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Faculty of Community and Health Sciences

Title: The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape

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ABSTRACT

The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape

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Although TB is a curable communicable disease, poor adherence to TB treatment is a major barrier to TB control in South Africa as it increases the risks of morbidity, mortality and drug resistance at individual and community level. As a result, multi-drug-resistant TB (MDR-TB) has become a serious public health issue. Underpinning this study was the assumption that a client-centred approach to treatment of MDR-TB clients, with a hospital programme which adopts an integrated multidisciplinary approach that is client-centred and is not purely bio-medically driven, would improve treatment outcomes of MDR-TB clients. The purpose of this study was therefore to evaluate the Integrated Client-centred Intervention Programme (ICIP) as a suitable intervention programme for ensuring interdisciplinary collaboration as well as treatment adherence and successful programme outcomes for TB clients, in order to revise/develop and evaluate the feasibility of rollout of the programme to additional sites.

The aim of this study was to evaluate the process and programme outcomes of the ICIP at DP Marais Hospital. The objectives of the study were to explore the participants' and service providers perceptions and experiences regarding barriers and facilitators of the ICIP; to explore the participants' and service providers perceptions and experiences of how the outcomes of the ICIP were addressed; to explore the perceptions and experiences of service providers regarding the barriers and facilitators related to the implementation of the ICIP programme; to determine the programme outcomes of clients who have participated in the ICIP; to determine the relationship between the participants` demographic characteristics and individual programme outcomes; and to develop strategies to enhance the implementation of the ICIP programme.

This study made use of a convergent parallel mixed-methods design where all data were collected simultaneously and then merged to provide a comprehensive analysis of the research problem. Purposive sampling was utilised for the selection of participants for the qualitative component of this study as it ensured representation of service providers and clients who participated in the ICIP. For the quantitative data collection, the participants were selected by means of convenience sampling and participants comprised only clients who had participated in the ICIP. Qualitative data-collection methods included semi-structured interviews with eight clients who had completed the ICIP, focus groups with eight service providers, and document reviews. Descriptive surveys were used to collect quantitative data from 92 clients who had completed the ICIP. All qualitative data were analysed using thematic content analysis while quantitative data was analysed using the Statistical Package for the Social Sciences (SPSS). The principles of ethics, namely, informed consent, confidentiality, anonymity, and voluntary participation were adhered to in the study.

The findings of this study revealed that medical dominance was the main constraint for the implementation of the ICIP as it resulted in poor discharge planning and therefore the lack of continuity of care for clients who re-enter their communities. The lack of buy-in from management was another significant finding and can be attributed to medical dominance and the lack of insight into the importance of psychosocial interventions for MDR-TB clients. Improved interprofessional relationships, structure and commitment from team members to continue with the ICIP emerged as facilitators for the successful implementation of the ICIP.

The findings of this study also drew correlations between participants' demographics and programme outcomes which highlighted the link between the social determinants of health and poor treatment outcomes of people with MDR-TB. The findings further revealed a disparity in positive experiences in terms of interpersonal relationships in the hospital environment when compared with the participants feeling stigmatised, isolated and lonely in their communities. Potentially destructive relationships in the community that promoted high-risk behaviour was also highlighted as a barrier to successful reintegration into the community. In addition, challenges experienced by participants in terms of putting their newly learnt skills into practice in their communities due to the lack of effective support at community level emerged as matters that need to be addressed in future interventions geared towards people with MDR-TB.

Additionally, the findings of this study showed that even though participants expressed the need for occupational engagement, physiological factors as well as the lack of resources, lack of support, poverty, unemployment and poor social support due to stigmatisation hindered their ability to engage in certain meaningful occupations such as work or physical activity. Reduced role performance owing to their experiences of occupational injustices was also highlighted.

It is recommended that a paradigm shift needs to take place that moves away from biomedically driven policies. This requires decision makers and leaders in the health sector to buy into the need for client-centred, integrated policies that address clients' behaviour and lifestyle as well as their medical needs. Furthermore, there needs to be a shift in organisational culture where the necessary links are made with other government departments as well as other sectors, including NGOs and CBOs, when clients are discharged from hospital as opposed to solely

referring clients to the nearest clinics for medical care. Additionally, the ICIP needs to be revised to include a fifth phase that focuses purely on facilitating effective reintegration into the community. Accordingly, a community-based intervention model emphasising the need for community-based rehabilitation for MDR-TB clients is proposed. Based on the findings, the significance of this study lies in its contribution to the development of comprehensive, integrated, multisectoral policies for people with MDR-TB and interdisciplinary intervention programmes to address the complexities of treatment adherence and treatment outcomes in clients who undergo long-term treatment for MDR-TB at both facility and community level.

KEY WORDS

Multi-Drug Resistant Tuberculosis

Client-centred intervention

Occupational therapy

Medical dominance

Occupational enrichment

Interdisciplinary

Programme

Programme evaluation

Process outcomes

Programme outcomes

ABBREVIATIONS AND ACRONYMS

ADL	Activities of Daily Living
AOF	Assessment of Occupational Functioning
ASSIST	Alcohol, Smoking and Substance Involvement Screening Test
AUDIT	Alcohol Use Disorders Identification Test
CBO	Community-Based Organisation
CBR	Community-Based Rehabilitation
CCM	Chronic Care Model
CDC	Centers for Disease Control and Prevention
CSO	Civil Society Organisations
DG	Disability Grant
DR	Doctor
DUDIT	Drug Use Disorders Identification Test
ENA	Enrolled Nursing Assistant/s
FBO	Faith-based Organisation
ICCC	Innovative Care for Chronic Conditions
ICIP	Integrated Client-Centred Intervention Programme
ILO	International Labour Organization
MDR-TB	Multi-Drug-Resistant Tuberculosis
MOCA	Model of Creative Ability
MSF	Médecins Sans Frontières
NPO	Non-Profit Organisation
NGO	Non-Governmental Organisation
OT	Occupational Therapy/Therapist
OTT	Occupational Therapy Technician

PEOP	Person–Environment–Occupation–Performance
PHC	Primary Health Care
Physio	Physiotherapy/Physiotherapist
PSR	Psychosocial Rehabilitation
Rehab	Rehabilitation
SA	South Africa
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
X-DR TB	Extensively Drug-Resistant TB

DECLARATION

I, NOUSHEENA FIRFIREY, hereby declare that *The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape*, is my own original work, that it has not been submitted for another degree at this or any other university, and that all sources I have used or quoted have been indicated and acknowledged as complete references.

FULL NAME: ………………………….

SIGNATURE: ………………………….

DATE: …………………………………..

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DEFINITIONS

Client-Centred Intervention: The client must actively set goals and participate in determining a plan (Baum & Christiansen, 2005).

Community-Based Rehabilitation: A strategy within community development for the rehabilitation, equalisation of opportunities and social inclusion of all adults and children with disabilities. CBR is implemented through the combined efforts of disabled people themselves, their families and communities and the appropriate health, education, vocational and social services (WHO, 2004).

Defaulter: A client who has not taken TB treatment for two months or more after starting treatment

Health and Well-Being: A state of complete physical, mental and social well-being and not merely the absence of disease (WHO, 1948).

Long-Term Hospitalisation: Hospitalisation of MDR-TB clients for a period of at least six months (Department of Health, 2009).

Multi-Drug Resistant Tuberculosis: Diagnosis given to clients who have TB that is caused by bacteria that are resistant to isoniazid and rifampicin, the two most effective anti-TB drugs (WHO, 2010c).

Programme Evaluation: Programme evaluation is a systematic way to improve programmes and account for actions that involve procedures that are useful, feasible, ethical and accurate (CDC, 1999)

Interdisciplinary Collaboration: To synthesise and harmonise the links between disciplines into a coordinated and coherent intervention plan (Choi & Pak, 2007).

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

The developing world is facing a grave challenge as tuberculosis (TB) places a burden on the public health system as one of the leading infectious causes of escalating morbidity globally. Tuberculosis remains one of the top ten causes of death worldwide, with over 95% of all deaths occurring in low-income and middle-income countries in 2016 (World Health Organization [WHO], 2017). According to the WHO (2019), TB is the leading cause of death from infectious diseases in the world today, ranking ahead of HIV/AIDS. WHO (2019) states that 87% of all new cases in 2018 occurred in 30 high-burden developing countries. South Africa holds the eighth highest estimated total of TB cases after India, China, Indonesia, Philippines, Pakistan, Nigeria, and Bangladesh (WHO, 2019), while multi-drug-resistant tuberculosis (MDR-TB) continues to be a global public health threat. According to WHO (2019), globally an estimated 500 000 people developed multi-drug-resistant TB (MDR-TB) in 2018.

In South Africa, the Department of Health (2008, 2009) has paid much attention to the socio-economic factors that influence the development of TB. Poverty, urbanisation, the impact of the HIV pandemic, poor health infrastructure and poor programme management are listed as factors that contribute to the increasing TB burden, while social issues are regarded as playing a key role in the progression of the TB epidemic (Department of Health, 2009). In elaborating on social issues that are related to the progression of TB, the department earlier declared that social issues such as poverty, stigmatisation of the disease, substance abuse, unemployment and limited access to healthcare facilities as well as poor support networks in the community have a serious impact on the treatment adherence of clients and therefore the progression of the epidemic in South Africa (Department of Health, 2004). Several authors concur with the Department of Health, stating that poverty, undernourishment, and poor living and working conditions exacerbated by social injustice as well as political instability provide a fertile ground for the progression of TB (Leinhardt, Glaziou, Uplekar, Lonnroth, Getaun and Raviglione, 2012).

Although TB is a curable communicable disease, poor adherence to TB treatment is a major barrier to global TB control as it increases the risks of morbidity, mortality and drug resistance at an individual and community level (WHO, 2003). As a result, multi-drug-resistant TB (MDR-TB) has become a serious global public health issue. The World Health Organisation (WHO) (2016) states that globally, an estimated 480 000 people developed MDR-TB in 2015. MDR-TB is caused by bacteria that are resistant to isoniazid and rifampicin, the two most effective anti-TB drugs (WHO, 2010c). According to the Department of Health, the long duration of treatment for MDR-TB requires discharge from hospital while still infectious; discontinuance of treatment due to poor adherence and adverse effects of the medication significantly impacts MDR-TB treatment outcomes in South Africa (Department of Health, 2008).

The medical treatment of MDR-TB has been a lengthy process historically. For instance, South African MDR-TB clients were required to be on treatment for a period of at least 18–24 months (Department of Health, 2004). This included compulsory hospitalisation for a period of at least six months or until at least two consecutive monthly sputum cultures were negative prior to discharge to ensure that clients were no longer infectious when re-entering the community (Department of Health, 2009). On discharge, clients would continue their treatment at a primary healthcare facility where they were monitored monthly by the MDR-TB unit. Monthly monitoring of MDR-TB included regular drug susceptibility testing, counselling and support from a social worker or nursing professional so that should treatment be interrupted, the situation could be handled promptly and effectively (Department of Health, 2004). Clients in a poor clinical condition, with a previous history of treatment interruption, and those with complications such as haemoptysis or severe side effects, however, were not eligible for discharge or ambulatory (outclient) care (Department of Health, 2008). Treatment outcomes, nevertheless, remained consistently poor on this regimen. As a result, clients would remain hospitalised for months causing a long waiting list for clients who required hospitalisation (Department of Health, 2011). Owing to the rise in client numbers and the unavailability of hospital beds, the guidelines were revised in 2011. The revised policy framework included the management of MDR-TB in decentralised units or in the community, using mobile teams (Department of Health, 2011). While the newly developed policy framework on decentralised and deinstitutionalised management of drug-resistant TB provides guidance for the management of stable MDR-TB clients closer to their homes in health facilities and in the community, long-term hospitalisation is still required in cases where complications such as a previous history of treatment interruption, haemoptysis or severe side effects to medication arise as a result of MDR-TB (Department of Health, 2011).

