your HHH i.e. husband / father / mother etc. self-employed or does HE/SHE work for someone else?	Type of employment	You	Your HHH	Go to
	Self-employed	1	1	
	Employee	2	2	
	Don't know	99	99	

1.13 If respondent not employed ask: What are the reasons that you are not employed? Tick all that apply "Yes" and others "No"	Reason	Yes	No
	Studying	1	0
	Looking for work	1	0
	Retired or pensioner	1	0
	Sick or injured	1	0
	Pregnant or caring for own children	1	0
	Caring for other children	1	0
	Caring for sick/injured	1	0
	Retrenched	1	0
	Nothing	1	0
	Don't know	99	
	Other (specify)		

1.14 Including yourself, how many adults (18 years or older) live in your household? When I talk about your household, I am including all the people who live in your house and who share the same food with you.	
1.15 How many children younger than 18 years live in your household?	

APPENDIX 3A: ART AND TB SUCCESFUL PATIENTS' INDEPTH INTERVIEWS

PATIENTS WHO HAVE SUCCESSFULLY ACCESSED TB TREATMENT AND/OR ART

Before we start each interview:

Begin with an opening statement to introduce the interviewer, the topic and purpose of the interview and the research. Outline interviewees' rights (right not to answer specific questions, withdraw at any point, confidentiality, further questions at this stage?). Get the participant to sign the consent forms.

Moving to the interview:

1) Before we start talking about living with HIV/TB, I would like to get to know a bit about you. Can you tell me about the major events in your life? Perhaps we can start with when and where you were born?

Introduce the timeline.

2) Let's now talk about living with HIV/TB. When did it start and what happened?

[prompts: What happened next? And then? Tell me more about…].

Timeline cont.

2a) How are you coping with living with HIV/TB?

[or, for successfully completed TB treatment]:

2c) How have you coped with living with TB?

3a) For TB and HIV: Is this the first time that you have been sick in this way? [If not], please will you tell me about the other time(s) you had these symptoms. When did it start and what happened?

3b) *Also ask for HIV:* How long have you been unwell/were you unwell for? When did you first get sick and what happened?

Timeline cont.

For each care-seeking event:

4) Can you describe a 'typical' visit (to the clinic/TB etc), including your journey of getting there and back?

5a) Can you tell me about a visit that stands out for you/that you remember?

5b) Can you tell me about a time that you had a good visit? What made it good?

5c) Can you tell me about a time that you had a visit that was less good? What made it so?

6) In accessing this treatment, do you feel that you were/are treated fairly? Please tell me more.

7a) Are you currently attending a clinic/hospital for any other services or treatments?

If so

7b) Are you able to get everything you need at the same clinic/during the same visit? Please can you tell me more?

8) How is your life now different to how it was before you got ill?

9) Do you think your illness has changed how other people behave towards you? If so, please can you tell me more about these changes?

10) How has your (current) treatment changed your life?

11) Do you think that getting treatment has changed the way that other people behave towards you? If so, please can you tell me more about these changes?

12) Is there anything you would like to add, which can help us to understand your experience?

13) Before we say good bye, please can I get/confirm some basic details from you, like your:

- age,
- home language,
- employment status,
- marital status, and
- who else lives in your household.

If these details have already emerged through the story, 'answer' them to show that you have listened to the respondent.

14) Have you got any further questions? If there are, provide answers to those and offer information contacts/ leaflets.

Thank participant for their time, input and willingness to talk. Ask if they would be willing for us to contact them again. If so, what would be the best way to agree on a meeting (get cell number). If they are willing to be contacted again, explain that we may follow up with them in a few weeks if we have any further questions. Leave an updated referral list with relevant service provider contact details, including counselling services.

APPENDIX 3B: ART AND TB UNSUCCESFUL PATIENTS' INDEPTH INTERVIEWS

PATIENTS WHO HAVE NOT SUCCESSFULLY ACCESSED TB TREATMENT AND/OR ART

Before we start each interview:

Begin with an opening statement to introduce the interviewer, the topic and purpose of the interview and the research. Outline interviewees' rights (right not to answer specific questions, withdraw at any point, confidentiality, further questions at this stage?). Get the participant to sign the consent forms.

Moving to the interview:

1) Before we start talking about your illness, I would like to get to know a bit about you. Can you tell me about the major events in your life? Perhaps we can start with when and where you were born?

Introduce the timeline.

2a) Let's now talk about your illness. When did it start and what happened?