In 2016, WHO recommended a shorter treatment regimen for MDR-TB based on research done in Bangladesh (WHO, 2016). Clinical trials were conducted in South Africa with positive results (Conradie, Diacon, Mendel, Van Niekerk, Howell, Comins & Spigelman, 2016). As a result, since September 2018, injectable-free regimens have been made available to treat MDR-TB in adults and children of all ages in South Africa (Department of Health, 2019). According to the Department of Health (2019), a short injectable-free treatment regimen of 9–11 months may be used for MDR-TB provided specific criteria are met, that is, persons with MDR-TB who had no prior exposure to second-line TB medicines (medication used to treat DR-TB); uncomplicated MDR extra pulmonary TB (pleural effusions, lymphadenopathy); people living with HIV, pregnant women, children younger than 12 years. Furthermore, adults and children who do not meet inclusion criteria for the short regimen will be offered a long injectable-free treatment regimen of 18–20 months. While some clients may initiate treatment with a short regimen, they could then switch to a long regimen once further diagnostic or other relevant information becomes available. Recommendations on the duration of the short and long treatment regimens are based on WHO guidance on the short-course regimen (WHO, 2018) and new data presented in *The Lancet* on the expected effects of shorter regimens (Kendall, Fojo, & Dowdy, 2017; Sotgiu et al., 2016). The MDR-TB treatment regimen exposes clients to significant adverse effects and the drugs are poorly tolerated. As a result, low completion rates are common. For this reason, maintaining treatment adherence on even a shortened regimen appears to be a challenge without adequate support from healthcare workers (Cox et al., 2017).

1.2. RATIONALE FOR THE STUDY

During the time I spent as an occupational therapist at one of the TB hospitals in the Western Cape I became increasingly aware of how the management of TB was driven by the medical model with very little focus on the psychosocial factors affecting the progression of the disease. In addition, the role that occupational therapists play in the management of TB was not clearly understood by other members of the multidisciplinary team. My reflections on the role that occupational therapy could play in addressing poor treatment outcomes in MDR-TB clients inspired me to conduct an initial study that explored occupational adaptation as experienced by adults with MDR-TB who were undergoing long-term hospitalisation. The findings of the study showed that the participants associated the hospital environment with negative experiences, resulting in their needs not being met (Firfirey, 2011). As a result, they experienced occupational injustices such as institutionalisation, reduced role performance and an inability to set goals. Moreover, they engaged in high-risk behaviour as a coping mechanism. While maintaining routines and actively engaging in the programme proved to be beneficial for some participants as it allowed them to use personal factors such as resilience and spirituality to overcome barriers to occupational adaptation, there were other participants that felt that the programme did not cater for any of their needs, interests or skills.

The aforementioned findings led to the recommendation that a client-centred approach is imperative in the treatment of MDR-TB, where the hospital programme should move away from a purely biomedical approach and adopt a more integrated approach where clients' thoughts, feelings and needs be considered and that decisions are made in collaboration with the clients. In addition, occupational injustices that contribute to institutionalisation need to be addressed through the strengthening of support systems inside and outside the hospital. Of importance are the provision of opportunities for acquiring new skills with the inclusion of activities that facilitate spirituality, address clients' need for autonomy and facilitate occupational adaptation through occupational enrichment programmes (Firfirey, 2011).

Accordingly, the study informed the development of the Integrated Client-Centred Intervention Programme (ICIP) for clients hospitalised for TB. In addressing the implementation of the ICIP, Firfirey and Hess-April (2014) proposed that the ICIP adopt an interdisciplinary approach. They state that adopting this model of practice at the hospital requires a comprehensive and an integrative intervention approach that involves all members of the multidisciplinary team: occupational therapists and assistants, physiotherapists, psychologists, lay counsellors, social and auxiliary workers, as well as doctors and nurses. An integrative intervention approach entails having each team member establish their role within the programme in terms of the services they provide so that there is greater synergy between the services provided and so that clients can be managed holistically (Firfirey & Hess-April, 2014).

The ICIP encompasses four phases that should commence as soon as the client is admitted to hospital and continue until he/she is discharged. ***Phase 1*** is the assessment phase which takes place within the first two weeks of admission to the hospital. It is required for each team member to do an assessment based on their scope of practice. ***Phase 2*** is the orientation and preparation phase where each team member orientates the client to specific services available within their scope of practice. The duration of Phase 2 is two weeks and aims to allow the client to adjust to the hospital environment. ***Phase 3*** is the intervention phase. Compulsory interventions such as taking medication and interventions specific to the biological progression of the disease and physical well-being of the client, for example, chest physiotherapy, mobilisation and endurance training, are performed. All psychosocial interventions aimed at deinstitutionalisation are provided to clients on a voluntary basis. The duration of Phase 3 depends on the period for which the client is hospitalised. ***Phase 4*** is the final phase of hospitalisation and is geared towards preparing the client for discharge with the aim of reintegration into the community by making appropriate referrals to ensure overall wellness of clients who re-enter their communities.

The ICIP was subsequently developed and piloted with the multidisciplinary team at DP Marais Hospital in the Western Cape. The process outcomes of the ICIP addressed the implementation of the programme, while the programme outcomes of the ICIP addressed client-related factors such as health-directed behaviour, motivation, emotional distress and insight into their diagnosis as well as their behaviour.

The ICIP was piloted in the MDR-TB ward at DP Marais Hospital from 1 October 2013 to 30 September 2014. DP Marais Hospital is one of the TB hospitals in the Western Cape province of South Africa, in a suburb of Cape Town, and accommodates clients from across the Western Cape province. There are six wards at the hospital, with an overall bed capacity of 260 beds. While the initial response from the team involved some resistance as team members were accustomed to working in silos, over time they could see the benefits of working together in a more integrated way and the positive effect it had on the clients. Overall, the programme was well received by team members as well as management at the hospital with management approving the continuation of the ICIP from March 2015.

1.3. PROBLEM STATEMENT

Programme administrators often focus on and pursue outcome evaluations which provide information as to what extent a programme achieved its intended outcomes. However, they do not provide an understanding of how and why certain aspects of a programme were successful, while others were not. To date the evaluation of TB programmes has focused primarily on the medical outcomes of the disease with recommendations focusing on early detection of MDR-TB and early initiation of treatment (Cox et al., 2017; Department of Health, 2011). While there has been some attention drawn to the psychosocial aspects related to MDR-TB, very little is done to address these issues in the national guidelines for the management of MDR-TB. Furthermore, the role that occupational therapy (OT) could play in addressing these psychosocial aspects of the programme has been under-explored. The ICIP aims to address clients' psychosocial needs. For example, the ICIP addresses issues such as the clients' health-directed behaviour; their motivation to develop insight into their illness and behaviour; their ability to navigate through the health system; successful reintegration into the community; and improved emotional well-being. Each phase of the programme must therefore be monitored and evaluated on a regular basis, keeping in mind the overall vision and mission of the team. Programme evaluation is therefore essential in systematically collecting, analysing and interpreting information about the context, activities, outputs and early outcomes of the programme so that recommendations for the improvement of the ICIP can be made. According to the Organisation for Economic Co-Operation and Development (OECD, 1991), the aim of programme evaluation is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact, and sustainability. Moreover, programme evaluations aim to improve future aid policy, programmes and projects through feedback of lessons learned as well as to provide a basis for accountability, including the provision of information to the public (OECD, 1991).

With regard to the ICIP, it was considered that a programme evaluation would be able to provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process regarding the implementation and future rollout of the ICIP. In order to make judgements about the feasibility of rollout to other sites, it required an evaluation to understand if the programme was progressing towards the achievement of its outcomes. This necessitated an outcome evaluation. However, in order to describe and document the enablers and challenges of its implementation, the implementation process of the ICIP required a process evaluation.

1.4 STUDY PURPOSE AND SIGNIFICANCE

The purpose of this study was to evaluate the ICIP as a suitable intervention programme for ensuring interdisciplinary collaboration as well as treatment adherence and successful programme outcomes for TB clients, in order to revise/develop, and evaluate the feasibility of rollout of the programme to additional sites. Process evaluation data were imperative to assess the extent to which the ICIP was implemented as originally planned, while outcome evaluation data showed if the programme outcomes were being met. Overall, the evaluation study informed me and all stakeholders whether the programme needed modification or further development.

The significance of this study therefore lies in its contribution to the development of comprehensive, interdisciplinary intervention programmes to address the complexities of treatment adherence and outcomes in clients who undergo long-term treatment for MDR-TB. Of further significance is the potential of the study to inform the feasibility of the rollout of the programme to other sites based on evidence-based practice in the Western Cape.

1.5. RESEARCH QUESTIONS

The research questions addressed over two phases in this study are:

1.5 1 Qualitative

To what degree is the ICIP being implemented as planned and meeting its intended process outcomes?

1.5 2 Quantitative

To what extent are the programme outcomes of the ICIP met?

1.6 AIM & OBJECTIVES

1.6.1 Aim

The aim of the study was to evaluate the process outcomes and programme outcomes of the ICIP at a hospital in the Western Cape.

1.6.2 Objectives

The objectives of the study were:

Qualitative

(i) To explore the participants' and service providers' perceptions and experiences regarding barriers and facilitators of the ICIP

(ii) To explore the participants' and service providers' perceptions and experiences of how the outcomes of the ICIP were addressed

(iii) To explore the perceptions and experiences of service providers regarding the barriers and facilitators related to the implementation of the ICIP programme

Quantitative

(iv) To determine the programme outcomes of clients who have participated in the ICIP

(v) To determine whether a relationship exists between the participants` demographic characteristics and individual programme outcomes

(vi) To develop strategies to enhance the implementation of the ICIP programme

1.7 METHODOLOGY

This study made use of a convergent parallel mixed-methods design where all data were collected at the same time. Information was then merged to provide a comprehensive analysis of the research problem. A mixed-methods research design collects and analyses both quantitative and qualitative data in a single study to understand an evaluation problem and to get a more comprehensive account of the programme (Creswell, 2014). Utilising both quantitative and qualitative methodology allows for a more robust evaluation.

Purposive sampling was utilised in this study as it allowed for the selection of participants for the qualitative component of this study as it ensured that the representation of service providers and clients who participated in the ICIP. For the quantitative data collection, the participants were selected by means of convenience sampling using the Yamane formula $n = \frac{N}{1+N(e)^2}$ and participants comprised only clients who had participated in the ICIP qualitative data-collection methods, which included semi-structured interviews, focus groups and document reviews. A descriptive survey, the heiQ^{TM} questionnaire was used to collect quantitative data. The heiQ^{TM} is used to measure the effects of a health education programme and provide valuable information to health and medical professionals, researchers, and policymakers on the effectiveness of health education programmes in chronic disease management (Osborne, Elsworth, & Whitfield, 2007). All qualitative data were analysed using thematic content analysis while quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS).

1.8 ETHICS STATEMENT

Ethics approval was sought from the University of the Western Cape Senate Research Committee, the Western Cape Provincial Health Ethics Committee, and the City of Cape Town Ethics Committee. Subsequent to this approval, permission to conduct the study was received from the facility management structure in the setting where the study took place to ensure that this study was conducted in an ethical manner. A licence to use the heiQ^{TM} for the study was granted by Deakin University. The participants were informed of the nature and significance of the study and informed consent was sought from all the participants in the study**.** Participation in the study was voluntary and participants were informed of their right to withdraw their participation at any time without being penalised for not participating. The confidentiality of participants was maintained by ensuring that all audiotapes and other data were stored in a locked cupboard that only I had access to. All focus-group participants were requested to complete a focus-group confidentiality binding form to ensure that all discussions as well as the identity of group members were not disclosed to members outside the focus group. Anonymity was maintained in this study and any reports or publications that may result from it will not contain information that may identify participants or hospital staff. I ensured that all participants were aware of their right to access the findings once the study is complete.

1.9 OUTLINE OF THESIS

This thesis is divided into the following eight chapters:

Chapter 1 provides the background to the study, the rationale, research questions, as well as the research aim and objectives. The theoretical framework is also presented and an introduction to the methodology utilised in the study is described. Finally, an overview of the thesis structure is provided.

Chapter 2 provides a description of the ICIP. This chapter provides detail on each phase of the programme, specifically the role and function of each member of the multidisciplinary team in the implementation of the ICIP.

Chapter 3 presents a detailed literature review relating to the study. This chapter aims to contextualise the problem of MDR-TB in the South African context and understand strategies that can be implemented to improve treatment outcomes for MDR-TB clients.

Chapter 4 outlines the methodology used in the study, which includes the methodological paradigm, research design and research methods used. Data-collection methods and data analysis are explained, as well as strategies employed to ensure rigour and trustworthiness as well as ethical considerations for the study.

Chapter 5 presents the key qualitative findings of the study. Themes and related categories that emerged during the analysis of the data are presented.

Chapter 6 presents the key quantitative findings of the study. Descriptive statistics, namely, frequencies, percentages, graphs, means and standard deviations were used to describe the characteristics of the sample and responses to the questionnaires presented to the participants. In addition, inferential statistics, specifically Pearson correlations, were used to identify correlations between programme outcomes

Chapter 7 presents a discussion of the qualitative findings of the study and combines key aspects from the qualitative findings of the study contextualised with the literature reviewed.

Chapter 8 discusses the quantitative findings of the study and combines key aspects from the quantitative findings of the study in conjunction with the literature reviewed.

Chapter 9 reports the main conclusions and recommendations of the study. Limitations of the study and considerations for future research are also discussed.

CHAPTER 2

DESCRIPTION OF THE ICIP

2.1 INTRODUCTION

This chapter provides the background to the development of the ICIP. This is followed by the intended programme and process outcomes of the ICIP. Finally, each phase of the ICIP is discussed in detail, highlighting the role of each team member in providing a comprehensive programme for MDR-TB clients.

2.2. BACKGROUND

The ICIP emanated from a study that aimed to gain an in-depth description of the lived experience of occupational adaptation as experienced by adults with MDR-TB who were undergoing long-term hospitalisation (Firfirey & Hess-April, 2014). The findings of this study showed that clients who underwent long-term hospitalisation for MDR-TB felt that the hospital environment posed the following challenges: rigid hospital rules, lack of support from staff as well as their families, limited activity choices that met their needs or skills, lack of autonomy, and lack of freedom. As a result, clients felt that their needs were not met; while in hospital they experienced institutionalisation, reduced role performance and an inability to set goals. Moreover, they engaged in high-risk behaviour as a coping mechanism. What they valued about their experience of hospitalisation was a strong sense of spirituality that helped them cope with their circumstances; they also enjoyed the social interaction with other clients and the sense of community that was established. Maintaining routines and actively engaging in the programme also proved to be beneficial, although some clients felt that the programme did not cater for their needs, interests or skills.

The aforementioned findings led to the recommendation that a client-centred approach is imperative in the treatment of MDR-TB where the hospital programme should move away from a purely biomedical approach and adopt a more integrated approach where the clients' thoughts, feelings and needs should be considered and decisions made in collaboration with the clients. In addition, occupational injustices that contribute to institutionalisation need to addressed by strengthening support systems inside and outside the hospital to provide opportunities for acquiring new skills, including activities that facilitate spirituality, address client need for autonomy, and facilitate occupational adaptation through occupational enrichment programmes (Firfirey, 2011). Accordingly, the study informed the development of the Integrated Client-Centred Intervention Programme (ICIP) for clients hospitalised for TB.

2.3 DEVELOPMENT OF THE ICIP

The ICIP was developed in collaboration with the multidisciplinary team at DP Marais Hospital. The team comprised three doctors, one nurse, one occupational therapist, three occupational therapy technicians, three social workers, one social auxiliary worker, one psychologist, one physiotherapist, and one HIV nurse. The process took place in three stages, starting with training on psychosocial rehabilitation and the client-centred approach. This was followed by a SWOT analysis where the team was able to identify existing strengths and weaknesses in the team. Finally, each phase of the ICIP was developed, with each member identifying their roles and functions within the process. Any overlap of skill was also discussed so that all team members were clear on their function for the purpose of the ICIP.

2.4 INTENDED OUTCOMES OF THE ICIP

2.4.1 Process outcomes

The process outcomes of the project were to improve:

- the team members' insight into client centred interventions based on psychosocial rehabilitation (PSR) principles;
- the quality of care at the hospital by integrating services based on existing skills within the multidisciplinary team;
- interdisciplinary collaboration: to streamline the referral of clients with non-medical issues within the hospital through strengthening communication and relationships among team members;
- continuity of care upon discharge, by strengthening communication and relationships across all levels of care; and
- record keeping, access to medical records, and efficient transfer of medical information between team members.

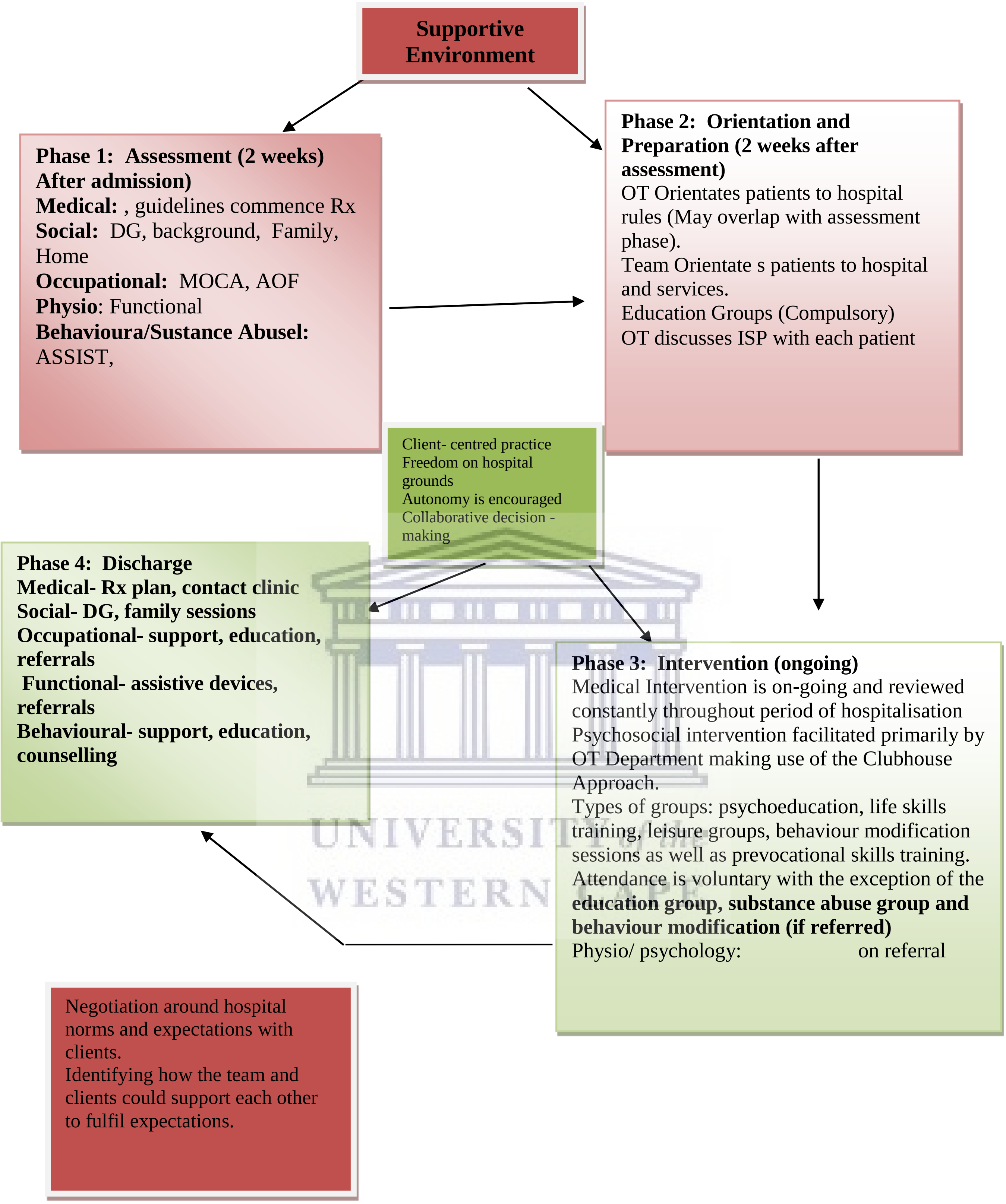
2.4.2 Programme outcomes

The programme outcomes of the ICIP were to:

- modify the clients' health-directed behaviour to the extent that there is an improvement in treatment adherence and a reduction in high-risk behaviour;
- improve their motivation to the extent that they experience positive and active engagement in life;
- develop their insight through psychoeducation, thereby improving self-management and navigation through the health system; and
- ensure successful reintegration into the community and improve emotional wellbeing.

2.5. PHASES OF THE ICIP

The ICIP encompasses four phases that should commence as soon as the client is admitted to hospital and continue until he/she is discharged. Figure 1 provides a diagrammatical representation of the ICIP. The diagram overleaf illustrates the process flow, indicated with arrows, through the four phases of the ICIP. The ICIP commences as soon as the client is admitted into the hospital and continues until he/she is discharged into the community. Each phase highlights the length of time spent in each phase as well as the requirements from the team in terms of multidisciplinary assessments/interventions during each phase. At the top of the diagram, in the red block, it indicates that the first two phases offer a more supportive environment for clients who are still adjusting to the hospital environment. The green block in the middle of the diagram shows that once clients have settled into the environment and are aware of the norms and rules within the hospital, they are ready to enter Phase 3, where clients are allowed more freedom within the hospital to attend sessions outside of the ward.



Supportive Environment

Phase 1: Assessment (2 weeks) After admission)
Medical: , guidelines commence Rx
Social: DG, background, Family, Home
Occupational: MOCA, AOF
Physio: Functional
Behavioura/Sustance Abusel: ASSIST,

Phase 2: Orientation and Preparation (2 weeks after assessment)
OT Orientates patients to hospital rules (May overlap with assessment phase).
Team Orientate s patients to hospital and services.
Education Groups (Compulsory)
OT discusses ISP with each patient

Client- centred practice
Freedom on hospital grounds
Autonomy is encouraged
Collaborative decision - making

Phase 4: Discharge
Medical- Rx plan, contact clinic
Social- DG, family sessions
Occupational- support, education, referrals
Functional- assistive devices, referrals
Behavioural- support, education, counselling

Phase 3: Intervention (ongoing)
Medical Intervention is on-going and reviewed constantly throughout period of hospitalisation
Psychosocial intervention facilitated primarily by OT Department making use of the Clubhouse Approach.
Types of groups: psychoeducation, life skills training, leisure groups, behaviour modification sessions as well as prevocational skills training.
Attendance is voluntary with the exception of the **education group, substance abuse group and behaviour modification (if referred)**
Physio/ psychology: on referral

Negotiation around hospital norms and expectations with clients.
Identifying how the team and clients could support each other to fulfil expectations.

Figure 1: Phases of the ICIP

2.5.1 Phase 1 – Assessment

Phase 1 is the assessment phase which takes place within the first two weeks of admission to the hospital. During this phase a comprehensive assessment for each client, including medical, functional, occupational, social, psychological and substance abuse-related assessments are completed. Upon completion of the assessment each team member completes their section of the integrated assessment form (Appendix 1) in the client's folder.

2.5.2 Phase 2 – Orientation

Phase 2 is the orientation and preparation phase where each team member orientates the client to specific services available within their scope of practice. The duration of Phase 2 is two weeks, to allow the client to adjust to the hospital environment. Once all assessments have been completed, a team planning meeting is scheduled where the team discusses the outcomes of their respective assessments as well as their prescribed interventions. In addition, an individual support plan (Appendix 2) is completed at the planning meeting which contains the client-centred intervention plan recommended for the client. The planning meeting is also the time when the team meets all new admissions to introduce themselves to the clients and orientate them to the following:

- <u>Hospital Rules</u>: clients' rights, rules around the day pass process (movement between wards, visiting hours, etc.)
- <u>Infection Control</u>: cough etiquette, hygiene
- <u>Ward programme</u>: groups and services rendered by OT, social work, physiotherapy
- <u>Disability Grants</u>: Relevant information regarding applications for disability grants
- Discharge planning and processes

2.5.3 Phase 3 – Intervention

Phase 3 is the intervention phase. Compulsory interventions such as taking medication and interventions specific to the biological progression of the disease and physical well-being of the client, for example, chest physiotherapy, mobilisation and endurance training are performed.

A comprehensive intervention programme was developed to ensure that clients obtain the maximum benefit from all services available at the hospital: medical, functional, psychosocial, social, psychological and substance abuse. While some interventions commence from the moment the client is admitted, for example, medical interventions, the psychosocial interventions commence once clients have been oriented to the programme. All psychosocial interventions aimed at deinstitutionalisation are provided to clients on a voluntary basis. The duration of Phase 3 depends on the period for which the client is hospitalised.

Medical interventions: This process is ongoing from the moment of admission and will continue to be performed in line with the national DR-TB guidelines.

Psychosocial interventions: The OT Department was assigned the primary responsibility of facilitating the PSR programme with assistance from the social work department as well as the psychologist (on referral). The programme would focus on psychoeducation pertaining to DR-TB and the importance of adherence, life skills training, leisure groups, and behaviour modification sessions, as well as prevocational skills training. The approach used would be a 'Clubhouse Approach', with most sessions being voluntary with the exception of the education group, substance abuse group and behaviour modification (if referred). All interventions will take place outside of the MDR-TB ward in the area newly allocated for MDR-TB clients to receive OT interventions.

Social work: This intervention works on individual cases, ensuring that all social needs are met, for example, disability grants, ID documents, shelter.