[prompts: What happened next? And then? Tell me more about…get a sense of symptoms].

Timeline cont.

2b) How are you coping with this illness?

3a**)** *For TB and HIV:* Is this the first time that you have been sick in this way? [If not], please will you tell me about the other time(s) you had these symptoms. When did it start and what happened?

3b) *Also ask for HIV:* How long have you been unwell for? When did you first get sick and what happened?

Timeline cont.

For each care-seeking event (i.e. related to each time the person had these symptoms):

4) Can you describe a 'typical' visit (to the clinic/traditional healer/GP/church etc), including your journey of getting there and back?

5a) Can you tell me about a visit that stands out for you/that you remember?

5b) Can you tell me about a time that you had a good visit? What made it good?

5c) Can you tell me about a time that you had a visit that was less good? What made it so?

6) In accessing this service, do you feel that you were/are treated fairly? Please tell me more.

IF the person previously went to a clinic and was treated for their TB [and it's not apparent from their story already], explore:

7) Can you tell me why you have decided to follow your current course of treatment [e.g. seeing a traditional healer] instead of going to a clinic like you did previously?

IF the person is currently defaulting [and it's not clear from their story already], explore:

8c) Can you tell me why you are no longer getting your treatment from the clinic?

8b) Are there any circumstances under which you would consider going back to the clinic?

9) How is your life now different to how it was before you got ill?

10) Do you think your illness has changed how other people behave towards you? If so, please can you tell me more about these changes?

IF the person is following some remedial course (as opposed to simply living with illness)

11) How has your current treatment (in whatever form) changed your life?

12) Do you think that getting treatment (whatever form) has changed the way that other people behave towards you? If so, please can you tell me more about these changes?

13) Is there anything you would like to add, which can help us to understand your experience?

14) Before we say good bye, please can I get/confirm some basic details from you, like your:

- age,
- home language,
- employment status,
- marital status, and
- who else lives in your household.

If these details have already emerged through the story, 'answer' them to show that you have listened to the respondent.

15) Have you got any further questions? If there are, provide answers to those and offer information contacts/ leaflets.

Thank participant for their time, input and willingness to talk. Ask if they would be willing for us to contact them again. If so, what would be the best way to agree on a meeting (get cell number). If they are willing to be contacted again, explain that we may follow up with them in a few weeks if we have any further questions. Leave an updated referral list with relevant service provider contact details, including counselling services.

APPENDIX 4: IN DEPTH INTERVIEWS FOR HEALTH CARE PROVIDERS ART AND TB

IN-DEPTH SEMI-UNSTRUCTURED INTERVIEW SCHEDULE FOR INTERVIEWS WITH HEALTHCARE WORKERS: ART

This interview schedule serves as a guide for the areas that we will explore with health care workers in in-depth interviews. The order of the areas explored will depend on the flow of the interview, and areas that the interviewee brings up.

This is a schedule for health care workers specifically dealing with ART services

Before we start each interview:

Begin with an opening statement to introduce the interviewer, the topic and purpose of the interview and the research.

Our team of researchers is conducting a project that aims to develop a better understanding of the barriers to obtaining health care faced by people living in South Africa. We would like to talk with you about your views on issues related to access to health care, with a specific focus on access to ART services.

Outline interviewees' rights (right not to answer specific questions, withdraw at any point, confidentiality, further questions at this stage?). Get the participant to sign the consent forms. Hand out the info sheet.

Moving to the interview:

Before we start discussing access-issues, I would like to learn more about you and how you came to be a 'nurse'/'doctor'/'clerk' [designation] within this [facility].

1. To start with, can you tell me how and why you came to be working in the public health sector?
    a. Explore professional trajectory.

Use timeline and plot key events, including schooling, training, previous facilities worked at, key people/influences

    b. Probe reasons for going into the health sector.

    c. When reach present facility
        i. Can I confirm your job title? How long have you worked here for?
        ii. Are you from the community where the facility is located?
        iii. Do you live in the community?

2. Can we move onto your role as a 'nurse'/'doctor'/'clerk' etc here: Can you please describe your average working shift? What do you do on an average day?

   a. Explore workload and complexity, decisions around which tasks to tackle first and why, relationships with management and patients.
   b. Map this – break down into a daily timeline and mark key daily events.

3. How is your actual working shift different to your official job description? Can you give me an example of this?
   a. Explore norms and realities and gaps between.
   b. How do you prioritise/juggle your daily tasks and patients and resources in any given shift?
   c. What would you like to see being done differently?