Physiotherapy: Referral

Psychology: On referral, as the psychologist only renders a service at the hospital once a week. The psychologist would assist the OT department in drawing up a six-session substance abuse programme and facilitate the more intensive substance abuse intervention based on the outcome of the assessment.

2.5.4 Phase 4 – Discharge

Phase 4 is the final phase of hospitalisation and is geared towards preparing the client for discharge with the aim of reintegration into the community by making appropriate referrals to ensure overall wellness of clients who re-enter their communities. Discharge planning meetings take place during this phase and follow the same format as planning meetings on admissions. At these meetings the outcomes of all interventions are discussed and comprehensive recommendations and referrals are made to ensure successful reintegration into the community. Community referrals include but are not limited to the following:

Medical: Decide on treatment plan, contact the closest clinics and refer accordingly.

Functional: Provision of assistive devices as required as well as appropriate referrals to physiotherapy/OT.

Psychosocial: Provide support to the clients and their families, facilitate family sessions, finalise disability grants, finalise suitable placement if required, make appropriate referrals for support in the community.

Substance abuse: Ensure appropriate referrals to community-based services for substance abuse interventions and/or support. Alcoholics/Narcotics Anonymous listing and individual substance abuse sessions.

Table 1 overleaf provides a summary of the role and function of each team member during each phase of the programme.

Table 1: Summary of the role and function of each team member during each phase of the ICIP

PHASE 1:ASSESSMENT Type of assessments (Reassess for discharge)	**Clinician responsible for assessment**	**Assessment tool**	**PHASE 2: ORIENTATION Activities during the orientation**	**PHASE 3: INTERVENTION**	**Clinician responsible for intervention**	**PHASE 4: DISCHARGE**
Medical Assessment	Dr	Assessments in line with DR-TB Guidelines	Orientation on pathology	➢ Follow up of results of initial on-going investigations. ➢ On-going (daily) clinical assessments (nursing/medical). ➢ Management/ intervention of new clinical biochemical/social problems. ➢ Daily review of medication and prescription of new treatments/ administration of above (nursing staff). ➢ Review of specific problems with specialists (telephone/ward rounds). ➢ Appropriate referrals to other disciplines (OT/Physio/Social Worker) ➢ Assessment of clients' social requirements (day pass/weekend leave)	Dr, Nurse	The Dr is required to finalise treatment regimen. contact closest clinic and meet with family if required.
➢ Medical: Tolerance of medicine ➢ Diagnosis- Management ➢ Long-Term Prognosis ➢ Previous Drug Treatment ➢ Co- morbidities Drug sensitivities ➢ Reason for admission	Referral to dietician	Radiographer – X ray	Hospital process			
	Referral to radiographer	Laboratory results	Rules			
	Nurse	Observations	Infection control			
		Weight				
				Family interactions		

Functional Assessment ➢ Mobility ➢ Endurance ➢ Activities of daily living (ADLs) ➢ Hearing	Physiotherapist Audiologist	Observations Standardised/ Formal assessments Hearing Test	Team Orientation to services	➢ Chest physio/respiratory ➢ Exercise tolerance ➢ Mobility ➢ Home Programmes/Self rehab Functions Exercise /bed mobility Breathing exercise	Physio	- Appropriate referrals - Assistive devices
Occupational Assessment Cognitive skills Life skills Role performance Values Interests Motivation Balanced Lifestyle (Habituation) Self-esteem Communication Skills Affect	Occupational Therapist	Assessment of Occupational Functioning (AOF- CV_ Model of Creative Ability (MOCA) Outcome Measure Activity analysis Interview Observations	Team Orientation to services	➢ Work skills ➢ Self-care (dressing, hygiene, grooming, toileting, feeding- Adaptation) ➢ Spirituality ➢ Leisure/recreation ➢ Motivation Adapt, compensate, remediate. Insight: TB/illness, Substance abuse, -Life skills (behaviour, social skills, IPRs Conflict, problem solving) *Therapeutic milieu* Support groups Recreational Sessions Relaxation therapy	OT/OTT	Appropriate referrals Counselling Vocational preparation
Social Background Assessment Social Background: History/life story Abode/geographical/proximity-current circumstances/family Support with arranging for I D/DG/ maintenance grant**,** insight	Social worker	Observation Interview Home visit Family consultation	Team orientation to services	Intervention: Individual session Practical help e.g. ID, Disability grant, shelter (place to live). - Family conferences Groups: SA groups, life skills, supportive groups. -Place of safety. -motivational interviews	Social worker Social auxiliary worker	Disability grant Confirm address Family meetings

				Home Environment- Home visits Referral to community resources		
Psychological Assessment Orientation Depression Insight	Psychologist	Mini-Mental State Examination Beck Depression Inventory Interview Dementia Scale	Team Orientation to services Psychoeducation	➢ Client-centred therapy ➢ Motivated interview (group & individual) ➢ Cognitive: behaviour (therapy) ➢ Regional emotive(therapy) ➢ Groups (substance, support & adherence) ➢ Couples therapy ➢ Mediation ➢ Interpersonal & intrapersonal system therapy approach	Psychologist	Counselling Appropriate referral
Behavioural Assessment Adherence Substance abuse	OTA Adherence Counsellor	Alcohol, Smoking and Substance Involvement Screening Test (ASSISST)	Psychoeducation Substance-abuse awareness	Awareness groups Individual information sessions Support Groups	OTT Adherence counsellor Psychologist	Adherence counselling Substance abuse counselling Appropriate referrals

2.6 CONCLUSION

This chapter provided a detailed description of each phase of the ICIP. Furthermore, it demonstrated how the existing skills within the interdisciplinary team were utilised to strengthen service delivery by improving how team members worked together. The next chapter presents the literature review.

CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

In the previous chapter I described the ICIP. The literature reviewed in this chapter firstly contextualises the TB epidemic in South Africa. Accordingly, literature related to factors that contribute to the management of the disease including clinical guidelines, decentralised care and the shortened treatment regimen is reviewed. The chapter then focuses on treatment adherence in the context of TB. Thereafter, concepts related to health and well-being are reviewed including a synthesis of the relationship between occupation, physical activity and spirituality in relation to health. This is followed by literature on occupational injustice as well as occupational therapy strategies to reduce the effects of occupational injustice. Lastly, literature pertaining to the theoretical framework, that is, the Person–Environment–Occupation–Performance (PEOP) model and the Innovative Care for Chronic Conditions (ICCC) framework is presented.

3.2 PREVALENCE OF TUBERCULOSIS IN SOUTH AFRICA

Tuberculosis remains one of the top ten causes of death worldwide with over 95% of all deaths occurring in low-income and middle-income countries in 2016 (WHO, 2017). According to the WHO (2019), TB is the now leading cause of death resulting from infectious diseases in the world today, ranking ahead of HIV/AIDS. Globally, the incidence of TB is particularly rife in developing countries. WHO (2019) states that 87% of all new cases in 2015 occurred in the 30 high-burden countries. To this end, South Africa holds the eighth highest estimated total of TB cases behind India, China, Indonesia, Philippines, Pakistan, Nigeria, and Bangladesh

(WHO, 2019). MDR-TB continues to be a global public health threat. According to the WHO (2019), globally, an estimated 500 000 people developed MDR-TB in 2018.

MDR-TB is caused by bacteria that are resistant to isoniazid and rifampicin, the two most effective anti-TB drugs available (WHO, 2010c). Diagnosing MDR-TB can be complex and expensive with only 56% of MDR-TB clients successfully completing treatment (WHO, 2019). While drug-resistant TB has been prevalent in South Africa since the1980s it was only identified as a major threat to TB control in 2006 with the outbreak of extensively drug-resistant (XDR)-TB in KwaZulu-Natal (Cox et al., 2017). Currently, South Africa still has a large prevalence of MDR-TB. In 2015, close to 20 000 individuals were reported to have been diagnosed with drug-resistant TB, with only 12 527 reported to have been initiated on treatment, that is, 64% of diagnosed clients (Cox et al., 2017). Additionally, treatment outcomes remain poor, with only 48% of MDR-TB clients diagnosed in 2013 having successfully completed their treatment (WHO, 2016). Moreover, Cox et al. (2017) state that South Africa is uniquely positioned to develop and implement innovative strategies to address MDR-TB, stating that the country has a well-developed healthcare infrastructure and a strong commitment from government to improve TB services. They propose that models of service delivery need to strive to be client centred, while taking localised health systems and human resource constraints into account. (Cox et al., 2017).

3.3 MANAGEMENT OF MDR-TB IN SOUTH AFRICA

3.3.1 Clinical guidelines for the management of MDR-TB

Medical treatment of MDR-TB in the past was a lengthy process. For instance, the South African MDR-TB clients were required to be on treatment for a period of at least 18–24 months (Department of Health, 2004). This included compulsory hospitalisation for a period of at least six months or until at least two consecutive monthly sputum cultures were negative before they could be discharged to ensure that clients were no longer infectious when re-entering the community (Department of Health, 2009). On discharge, clients would continue their treatment at a primary healthcare facility where they were monitored monthly by the MDR-TB unit. Monthly monitoring of MDR-TB included regular drug susceptibility testing, counselling and support from a social worker or nursing professional that in case treatment should be interrupted, the situation could be handled promptly and effectively (Department of Health, 2004). Clients in a poor clinical condition, with a previous history of treatment interruption and those with complications such as haemoptysis or severe side effects, however, were not eligible for discharge or ambulatory (outclient) care (Department of Health, 2008). Treatment outcomes, however, remained consistently poor on this regimen. As a result, clients would remain hospitalised for months causing a long waiting list for clients who required hospitalisation (Department of Health, 2011). Owing to the rise in client numbers and the unavailability of hospital beds, the guidelines were revised. The revised policy framework included the management of MDR-TB in decentralised units or in the community through the use of mobile teams (Department of Health, 2011). The newly developed policy framework on decentralised and deinstitutionalised management of DR-TB provides guidance for the management of stable, MDR-TB clients closer to their homes in health facilities and in the community; however long-term hospitalisation is still required in cases where complications such as a previous history of treatment interruption, haemoptysis or severe side effects to medication arise as a result of MDR-TB (Department of Health, 2011). Some of the challenges associated with the centralised management of MDR-TB included delays in treatment initiation due to the long waiting lists for admission, refusal of hospitalisation, absconding from the hospital owing to lengthy hospital stays, and the distance of centralised facilities from clients' homes for monthly follow-up appointments (Department of Health, 2011). This prompted the Department of Health (2011) to develop a policy framework on decentralised and deinstitutionalised management of Drug-Resistant TB for South Africa.

3.3.2 Decentralised care

The Policy Framework on decentralised and deinstitutionalised management of drug-resistant TB for South Africa (Department of Health, 2011) instructs that all smear negative MDR-TB clients need to be started on ambulatory treatment in their communities, MDR-TB clients in hospital need to be discharged after two consecutive negative smear results, and complicated cases of MDR-TB and XDR-TB should be treated in hospital. The Department of Health (2011) asserts that decentralised management of MDR-TB will benefit clients by accommodating their personal responsibilities and needs as they will be closer to their homes and will reduce transmission of MDR-TB as clients will be initiated on treatment sooner. Additionally, they state that a decentralised approach will help improve treatment adherence in community-based programmes as has been evident in other countries and some parts of South Africa, and lastly improve cost effectiveness by reducing lengthy hospital stays in specialised hospitals (Department of Health, 2011).

Three different studies report findings that are in favour of decentralised care, stating that a centralised MDR-TB service was not effectively treating and curing MDR-TB and that it was in fact contributing to XDR-TB (Brust et al., 2012; Cox et al., 2014; Loveday et al., 2015). The findings by Cox et al. (2014) and those of Loveday et al. (2015) suggest that the benefits of decentralised care include improved case detection as well as reduced diagnostic delay, higher proportions of clients being initiated on treatment more rapidly, and a lower default rate. Moreover, an improvement in survival rates was observed over time. While their findings suggest some improvement in treatment outcomes as a result of decentralised care, Cox et al.

(2014) propose that comparisons using routing data between community-based models and centralised treatment remain a challenge. Cox et al. (2014) suggest that integrating drug-resistant TB treatment with existing TB and HIV care in the primary healthcare setting as well as adopting a more client-centred approach that respects human rights as well as allows clients to access appropriate care and support in their communities will strengthen current community-based services.