4. As I've explained, we are interested in exploring patients' access to ART services. Can you tell me what problems your patients face in accessing these services? Get a general list then specific prompts/examples:

   a. Can you tell us about any financial barriers?
   b. Can you tell us about any physical barriers?
   c. Can you tell us about any cultural barriers?
   d. Do patients face different problems at the beginning of their treatment to the end/at a later stage? If so, what are these and why?
   e. Other barriers?

5. How do these problems/barriers impact on your work?

6. Once a patient gets to your facility, what happens? Can you give me an example of a problem/challenge that a patient might have experienced with actually getting their treatment once they are at your facility?
   a. Explore: Are different socio-economic and race groups?
   b. How do you help your patients to overcome these problems/barriers?
   c. Also explore ARV policy.
   d. If there is a defaulter/complication, how is this communicated and how is this handled?

7. Can you tell us about the different types of patients you deal with?
   a. Who are the difficult patients and why?
      i. Explore whether these patients share a typical profile ito race, SES, language, ethnicity etc
      ii. How do you deal with them?
   b. Who are the easy patients and why?
      i. Ditto
      ii. How do you deal with them?

8. [If not covered above] Can you tell us about defaulting?
   a. Who are the defaulters and why do you think they default?
   b. What do you think can be done to minimise defaulting?

9. How do you feel the health system has changed with democracy since 1994?

a. Have there been changes in the care that people accessing ARTs need and the care that they are getting? Are these changes for the better or worse?
b. How have these changes impacted on your job?
c. How do you feel about the health system today?
d. How do you feel about being a [insert position/professional identity] today?

10. Are you seeing different types of patients today compared to those you used to see when you first started working with ARTs?
    a. Do they face different access problems today compared to previously? What are these?

11. How does your work affect you?
    a. What aspects of your work do you enjoy? Can you give me an example of something that you like in your job?
    b. What aspects do you like less? Can you give me an example of a difficult experience that you have had?

    [could be inter-personal issues, administrative tasks, organisation of tasks, patient-provider interactions etc]

Thank you very much for all of your insightful comments. Could I ask you a more personal question at this point?

12. Can you tell me what you would do if a family member/close friend needed ARTs?
    a. Explore what it means for them to be users of the system

13. Have you got any suggestions for how to improve the situation so that patients are able to successfully access good quality ARTs?

14. Before we say good bye, please can I get/confirm some basic details from you, like your:

- Age (perhaps ask them to tick a sliding scale so it doesn't seem too personal),

Sliding scale age:

18-24 ☐

25-34 ☐

35-44 ☐

45-54 ☐

55-64 ☐

65 and above ☐

- home language,
- marital status, and
- who else lives in your household.

If these details have already emerged through the story, ‘answer’ them to show that you have listened to the respondent.

15. Have you got any further questions? If there are, provide answers to those and offer information contacts/ leaflets.

Thank participant for their time and input. Explain that we may approach them for follow up informal discussions when we are conducting our facility observations. Remind them that talking about their jobs can be difficult and point out contact details for nearby/telephonic counselling services in case they would like to talk about any feelings that the interview or topic has raised for them.

IN-DEPTH SEMI-UNSTRUCTURED INTERVIEW SCHEDULE FOR INTERVIEWS WITH HEALTHCARE WORKERS: TB TREATMENT

This interview schedule serves as a guide for the areas that we will explore with health care workers in in-depth interviews. The order of the areas explored will depend on the flow of the interview, and areas that the interviewee brings up.

This is a schedule for health care workers specifically dealing with TB treatment.

Before we start each interview:

Begin with an opening statement to introduce the interviewer, the topic and purpose of the interview and the research.

Our team of researchers is conducting a project that aims to develop a better understanding of the barriers to obtaining health care faced by people living in South Africa. We would like to talk with you about your views on issues related to access to health care, with a specific focus on access to TB treatment.

Outline interviewees' rights (right not to answer specific questions, withdraw at any point, confidentiality, further questions at this stage?). Get the participant to sign the consent forms. Hand out the info sheet.

Moving to the interview:

Before we start discussing access-issues, I would like to learn more about you and how you came to be a 'nurse'/'doctor'/'clerk' [designation] within this [facility].

16. To start with, can you tell me how and why you came to be working in the public health sector?
    a. Explore professional trajectory.

Use timeline and plot key events, including schooling, training, previous facilities worked at, key people/influences

    b. Probe reasons for going into the health sector.

    c. When reach present facility
        i. Can I confirm your job title? How long have you worked here for?
        ii. Are you from the community where the facility is located?
        iii. Do you live in the community?

17. Can we move onto your role as a 'nurse'/'doctor'/'clerk' etc here: Can you please describe your average working shift? What do you do on an average day?

    a. Explore workload and complexity, decisions around which tasks to tackle first and why, relationships with management and patients. [maternal health – bed allocations]

b. Map this – break down into a daily timeline and mark key daily events.

18. How is your actual working shift different to your official job description? Can you give me an example of this?
    a. Explore norms and realities and gaps between.
    b. How do you prioritise/juggle your daily tasks and patients and resources in any given shift?
    c. What would you like to see being done differently?

19. As I've explained, we are interested in exploring patients' access to TB treatment. Can you tell me what problems your patients face in accessing TB treatment services? Get a general list then specific prompts/examples:

    a. Can you tell us about any financial barriers?
    b. Can you tell us about any physical barriers?
    c. Can you tell us about any cultural barriers?
    d. Do men and women face different barriers? If so, what might these be?
    e. Do patients face different problems at the beginning of their treatment to the end/at a later stage? If so, what are these and why?
    f. Other barriers?

20. How do these problems/barriers impact on your work?

21. Once a patient gets to your facility, what happens? Can you give me an example of a problem/challenge that a patient might have experienced with actually getting their treatment once they are at your facility?
    a. Explore: Are men and women different in the type of care they need and the way they are cared for? What about different socio-economic and race groups?
    b. How do you help your patients to overcome these problems/barriers?

22. Can you tell us about the different types of patients you deal with?
    a. Who are the difficult patients and why?
        i. Explore whether these patients share a typical profile ito race, sex. SES, language, ethnicity etc
        ii. How do you deal with them?
    b. Who are the easy patients and why?
        i. Ditto
        ii. How do you deal with them?

23. [If not covered above] Can you tell us about defaulting?
    a. Who are the defaulters and why do you think they default?
    b. What do you think can be done to minimise defaulting?

24. How do you feel the health system has changed with democracy since 1994?
    a. Have there been changes in the care that TB patients need and the care that they are getting? Are these changes for the better or worse?
    b. How have these changes impacted on your job?
    c. How do you feel about the health system today?

d. How do you feel about being a [insert position/professional identity] today?

25. Are you seeing different types of patients today compared to those you used to see when you first started working with TB treatment?
    a. Do they face different access problems today compared to previously? What are these?

26. How does your work affect you?
    a. What aspects of your work do you enjoy? Can you give me an example of something that you like in your job?
    b. What aspects do you like less? Can you give me an example of a difficult experience that you have had?

    [could be inter-personal issues, administrative tasks, organisation of tasks, patient-provider interactions etc]

Thank you very much for all of your insightful comments. Could I ask you a more personal question at this point?

27. Can you tell me what you do when you or a family member gets sick?
    a. Explore what it means for them to be users of the system

28. Have you got any suggestions for how to improve the situation so that patients are able to successfully access good quality TB treatment?

29. Before we say good bye, please can I get/confirm some basic details from you, like your:

- Age (perhaps ask them to tick a sliding scale so it doesn't seem too personal),
- home language,
- marital status, and
- who else lives in your household.

If these details have already emerged through the story, 'answer' them to show that you have listened to the respondent.

30. Have you got any further questions? If there are, provide answers to those and offer information contacts/ leaflets.

Thank participant for their time and input. Explain that we may approach them for follow up informal discussions when we are conducting our facility observations. Remind them that talking about their jobs can be difficult and point out contact details for nearby/telephonic counselling services in case they would like to talk about any feelings that the interview or topic has raised for them.

APPENDIX 5: CHP ENDORSEMENT LETTER

The Centre for Health Policy

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

20 April 2016

Members of the Ethics Committee
Faculty of Health Sciences
University of the Witwatersrand, Johannesburg

Dear Colleagues

RE: AUTHORIZATION FOR USE OF QUALITATIVE AND QUANTITATIVE DATA

I, Prof John Eyles, write to grant permission to MPH student, **Mamothe M.H. Ratshefola** to use secondary quantitative and qualitative data, collected during 2007 to 2012 for the Researching Equity and Access in Health Care Project.

I was the Principal Investigator on this project and as such, I am able to grant permission for further analysis with respect to the data.