Brust et al. (2012) argue that although decentralised care addresses several of the challenges linked to centralised care, such as allowing clients to remain at home and accessing their treatment at a local outclient facility, maintaining high levels of treatment adherence is the key to improved treatment outcomes. Furthermore, they advocate the involvement of family members and close monitoring of clients at home, as well as empowering clients through intensive treatment literacy education, stating that these strategies are critical in improving treatment outcomes,

3.3.3 Shortened treatment regimen

In 2016, WHO recommended a shorter treatment regimen for MDR-TB, based on research done in Bangladesh (WHO, 2016). Clinical trials were conducted in South Africa with positive results (Conradie, et al., 2016). As a result, since September 2018, injectable-free regimens have been made available to treat MDR-TB in adults and children of all ages in South Africa (Department of Health, 2019). According to the Department of Health (2019) a short injectable-free treatment regimen of 9–11 months may be used for MDR-TB, provided specific criteria are met, that is, persons with MDR-TB who had no prior exposure to second-line TB medicines (medication used to treat DR-TB); uncomplicated MDR extra pulmonary TB (pleural effusions, lymphadenopathy); people living with HIV, pregnant women, children younger than

12 years. Additionally, adults and children who do not meet inclusion criteria for the short regimen are offered a long injectable-free treatment regimen of 18–20 months. While some clients may initiate treatment with a short regimen, they could then switch to a long regimen once further diagnostic or other relevant information becomes available. Recommendations on the duration of the short- and long-treatment regimens are based on WHO guidance on the short-course regimen (WHO, 2018) and new data presented in *The Lancet* on the expected effects of shorter regimens (Kendall et al., 2017; Sotgiu et al., 2016). The MDR-TB treatment regimen does however expose clients to significant adverse effects and the drugs are poorly tolerated. As a result, low completion rates are common. For this reason, maintaining treatment adherence on even a shortened regimen appears to be a challenge without adequate support from healthcare workers (Cox et al., 2017).

3.4 TREATMENT ADHERENCE IN THE TB CONTEXT

In terms of TB control, adherence to treatment is defined as the extent to which the client's history of therapeutic drug-taking coincides with the prescribed treatment. Adherence may be measured using either process-oriented, such as appointment keeping or pill counts, or outcome-oriented definitions of the end result of treatment, for example, cure rate, as an indicator of success (WHO, 2003). The impact of treatment adherence on the progression of TB remains a major concern in South Africa. According to the Department of Health (2009), there are four sets of contributing factors to poor treatment adherence in TB clients. The first set of contributing factors constitutes social and economic factors, the second set of contributing factors relates to health system factors, the third set of contributing factors refers to client-related factors, and the final set of factors to therapy-related issues.

3.4.1 Socio-economic factors

The social determinants of TB and the effect they have on adherence have been well reported in literature. Socio-economic factors such as age, gender, lack of food, cost of transport, lack of employment and behavioural factors related to stigma, feeling better after a few weeks of treatment, limited knowledge of the disease, and substance use posed consequences for poor treatment adherence (Khan, Akhtar, Madni, Tahir, Rehman, Raza, & Qaadir, 2017; Morris, Quezeda, Moser, Smith, Perez, Laniado-Laborin, Estrada-Guzma, & Rodwell, 2013; Tola et al., 2015). In South Africa, the Department of Health (2009) has paid much attention to the socio-economic factors that influence the development of TB. Poverty, urbanisation, the impact of the HIV pandemic, poor health infrastructure and poor programme management are listed as factors that contribute to the increasing TB burden, while social issues are regarded as playing a key role in the progression of the TB epidemic (Department of Health, 2009). In elaborating on social issues related to the progression of TB, the department earlier declared that social issues such as poverty, stigmatisation of the disease, substance abuse, unemployment and limited access to healthcare facilities have a serious impact on the treatment adherence of clients and therefore the progression of the epidemic in South Africa (Department of Health, 2004). The department further states that refusal of medical treatment; requests for discharge from hospital while still infectious; discontinuance of treatment due to poor compliance; treatment failure; and adverse effects of the medication significantly impact families and communities (Department of Health, 2008).

Moreover, the Department of Health (2009) asserts that poor management of individual cases and clients' lack of insight into their pathology lead to poor treatment adherence, thereby magnifying the TB epidemic. It argues that drug-resistant TB largely results from human error and identifies poor client adherence as one of the main contributing factors to MDR-TB.

Treatment adherence is also linked with treatment outcomes. For instance, Médecins Sans Frontières (MSF, 2009) states that although treatment outcomes are acceptable among those clients that complete their treatment, the high default rate found among those who do not is associated with poor treatment outcomes. This indicates that should treatment adherence improve, treatment outcomes may improve as well.

Key findings in two studies linked poor treatment adherence to low socio-economic status (Donald & Van Helden, 2009; Leinhardt et al., 2012). Donald and Van Helden (2009) assert that TB is a disease of poverty and that health systems in developing countries are overwhelmed by the burden, while Leinhardt et al. (2012) argue that the social determinants of TB, including the socio-economic factors associated with the illness, have remained the same for centuries. Leinhardt et al. (2012) highlight poverty, undernourishment, poor living and working conditions maintained by social injustice as well as political instability as fertile ground for the progression of TB. Furthermore, rapid urbanisation resulting in shifting of lifestyles has introduced people already at risk to unhealthy behaviours such as smoking and drug use, making them even more vulnerable (Leinhardt et al., 2012; Lonroth, Jaramillo, Williams, Dye, & Raviglione, 2009). Similarly, Holtz et al. (2006) highlight challenges with access to transport, while available employment is also a significant contributor to poor treatment adherence. In reflecting on the relationship between poor adherence and socio-economic context, Leinhardt et al. (2012) propose that addressing social determinants can improve treatment outcomes, early detection of TB and socio-economic reform. In each study the researchers concluded that TB is a stigmatised disease and that TB clients experience a lack of support from health workers, family and friends.

The length of the treatment period also emerged as a contributory factor to the temptation to discontinue TB therapy (Khan et al., 2017; Morris et al., 2013). In addition, the research findings in these studies further specified that stigmatisation, socio-economic circumstances of clients, and migrancy all play important roles in non-adherence. In addition, a lack of knowledge about TB, non-sustainability of educational campaigns, side-effects of drug and alcohol use, hunger, lack of family support, the attitude of healthcare workers, and the long delay before diagnosis and initiation of treatment are factors that contribute to treatment adherence (Khan et al., 2017; Morris et al., 2013).

3.4.2 Health system factors

According to the Department of Health (2009), health system factors include poor health infrastructures, poorly trained and supervised personnel, low levels of accountability for health staff, poor relationships with clients and inadequate development of community-based support for clients. In highlighting health system factors associated with poor treatment adherence, Holtz et al. (2006) conducted a study on the risk factors associated with default from MDR-TB treatment in South Africa. Their study showed that the reasons for clients defaulting MDR-TB treatment are poorly understood. Several reasons for defaulting treatment were highlighted in their study, namely personal stresses, unemployment, homelessness, alcoholism, pessimism, and previous poor experience with TB treatment. The most significant factor highlighted in their study, however, was the poor relationships between clients and their healthcare providers. According to Holtz et al. (2006), clients were particularly dissatisfied with the attitudes of healthcare providers. Likewise, Zachariah et al. (2012) emphasise the language used in TB services. They assert that words like ‘defaulter’, ‘suspect’ and ‘control’ are inappropriate and disempowering to TB clients who are already poor and vulnerable, excluded and stigmatised. Such language is further detrimental to their acceptance in society. Moreover, such terminology is perceived as judgemental and criminalising. Zachariah et al. (2012) assert that the core functions of TB services should embrace dignity, social fairness, social justice and a willingness to serve.

In order to gain a better understanding regarding systemic issues related to treatment adherence, Dean and Fenton (2010) reviewed literature pertaining to addressing social determinants of health in the prevention and control of HIV/AIDS, STIs and TB. They concluded that health systems need to understand the multilevel overlapping of these epidemics when designing prevention programmes. It can therefore be understood that the management of epidemics such as TB should not be purely biomedical. The focus of interventions for infectious diseases should include individual-level determinants such as high-risk behaviour and substance abuse, structural determinants that include physical environments and structural factors such as physical, social, cultural, organisational, community, economic and legal or policy aspects of the environment as well as social determinants such as economic and social conditions that influence the health of people in their communities (Dean & Fenton, 2010). To date, prevention programmes have been dominated by individual-level behavioural interventions that seek to have an influence on knowledge and attitudes as well as client behaviour. Dean and Fenton (2010) argue that this approach, however, has failed to achieve sustained reduction in the incidence or elimination of these diseases.

For effective management of infectious diseases that is holistic and addresses social determinants, Satcher (2010) proposes four focus areas to ensure success: health in all policies; building stronger public health partnerships, including equity effectiveness; cost effectiveness; and expanding resources to address social determinants. Satcher (2010) further proposes a proactive, collaborative and inclusive process to address social determinants and reduce health inequities among populations. Moreover, a paradigm shift is needed where stakeholders need to determine what collaborations, partnerships and policies are required to facilitate innovative actions to address social and structural determinants with the most impact (Dean & Fenton, 2010). This will require the shifting of prevention programmes to include both individual-level and community-level interventions.

In a similar study, Cole, Morgado, Sekoni, Wixson, and Waggie (2018) reviewed 16 articles pertaining to how low socio-economic factors influence drug resistance in TB clients in South Africa. Poor treatment adherence was common among those living in poverty, who were unemployed, and lacked education or transport to health facilities, indicating that low socio-economic factors have an impact on poor treatment adherence. The review also illuminated that owing to financial constraints, when people start feeling better they stop taking their treatment so that they can go back to work. Also, although TB treatment is free, there are indirect costs associated with accessing treatment. This viewpoint is reiterated by Senthilingam et al. (2015) who draws attention to the great need for income support as expressed by the participants in their study. They proposed vocational facilities to improve economic opportunities and provide income. TB is a disease of poverty and health systems in developing countries are overwhelmed by the burden. Furthermore, they state that new medications are constantly being developed to address the burden; however, if the health systems remain dysfunctional, any new drugs will follow the same path of resistance that past medications have taken. Holtz et al. (2006) drew attention to the high mortality rate among defaulters. They stated that interventions addressing adherence should include substance abuse, client education, client support and improving provider–client relationships.

Cremers, Gerrets, Colvin, Maqogi, and Grobusch (2018) state that social determinants such as poverty, unemployment, socio-economic inequality, stigma, poor living conditions, weak health systems and services, and substance use are well reported in literature. They argue that more research therefore needs to be done on what strengths, capabilities and capacities individuals have at their disposal that help them deal with adversity in order to maintain their well-being (Cremers et al., 2018). Their study focused on the resilience of TB clients in Cape Town and their findings included the familiar social determinants such as stigma and alcohol consumption, as well as immediate environment which the participants felt posed a threat to them. In addition, the participants in their study also reported challenges with regard to negative experiences at the clinics as well as side effects of the medications. What was interesting about these findings was the ways their participants put mechanisms in place to help them persevere and find innovative ways to problem solve and overcome the adversity accompanying their diagnosis. Cremers et al. concluded that while the biomedical approach may view certain choices the participants made as failure of individual willpower, awareness and decision making, the participants were in fact making conscious decisions to regain some of the control in various areas of their lives. For example, some participants would stop taking their treatment so that they could find work to provide financial support for their family, even though they knew it would have a negative effect on their health and possibly result in their having to remain on treatment even longer. The community also demonstrated resilience by showing support to the participants in this study, resulting in their feeling less lonely and stigmatised. Cremers et al. (2018) thus concluded that even those participants who appeared to be failing to achieve positive treatment outcomes, were also trying to overcome urgent problems in their lives and in doing so displayed resilience. They recommended that healthcare providers need to be more aware of these forms of resilience and the vulnerability clients are experiencing so that they can employ better strategies aimed at supporting these individuals. The findings of Cremers et al. (2018) draw attention to client related factors associated with poor treatment adherence.

3.4.3 Client-related factors

Client-related factors are linked to stigmatisation of the disease, depression, disempowerment and poor knowledge about TB and the efficacy of treatment (Department of Health, 2009). Several authors have highlighted client-related factors such as psychological and emotional distress, stigma, lack of support and poor insight into their illness as militating against treatment adherence (Holtz et al., 2006; Khan et al., 2017; Morris et al., 2013; Peltzer et al., 2012). Khan et al. (2017) conducted a study in Punjab, Pakistan, where they evaluated the socio-economic constraints faced by clients leading to poor treatment adherence. The findings of their study highlight several disease-related constraints, including stigma, poor attitudes of family members, the community, and even healthcare professionals. Moreover, owing to low literacy levels, they had limited knowledge about their illness. While clients were able to identify signs and symptoms, they were unaware of the risk factors and precautions that should be adopted while on treatment. All participants in the study by Khan et al. (2017) also reported behaviour changes, including anxiety and depression. Furthermore, loss of employment, malnutrition and overcrowded living conditions also impacted treatment adherence negatively. The findings of Khan et al. (2017) suggest that more importance needs to be placed on interventions that address psychological stress experienced by MDR-TB clients. Likewise, Peltzer et al. (2012) recommended improved screening of psychological distress in clients with TB in order to provide more comprehensive treatment with the aim of improving treatment outcomes.

A study conducted by Portwig and Couper (2006) highlighted a link between psychosocial issues and poor treatment adherence. The findings revealed that participants in the study lacked decision-making and coping skills and displayed a lack of motivation as a result of the symptoms or side effects that they experienced while on medication. Group pressure, poor self-esteem, distance from the clinic as well as problems with the continuity of care and a lack of family or community support also contributed to poor adherence. Portwig and Couper (2006) assert that clients should not carry the primary responsibility for their adherence but recommend that they be regarded as part of the team who take responsibility for it. They suggest that if TB treatment is to be optimised, client cooperation and information need to be addressed, as these are essential for treatment success. They further assert that existing services need to be made more accessible and acceptable and that healthcare service providers should make an additional effort to educate the community about TB and the factors associated with the progression of the disease. Similarly, Morris et al. (2013) stated that the findings of their study indicated that being diagnosed with MDR-TB and undergoing treatment had significant psychological, social and economic stress on clients. While some clients were able to maintain their "pre MDR-TB" lives to an extent, most clients reported that they experienced a loss of identity due to their inability to work, social isolation and stigmatisation from family and friends. Both Morris et al. (2013) and Peltzer et al. (2012) recommended peer support groups to empower clients undergoing treatment and those reintegrating into their communities.

Substance abuse also emerged as a major challenge with several authors highlighting the negative impact substance abuse has on treatment adherence (Bagchi, Amber, & Sathiakumar, 2010; Holtz et al., 2006). Holtz et al. (2006) recommended that interventions to address adherence should centre on substance abuse treatment, client education and improving provider–client relationships. Kendall et al. (2013) conducted a study on the risk that alcohol, discharge from hospital, and socio-economic risk factors have on defaulting MDR-TB treatment. They found that clients who were younger, single, unemployed, living in poor conditions, or used drugs or alcohol were more at risk of defaulting their treatment. Alcohol users and mobile clinic users were particularly vulnerable, which made them question the quality of healthcare systems in rural areas. An important finding was that while hospitalisation resulted in abstinence from alcohol use and thus improved retention in care, once discharged they were at higher risk of defaulting. Ali, Karanja and Karama (2017) conducted a similar study on the treatment outcomes of TB. Both Ali et al. (2017) and Kendall et al. (2013) found that clients found marital status to have a positive effect on treatment outcomes in their respective studies. In addition, Ali et al. (2017), state that an individual's educational level has an impact on treatment outcomes. According to Ali et al. (2017), clients with a higher level of education are more likely to have better treatment outcomes.

Kendall et al. (2013) suggest that clients who use alcohol need more support once discharged from hospital as they regress into life in their community. Kendall et al. (2013) propose integrating medical and behavioural interventions in the community. Harm-reduction approaches have been proved to be effective for alcohol and substance use over a variety of settings and varying populations. The main aim of the harm-reduction approach is to reduce the problematic behaviours associated with substance abuse. The harm-reduction approach supports any steps in the right direction, and while abstinence is the ultimate goal, clinicians who make use of this approach meet the clients where they are located. This approach is non-judgemental and could use techniques such as motivational interviewing (Miller & Rollnick, 2012) to allow the client to explore motivation to change. The harm-reduction approach addresses prevention, intervention or maintenance of behaviour (Logan & Marlat, 2010). Denning (2010) states that families and friends should be included in harm-reduction interventions. Harm reduction is aimed not only at helping drug users but also the community, as it increases the ability of friends and family to support loved ones, make healthier choices and counteract the culture of co-dependency. Some harm-reduction principles include the following: people do not respond to punitive measures, people know they need to take care of themselves, people's behaviour makes sense and is always adaptive, ambivalence is normal because life's challenges are not straightforward, change occurs gradually and has many setbacks, the clinician must start where the person is at. Denning (2010) emphasises the importance of building a connection with the client to facilitate decisions that feel empowering.

An additional client-related factor is the stigma associated with having MDR-TB (Cramm, Van Exel, Møller, & Finkenflügel, 2010). According to Cramm et al. (2010), non-adherence is a complex dynamic phenomenon with a broad range of interrelating factors that influence treatment-taking behaviour, while stigma was reported to be the main influence on clients' adherence. Participants in their study believed that people hide the fact that they have TB because they are concerned about what others might say about them. Cramm et al. (2010) recommended improved societal support for clients with TB. They proposed improving support through education programmes that focus on improving attitudes and perceptions of communities, thereby reducing stigma. Furthermore, a person-centred approach is suggested which focuses on empowerment, self-help techniques, advocacy and support groups to empower clients to take an active role in reducing stigma.

3.4.4. Therapy-related factors

Therapy-related factors include complex treatment regimens, a large number of pills that need to be consumed, adverse effects of medication, and long treatment duration (Department of

Health, 2009). Long-term hospitalisation is another issue related to treatment adherence. Médecins Sans Frontières (2009) argues that there is little evidence to prove that long-term hospitalisation improves adherence or prevents transmission of the disease. As specialised hospitals are situated far from the homes of the clients, hospitalisation leads to feelings of isolation and neglect among clients. This ultimately effects adherence negatively and results in a very high default rate, with some clients simply refusing to remain in hospital. While the recently developed National Guidelines for Drug-Resistant TB provide guidance for the management of stable, MDR-TB clients closer to their homes in health facilities and in the community, compulsory long-term hospitalisation is still required in cases where complications arise as a result of MDR-TB (Department of Health, 2013). The Department of Health (2013) also asserts that specific legislative frameworks and public health ethics should be considered when drawing up treatment guidelines. Examples of these are the right to human dignity and the right to privacy; as well as the rights to freedom of movement, trade, occupation, and social security. This set of clients' rights highlights individuals' right to health and well-being. In particular, it draws attention to the effects of long-term hospitalisation on the health and well-being of TB clients.

Mohammed, Sajun, and Khan (2015) conducted a study on clients' experience of MDR-TB. Their study identified several factors that affect people living with MDR- TB. The first factor was the physical factors of the illness, which manifested in physical weakness, limited endurance and side effects of the treatment such as nausea, vomiting, hearing loss and general anxiety. The second factor was social aspects, which included isolation and loneliness due to stigma and the fear or guilt of infecting family members. Thirdly, they identified socio-economic factors which involved poverty, poor living conditions and financial strain due to unemployment, specifically in men. They also identified supportive factors, including support from family and friends and support from welfare organisations which motivated clients to continue with treatment. Finally, transition to recovery was identified as another motivating factor.

Three separate studies have been conducted to determine the health-related quality of life in TB clients (Bauer et al., 2015; Kastien-Hilka, Rosenkranz, Sinanovic, Benett, & Schwenkglenks, 2017; Louw et al., 2012). The study conducted by Louw et al. (2012) indicated a significant weakening of clients' physical functioning owing to the effects of TB treatment. They state that the impaired physical functioning impacts the clients' quality of life negatively and as a result, causes mental distress and poor treatment outcomes. Likewise, Kastien-Hilka et al. (2017) and Bauer et al. (2015) reported a substantial negative impact of TB on health-related quality of life physically, mentally and psychosocially. The most significant impact was on the clients' mental health, highlighting the need for culturally relevant psychosocial support interventions for clients being treated for TB.

A study conducted at a hospital in the Western Cape that explored the lived experience of adults with MDR-TB who were undergoing long-term hospitalisation indicated that the participants associated the hospital environment with negative experiences, resulting in their needs not being met (Firfirey, 2011). As a result, they experienced occupational injustices such as institutionalisation, reduced role performance and an inability to set goals. Moreover, they engaged in high-risk behaviour as a coping mechanism (Firfirey, 2011). Firfirey (2011) asserted that a client-centred approach that moves away from a purely biomedical approach is imperative in the treatment of MDR-TB clients hospitalised for MDR-TB. Furthermore, she proposes that the hospital programme should address occupational risk factors that contribute to institutionalisation by strengthening support systems inside and outside the hospital, provide opportunities for acquiring new skills, include activities that facilitate spirituality, address clients' need for autonomy, and facilitate occupational adaptation through occupational enrichment programmes using psychosocial rehabilitation principles (Firfirey, 2011).

3.5 STRATEGIES TO IMPROVE TREATMENT OUTCOMES

3.5.1 WHO End TB Strategy

WHO (2015) devised a strategy to address the global burden of TB. The strategy provides a unified response to ending death from TB, disease and suffering. Moreover, the strategy builds on three pillars which are underpinned by four key principles.

The three pillars of the End TB Strategy are: **Pillar 1: Integrated, client-centred TB care and prevention** and it focuses on early detection, treatment and prevention for all TB clients. It also aims to ensure that all TB clients have equal, unhindered access to affordable services and are involved in their treatment. **Pillar 2: Bold policies and supportive systems.** The aim is to strengthen health and social sector policies and systems to prevent and end TB, support implementation of universal coverage, social protection and strengthened regulatory frameworks, address social determinants of TB and tackle TB among vulnerable groups such as the very poor, those with HIV, migrants, refugees, and prisoners. **Pillar 3: Intensified research and innovation.** The aim is to intensify research in the development and adoption of new tools; pursue operational research for the design, implementation and scaling up of innovations; and boost research investments so that new tools are developed and are easily accessible.

The four key principles of the WHO End TB Strategy are: government stewardship and accountability with monitoring and evaluation; building strong coalitions with civil society and communities; protecting and promoting human rights, ethics and equity; and adaptation of strategy and targets at country level with global collaboration. WHO (2015) states that countries are able to adopt this strategy through advocacy for high- level political commitment, multi-sectoral collaboration and high-level national mechanisms. Moreover, countries need to assess the current status of TB in their context as well as their current health system capacity. Finally, countries need to collaborate across relevant government sectors, including health, finance, social welfare, justice, labour, and transport. Collaboration with the private sector and international partners is also emphasised. Lastly, the END TB Strategy milestones for 2020 (a 20% reduction in TB), can only be achieved when TB diagnosis, treatment and prevention services are provided multi-sectorally to address broader determinants that affect the TB epidemic (WHO, 2019).

3.5.2 Engage-TB Approach

WHO (2011) developed the Engage-TB Approach to focus on integrating community-based tuberculosis activities into the work of non-governmental and other civil society organisations. According to WHO (2011), one-third of people estimated to have TB are either not reached for diagnosis and treatment by the current health systems or are not being reported. Even in clients who are identified, TB is often diagnosed and treated late. WHO states that in order to reach the unreached and to find TB clients early in the course of their illness, a wider range of stakeholders already involved in community-based activities needs to be engaged. These include the non-governmental organizations (NGOs) and other civil society organisations (CSOs) that are active in community-based development, particularly in primary healthcare, HIV infection and maternal and child health, for example, international, national and local NGOs, community-based organisations (CBOs), faith-based organisations (FBOs), client-based organisations, and professional associations (WHO, 2010). The strengths of NGOs and other CSOs active in healthcare and other development interventions at the community level include their reach and spread and their ability to engage marginalised or remote groups. WHO states that these organisations have a reasonable advantage because of their understanding of the local context. Moreover, greater collaboration between NGOs and other CSOs and local and national governments could greatly enhance development outcomes (WHO, 2011).

In addition, WHO (2011) recommends a more decentralised approach that formally recognises the critical role of NGOs and other CSOs as partners. Addressing gaps through support to community-based actions will expand TB prevention, diagnosis, treatment and care activities. Examples of community-based TB activities would include awareness raising, behaviour change strategies and community mobilisation to reduce stigma and discrimination against people with TB. Additionally, screening and testing for TB and TB-related morbidity (e.g. HIV counselling and testing; diabetes screening), including home visits, treatment adherence support through peer support and education, and individual follow-up should be a priority. Finally, social and livelihood support (e.g. food supplementation, income-generation activities), home-based palliative care for TB and related diseases, and community-led local advocacy activities are also important community-based TB activities (WHO, 2011).

3.6 INTERPROFESSIONAL COLLABORATION

Interprofessional collaboration is increasingly emphasised in health research, service and policy. Several authors draw attention to the positive impact interprofessional collaboration has on treatment outcomes (Choi & Pak, 2007; Caldwell & Atwal, 2003; Martin, Ummenhofer, Manser, & Spirig, 2010; Zwarenstein, Goldman, & Reeves, 2009). Healthcare 2030 advocates better interdisciplinary collaboration where all stakeholders would work with a single assessment and care planning process as the client's journey crosses the entire service platform. This will ensure continuity of care in a seamless and consistent manner. Furthermore, it states that an effective process of discharge planning or referral from hospital has the potential benefits of reducing readmissions and the average length of stay, and empowering clients with useful information for self-care (Western Cape Department of Health, 2014).