In fact, the team involved in the project and I are very pleased that others wish to use the data, which will be examined under my supervision, as many avenues of academic and policy relevance remain to be more fully explored.

Yours sincerely,

John Eyles

_____

John Eyles, PhD Professor, Centre for Health Policy

SARChi Chair in Health Policy and Systems
Room 303, 3rd Floor,
Centre for Health Policy
School of Public Health Building
Wits Education Campus
Tel: 011 717 2220

APPENDIX 6: ETHICAL CLEARANCE FOR REACH STUDY

DEPARTMENT OF HEALTH

DIRECTORATE: POLICY, PLANNING & RESEARCH
Enquiries: Dr Likibi
Tel: (011) 298 2319/2316
Fax: (011) 298 2396
Email: Mupata.Likibi@gauteng.gov.za

Attention: **Prof Helen Schneider**

APPROVAL FOR RESEARCH CONDUCTED IN GAUTENG

Approval is hereby granted for the data collection within Gauteng Province for the below mentioned study by **Helen Schneider & Di McIntyre** (Principal investigators) from University of Witwatersrand & University of Cape Town. The study is titled: **Research Equity in Access to Health Care (REACH)**

This approval is limited/subject to:

- All ethical principles are observed and complied with during this study.
- Bi annual status reports to be submitted to GDoH
- A research report should be submitted electronically to the provincial research unit and the GDoH should be informed of the findings
- Details for publications of the findings to be communicated to the GDoH

Kindly note that it is also compulsory to request permission from the facility managers.

The Evaluator/Reviewer:
Siviwe Mkoka, Deputy Director: Policy and Research

Dr ML Likibi
Medical Specialist: Research and Epidemiology
Date: 06/06/08

APPENDIX 7: WITS ETHICAL CLEARANCE FOR THIS MPH STUDY

Human Research Ethics Committee (Medical)

Research Office Secretariat: Senate House Room SH 10004, 10th floor. Tel +27 (0)11-717-1252
Medical School Secretariat: Phillip Tobias Building, 2nd Floor Tel +27 (0)11-717-2700
Private Bag 3, Wits 2050, www.wits.ac.za Fax +27 (0)11-717-1265

11 July 2016

To Whom It May Concern

SUBJECT: **CONFIRMATION OF STUDY APPROVAL**

Protocol Ref No: M160638

Protocol Title: Patient and Provider Experiences of Waiting Times in a Sub-District in the City of Johannesburg

Principal Investigator: Dr Mamothe M.H Ratshefola

Department: School of Public Health

This letter serves to confirm that the Human Research Ethics Committee (Medical) has approved the above mentioned study. In order for a clearance certificate to be issued, the researcher is required to submit written approval to conduct the study in your district/institution.

The researcher has been informed that this letter is not a clearance certificate and that the study cannot commence without your approval and receipt of a clearance certificate from the HREC (Medical).

Should you have any queries, you may contact me at tel: 011 717 1252/1234/2700 or by email zanele.ndlovu@wits.ac.za

Yours Faithfully,

.....

Ms Zanele Ndlovu
Administrative Officer
Human Research Ethics Committee (Medical)

UNIVERSITY OF THE WITWATERSRAND
OFFICE OF THE DEPUTY VICE CHANCELLOR RESEARCH
11 JUL 2016
RESEARCH OFFICE HREC (Medical)
JOHANNESBURG

APPENDIX 8: TURNITIN REPORT

0312895p:DR_MAMOTHE_RATSHEFOLA_0312895P__FINAL...

ORIGINALITY REPORT

21%	21%	2%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.rmchsa.org Internet Source	16%
2	www.wits.ac.za Internet Source	1%
3	wiredspace.wits.ac.za Internet Source	<1%
4	scholar.sun.ac.za Internet Source	<1%
5	uir.unisa.ac.za Internet Source	<1%
6	open.uct.ac.za Internet Source	<1%
7	etd.uovs.ac.za Internet Source	<1%
8	www.hst.org.za Internet Source	<1%
9	www.statssa.gov.za Internet Source	<1%

Wits School of Public Health

HSP

20 February 2019

Dear Examiners

RE: Plagiarism Report- Dr Mamothe Machaka Helen Ratshefola (Makgabo) 0312895P

This letter serves to confirm that the above student has not plagiarised her work. The plagiarism that appears from the report is from the questionnaire that were used in the primary REACH study and from references utilised.

Regards

Supervisors

Prof John Eyles

John Eyles

Dr Bronwyn Harris

Kafayat Oboirien