Zwarenstein et al. (2009) assert that practice-based interprofessional collaboration can improve healthcare processes and outcomes; however, if there are problems with communication and interactions between healthcare professionals, these can manifest themselves as problems with client outcomes. Martin et al. (2010) assert that the major component of interprofessional collaboration is to include a biopsychosocial approach to assessments as well as the development of individual evidence-based interventions, coordination of care, monitoring of overall health status, coaching for clients with chronic illnesses, self-management, and the promotion of community-based services.

Irvine, Kerridge, McPhee, and Freeman (2002) state that healthcare workers should not be territorial when it comes to their boundaries of practice, even when trying to maintain their professional identity. They also assert that there needs to be a greater degree of coordination and collaboration between the various professions and that communication among team members needs to minimise jargon, as certain words will have different meanings to the various professions, which creates conflict and confusion. Choi and Pak (2007) describe various levels of interprofessional collaboration. The first level, multidisciplinary collaboration, draws on the knowledge of various disciplines, but each professional stays within the boundaries of his or her profession. The second level is interdisciplinary collaboration, which synthesises and harmonises the links between disciplines into a coordinated and coherent intervention. The third level is transdisciplinary collaboration, which integrates natural, social and health sciences in a humanities context and transcends traditional boundaries. Choi and Pak (2007) report that the benefits of teamwork include increased learning and development of people and organisations, better utilisation of resources, and minimising unnecessary costs. Furthermore, teamwork improves job performance and work quality. Additional benefits include networking, teamwork, and gaining new insights and skills, as well as a positive effect on careers. In a study conducted in an orthopaedic surgery context, it was found that better interdisciplinary coordination resulted in better postoperative functioning and shorter hospital stays, thereby illustrating improved client outcomes. Evidence in the mental health arena indicated that clients with depression rated the quality of care higher and were more adherent to treatment, resulting in fewer symptomatic days as a result of exposure to an interdisciplinary approach (Choi & Pak, 2007).

Bridges, Davidson, Odegard, Maki, and Tomkowiak (2011) define interprofessional collaboration as a partnership between a team of healthcare providers and a client in a participatory, collaborative way which makes use of a coordinated approach to shared decision making around health and social issues. Moreover, Bridges et al. (2011) state that key elements of interprofessional collaboration include responsibility, accountability, communication, coordination, cooperation, assertiveness, autonomy, and mutual trust and respect. Despite the increasing drive to enhance interprofessional collaboration in the health sector, it continues to remain a challenge within the health system. Caldwell and Atwal (2003) attribute these challenges to the fundamental ideological differences between the various professions, unequal power relations between different members of the team, challenges with communication between healthcare professionals, and the fact that roles change over time, which often results in an overlap in skills and therefore role confusion.

While several benefits of interprofessional collaboration have been identified, one of the main barriers to effective interprofessional collaboration is medical dominance. Gair and Hartery (2001) describe medical dominance as a structural feature of the hospital system and state that health professionals are aware of this dominance and it impacts their autonomy negatively. In their study on the discharge decision making in a geriatric assessment unit, Gair and Hartery (2001) found that the senior doctors exercised a disproportionate degree of power compared with other team members; however when the other team members' opinions were taken together, their views outweighed the opinion of the doctor. This indicated that interpretations of medical dominance are relative to context and expectations of the team. The team members in their study had also been part of the team for a long time, which entailed that they had positive attitudes towards their team and valued one another as individuals and professionals. Gair and Hartery concluded that teams are more effective when medical dominance is reduced and all team members are committed to being involved in the decision-making process. Additionally, the team should all be in agreement on how the team will operate and should try to maintain stability within the team.

Fitzgerald and Davison's (2008) study on the importance of teamwork in the health setting also highlighted medical dominance as a barrier to effective multidisciplinary teams. They emphasised the importance of having a better understanding of functional roles and scope of practice within the team. They contended that there shouldn't be the expectation that all health-care providers have the innate skills required to be team players, and that it is something that should be developed within the team over time. They also recommended that teams be assessed for team readiness which assesses functional diversity, social cohesiveness and the superordinate identity of team members.

In a separate study, Tousjin (2012) underscored the need for the integration of health and social care to address certain health conditions such as the elderly, people with disabilities, and people with addictions and mental illness. He highlights medical dominance as one reason for reducing professional autonomy and notes the need for a more balanced role between medicine and other professions. He states that the function of the multidisciplinary team is to evaluate the needs and kinds of treatment required and draft care plans, and that at organisational level a balance between healthcare and social care is required. He also promotes transparency in terms of client records and the monitoring of client rights. Bourgeault and Mulvale (2006) state that medical dominance is a structurally embedded phenomenon and addressing this issue needs to be done at a micro (interpersonal relationships between team members), meso (institutional arrangements within hospital and community settings) and macro (regulations around scopes of practice, economic and regulatory domains) level.

Similarly, in occupational therapy literature, Townsend and Wilcock (2004) state that occupational therapists' intentions can sometimes be overruled by policies that are not yet client centred. Hess-April, Ganas, Phiri, Phoshoko, and Dennis (2018) also bring to the fore that occupation-based interventions are often perceived as a challenge owing to medical dominance in hospital settings. The findings in Firfirey and Hess-April's (2014) study informed the development of the ICIP for MDR-TB clients undergoing long-term hospitalisation. In addressing the implementation of the ICIP, Firfirey and Hess-April (2014) propose that the ICIP adopts an interdisciplinary approach. They state that adopting this model of practice at the hospital requires a comprehensive and integrative intervention approach that involves all members of the multidisciplinary team: occupational therapists and assistants, physiotherapists, psychologists, lay counsellors, social and auxiliary workers, and doctors and nurses. An integrative intervention approach requires that each team member establish his or her role within the programme in terms of the services provided so that there is greater synergy between the services provided and so that clients can be managed holistically (Firfirey & Hess-April, 2014).

3.7 HEALTH AND WELL-BEING

3.7.1 Definitions of health and well-being

The WHO (1948) defines health as a state of complete physical, mental and social well-being and not merely the absence of disease (WHO, 1948). WHO (1986) draws attention to how definitions of health have evolved from an initial emphasis on disease and mortality, to health considered a resource and essential to everyday life. According to WHO (1986), individuals should be able to satisfy their needs, and in so doing, change or cope with their environments to reach this state of well-being. Moreover, the Ottawa Charter's (WHO, 1986) description of health states that context plays an important role in one's health and well-being, as people create a sense of health and well-being based on the settings of their everyday lives.

WHO (1986) further states that a state of health is achieved by being able to care for oneself and others as well as being able to make decisions and take control of one's life circumstances, provided the society or environment one lives in allows for this to be attained. This suggests that health and well-being are also reached through finding a balance between one's mental, physical, and social characteristics. In defining well-being, Orem (1985) asserts that well-being is a term that is used to describe an individual's perception of their condition as well as an individual's ability to integrate their physical, mental, emotional, spiritual and social characteristics. Furthermore, well-being can be achieved even if a person is ill or unhealthy as it relies on a perceived sense of congruence of all aspects of one's life, resulting in contentment and ae overrall sense of happiness.

Recent literature suggests that the WHO definition of health has limitations (Huber et al., 2011). Some criticisms are summarised by Huber et al. (2011), who assert that the nature of disease has changed considerably since 1948 when acute illnesses were the main burden of disease. With the rise of chronic illnesses, they state that the WHO definition has become counterproductive as it overlooks individuals' ability to cope and adapt to ongoing changes in their physical, emotional and social circumstances and to function with fulfilment, despite being ill (Huber et al., 2011). They propose that health be redefined as the ability to adapt and self-manage physical, mental and social health.

The quintessence of Healthcare 2030 is "access to person-centred quality care" (Western Cape Department of Health, 2014). The Government of the Western Cape is committed to increasing the wellness of the people of the province, acknowledging that wellness is defined as not merely the absence of disease but the ability to maximise personal potential in all spheres of life. Healthcare 2030 states that the organisation of care that has a person perspective instead of an organisational perspective requires clients and their families to be treated with dignity and respect, to be listened to and provided with information that they can understand, and to be involved and empowered in making informed choices and determining their treatment options. In this context, clinical staff would manage their clients holistically, by focusing on the person within a broader personhood, family and community context, and refraining from adopting a purely biomedical approach to the management of the client. Moreover, it states that by understanding and addressing a client's concerns, appropriate and effective management of the condition can be implemented. Furthermore, a person-centred approach, built on a relationship of trust, leads to increased compliance, improved quality of care, and ultimately, better health outcomes (Western Cape Department of Health, 2014).

3.7.2 Health, well-being and occupation

Several researchers highlight a relationship between health, well-being and occupation, where occupation is part of a balanced lifestyle and is a natural biological mechanism for health (Hammell, 2009b; Laliberte-Rudman, 2002; Law, Steinwender, & Leclair, 1998; Wilcock, 1999). According to Law et al., what makes occupational therapists unique is the use of occupation as central to promoting health and well-being, while Wilcock (1993) asserts that humans are occupational beings who need to use time in a purposeful way. Wilcock argues that this is an instinctive need which relates to health and survival as it empowers individuals to utilise their abilities and potential, therefore allowing them to thrive. Wilcock proclaims that people have an innate need to utilise their skills through engagement in occupations and that they should be encouraged to pursue this need not only to provide sustenance, survival and security, but also to improve their overall health. Laliberte-Rudman's (2002) view that occupations influence people's sense of personal identity, that is, the perception people have of themselves as well as their social identity, supports Wilcock's view that occupational engagement can fulfil basic human needs by providing people with a sense of purpose, a means to organise their time and a means to develop and express their identity. Laliberte-Rudman (2002) emphasises that occupational engagement leads to opportunities for growth and that a limitation in occupational engagement limits the way in which people perceive themselves and manage their social identity. Laliberte- Rudman (2002) further states that the sense of control that people exert over their occupation is an important determinant of the contribution that it makes to their lives.

Law et al. (1998) reviewed 23 studies with the purpose of creating a link between health, well-being and occupation. They concluded that it is not the type of activity people engage in but rather its characteristics, like choice, control, and intrinsic motivation that lead to increased satisfaction and thus increased health. From the review the authors reported various examples of how occupation affects health and well-being. For example, they stated that an individual's stress levels and perceived control within a situation impact on his/her health. They stated that health is negatively impacted when stress levels are higher, as this leads to decreased perceived control. Furthermore, they reported that an increase in free time, with fewer opportunities to 'do', is associated with decreased satisfaction and subsequent diminished health.

In defining occupation, Wilcock (1998b, p. 249) was the first to describe occupation as "a synthesis of doing, being, and becoming". She states that doing (or not doing) is a powerful determinant of health and well-being and that 'doing' is so important in people's lives that it is impossible to envisage the world without it. She states that the dynamic balance between 'doing', 'being', and 'becoming' encompasses what people do and who they are as human beings. 'Doing' provides a mechanism for development as it is the active part of engaging in an activity and is the most readily visible; 'being' refers to one's nature of being true to one's self in all that one does; while 'becoming' symbolises a sense of the future and holds the notion of self-actualisation as a person strives to change, develop or grow. Hence, through engaging in occupation, individuals are in a constant state of transformation. Rebeiro, Day, Semeniuk, O'Brien, & Wilson (2001) expanded on this definition and added 'belonging'. 'Belonging' refers to the need for social interaction, mutual support and friendship as well as the need to be included. Furthermore, it is an affirmation that one's life has value to others (Rebeiro et al., 2001). Hammell (2004) concurs with the view of Rebeiro et al. (2001) that meaningful occupations should contribute to a person's sense of belonging and feeling valued in everyday life as well as provide hope for the future by stating that within a network of social support, belonging can underpin both the ability to do and contribute to the pleasure of meaningfulness of doing.

Lyons, Orozovic, Davis and Newman (2002) conducted a study on the occupational experiences of people with life-threatening illnesses and presented their findings in terms of doing, being, and becoming. They concluded that as result of life-threatening illness, people cease in doing several of the occupations they previously found meaningful as they struggle to maintain occupational functioning owing to reduced physical or mental functioning. Through doing, they were able to maintain a sense of well-being despite the effects of their illness. In terms of being, their social relationships and self-exploration, as a result self-worth, were enhanced through occupational engagement which promoted the experience of becoming, in that engaging in occupation provided them with fresh learning opportunities (Lyons et al., 2002).

In support of Law et al., Wilcock (2006) states that people's doing, being and becoming can lead to either or both positive and negative health outcomes. Ill-health can therefore be an outcome of unsatisfactory doing, being, and becoming, which according to Wilcock (2006), may be influenced by an individual's exposure to occupational injustice. She therefore asserts that it is imperative that occupations provide people with enough physical, mental and social meaning, thereby allowing them to meet their unique 'becoming' needs.

According to Hammell (2009a), occupations should not purely be defined by doing, but by how people experience it. Hammell (2004) states that meaning, purpose, choice, control, and a positive sense of self-worth affect the way in which people experience occupation. She concurs with the view of Rebeiro et al. (2001) that meaningful occupations should contribute to a person's sense of belonging and feeling valued in everyday life, as well as provide hope for the future. Additionally, she asserts that spirituality influences the meaning and purpose that people attach to their occupations and that it plays a role in how people experience their occupations. According to Hammell (2009b), occupations can hold negative meaning when the person that engages in them experiences boredom, humiliation and frustration. Kielhofner (2002) considers individuals whose occupations lack meaning and purpose to be in a state of occupational dysfunction. He regards people's inability to choose, organise or perform occupations and a lack of direction in life as dimensions of occupational dysfunction.

More recent evidence further highlights the link between health, well-being and occupation (Blank, Harries, & Reynolds, 2015; Gallagher, Muldoon, & Pettigrew, 2015; Moll, Gewurtz, Krupa, Law, Lariviere, & Levasseur, 2015). Gallagher et al. (2015) state that occupation provides structure and routine to daily activities and is essential for health and well-being. Moreover, meaningful occupation provides a foundation for social participation and has the potential to provide the basis of structuring or re-structuring one's identity. They concluded that this understanding of what meaningful occupation can do can help therapists create an environment that enables individuals and communities to engage in meaningful occupation, thereby promoting health and well-being (Gallagher et al., 2015). Blank et al. (2015) concur with the view of Gallagher et al. (2015) that there is a link between meaningful occupation, social participation and one's identity. They conclude that importance needs to be given to these elements and the role they play in enhancing an individual's sense of self and the impact it has on health and well-being.

3.7.3 Spirituality, health and well-being

According to Unruh (2007) spirituality is subjective in that it is personal, intimate and private. She states that each person, depending on the person's awareness and acceptance of spirituality, will incorporate spirituality into their lives in a way that he or she is most comfortable with. Spirituality and religion, however, have a strong link and are often seen as dependent on each other. For this reason, George, Larson, Koeig, and McCullough (2000) state that defining spirituality on its own is very complex. They argue that both religion and spirituality are based on sacred beliefs (referring to a divine being or higher power) and that these beliefs impact people's behaviour. They state that the only difference between religion and spirituality is that religion is linked to formal religious institutions, while spirituality is not (George et al., 2000). Weskamp and Ramugondo (2004) agree with the view that religion is associated with constructed doctrines, dogma and a specific manner of worship. They assert that it is possible to be spiritual without being religious, because spirituality can be experienced informally and may be intangible, as it occurs within an individual. Moreover, spirituality provides people with hope and is often attributed to positive experiences that are essential for a meaningful life (Weskamp & Ramugondo, 2004). They therefore question whether it is possible to have hope and achieve meaning and purpose in spirituality while experiencing occupational injustice, and argue that spirituality should be an integral part of interventions that address occupational injustice. Feeney and Toth-Cohen (2008) support this by stating that failure to respond to clients' spiritual needs will result in ineffective intervention, as spirituality is central to many clients' lives and is often what is most meaningful to them.

Wilding (2007) draws attention to the relationship between spirituality and occupation. According to her, spirituality is a form of being that provides the meaning that fortifies doing. In a study she conducted to explore the relationship between spirituality and occupation, the participants expressed that their spirituality made it easier for them to engage in everyday occupations as they felt connected to other people and thus experienced more meaning (Wilding 2007). She concludes that spirituality can provide hope, provide someone with a reason to live, support a person in his or her daily life, and provide meaning to everyday occupations. Wilding (2007) also asserts that spirituality helps people cope with their illness as it provides emotional support and is therefore directly related to people's health. More recently, literature supports this view, with Humbert (2016) stating that religious and spiritual activities help elaborate an individual's roles, routines and habits. Spiritual and religious beliefs therefore have an influence on a person's health and quality of life, and should be considered a significant component of the holistic approach to promoting health and well-being in individuals, groups and communities (Mthembu, Wegner, & Roman, 2017). In a study conducted by Thompson, Gee, and Hartje (2018), the findings showed that while clients often wanted their spiritual needs addressed as part of their treatment, therapists did not recognise the importance of this need as a priority and the issue was therefore not addressed in treatment. Therefore, Mthembu et al. (2017) as well as Thompson et al. (2018), propose that therapists should reflect on their own spirituality so that they are more sensitive to the needs of their clients.

3.7.4 Physical activity, health and well-being

Physical therapists have a role to play in promoting health and wellness and in order for them to do this they need competency in counselling, behavioural change and motivational interviewing across a range of health behaviours that promote health and well-being. These skills will help the therapist to incorporate interventions that increase health and wellness into the physical therapy plan (Bezner, 2015). According to Reynolds (2001), physical therapists need to do the following to be able to improve physical activity in clients: educate clients about the benefits of physical activity; make clients aware of the recommended minimum requirements of physical activity; explore perceived barriers to physical activity; encourage goal setting and monitoring outcomes; include strategies for helping clients and clients to prevent relapse; and build social support. However, barriers to incorporating health and wellness in physical therapy treatment plans include a lack of interest on the part of clients, lack of counselling skills, and the perception that the physical therapy environment is not conducive to health promotion. Physiotherapists have the opportunity to shift the way they view themselves in terms of health promotion and wellness (Bezner, 2015). Physiotherapists encounter clients who engage in unhealthy behaviours such as a lack of physical activity, smoking, poor nutrition, inadequate sleep and stress. They therefore have a responsibility as healthcare providers to address factors that influence health and wellness in their interventions. The medical system remains focused on illness and this needs to shift to health and well-being. (Bezner, 2015). Physical activity is beneficial in the prevention and treatment of several disorders such as musculoskeletal ailments, mental health issues such as mild depression, and chronic conditions resulting in risk of depression. In terms of physical therapy for TB clients (Nogas ,Grygus, Nagorna, Stasiuk, & Zukow, 2019) conducted a study on the physical rehabilitation of TB clients and their recommendations included a comprehensive programme of physical rehabilitation accompanied by therapeutic physical training, physiotherapy and educational programmes to improve lung function, functional state of the cardiorespiratory system, and quality of life of clients with pulmonary tuberculosis.

Occupational therapy literature also draws attention to the link between physical activity and well-being, with Moll et al. (2015) stating that engaging in physical exercise is a way of activating one’s body, mind and senses which makes it a key contributor to health. Personal factors such as expectations, competencies, mood, attitudes and past experiences as well as environmental factors can have an influence on an individual’s occupational needs (Doble & Santha, 2008).

3.8 OCCUPATIONAL INJUSTICE

3.8.1 Occupational injustice and ill-health

Preliminary literature on occupational injustice uses the term ‘occupational risk factors’ to describe factors that could lead to health disorders such as boredom, burnout, decreased fitness, mental illness, physical illness, and ultimately disability or death (Wilcock, 1998a). In 2004, Townsend and Wilcock (2004, p. 251) defined occupational injustice as “socially structured, socially formed conditions that give rise to stressful occupational experiences”. The definition has since evolved, with the most recent definition describing occupational injustice as the ongoing deprivation or patterns of disruption that jeopardise children’s development, create considerable health issues and shorten an individual’s lifespan (Wilcock & Hocking, 2015). Early literature identified three outcomes of occupational injustice: occupational imbalance, occupational alienation, and occupational deprivation (Wilcock, 1998a). However, subsequent literature includes occupational marginalisation (Townsend & Wilcock, 2004) and occupational apartheid (Simó-Algado, Mehta, Kronenberg, Cockburn, & Kirsh, 2002) as additional forms of occupational injustice. Furthermore, occupational injustice occurs as a direct violation of one’s occupational rights: the right to experience occupation as meaningful and enriching, the right to develop through participation in occupations for health and social inclusion, the right to exert individual and population autonomy through choice in occupations, and the right to benefit from privileges for diverse participation in occupations (Townsend & Wilcock, 2004).

Wilcock (1998a) first defined occupational imbalance as a state that occurs when an individual's occupational engagement fails to meet their unique social, mental or rest needs, bearing in mind that people's experiences of work, rest and play are subjective. She states that balancing one's physical, social and mental capacities with rest is important if one wants to achieve health and well-being, therefore, in terms of occupation, individuals should be able to maintain a balance between work, rest and play (Wilcock, 1998a). Subsequent definitions state that occupational imbalance occurs when individuals either have too much or too little to do or lack a variety of meaningful occupations to engage in (Stadnyk, Townsend, & Wilcock, 2010; Townsend & Wilcock, 2004). Occupational imbalance will therefore differ from person to person in relation to their capacities, interests and responsibilities, and could result in either burnout or boredom.

Occupational alienation is associated with feelings of frustration, isolation and separation from an occupation when individuals' needs are not met by engagement in a particular occupation (Wilcock, 1998a). Similarly, Townsend and Wilcock (2004, p. 80) define occupational alienation as "prolonged disconnectedness, isolation, emptiness, lack of a sense of identity, a limited or confined sense of spirit of a sense of meaninglessness".

Occupational deprivation is defined as people's inability to engage in occupations due to some external restriction outside of the control of the individual (Wilcock, 1998a; Whiteford, 2005). Examples of such external restrictions are technology, division of labour, lack of employment opportunities, poverty, affluence, illiteracy, prejudice, cultural values, local regulations, limitations imposed by social systems, and ill-health or disability (Wilcock, 1998a).

Occupational marginalisation is described as the exclusion from participation in occupations owing to perceived norms and expectations about who should participate in certain occupations as well as when, where and how (Stadnyk et al., 2010; Townsend & Wilcock, 2004). Moreover, marginalisation is established through social exclusion and limited access to opportunities and resources resulting from informal norms and not necessarily from specific laws or policies (Hammell, 2008).

Occupational apartheid differs from occupational marginalisation in that it occurs when people are restricted from engaging in specific occupations based on personal characteristics such as race, age, disability, gender, nationality, religion, sexuality, and social status (Kronenberg & Pollard, 2005). Occupational apartheid is therefore a formally established form of occupational injustice.

3.8.2 Long-term hospitalisation, institutionalisation and occupational injustice

Literature suggests that there is a relationship between occupational injustice and institutionalisation (Barros, Ghirardi, & Lopes, 2005; Bynon, Wilding, & Eyres, 2007; Duncan 2004a; Farnworth & Muñoz, 2009; Firfirey & Hess-April, 2014; Snowdown, Molden, & Dudley, 2001). For instance, despite hospitals usually being associated with restoration of health, hospitalisation can also have a negative impact on health and well-being (Bynon et al., 2007). Similarly, research has shown that people experience both occupational deprivation and occupational imbalance when they undergo long-term hospitalisation (Farnworth & Muñoz, 2009). Farnworth and Muñoz (2009) argue that people who are institutionalised are not allowed to choose the occupations in which they engage, and are therefore limited in terms of occupational engagement. They emphasise that because routines in hospitals are highly structured and monotonous, they allow for little or no choice. As a result, the opportunity for purposeful occupational engagement becomes meaningless to the individual and impacts negatively on his/her health and well-being. Furthermore, institutionalisation leads to people being disconnected from society and limits opportunities to develop habits and routines which further impact negatively on health and well-being (Farnworth & Muñoz, 2009). A study conducted at a hospital in the Western Cape that explored occupational adaptation as experienced by adults with MDR-TB who were undergoing long-term hospitalisation showed that the participants associated the hospital environment with negative experiences, resulting in their needs not being met (Firfirey & Hess-April, 2014). As a result, they experienced occupational injustice due to institutionalisation, resulting in reduced role performance and an inability to set goals. Moreover, they engaged in high-risk behaviour as a coping mechanism.

Snowdown et al. (2001) draw attention to the influence long-term hospitalisation has on the behaviour of clients with mental health problems. They state that institutionalisation leads to clients becoming apathetic and unreceptive as they lose interest in anything that is happening outside the institution. Furthermore, they highlight behavioural problems such as aggression and self-destruction in clients who undergo long-term hospitalisation and stress that such behavioural issues are usually related to the nature of the institution, encompassing factors such as enforced idleness, negative staff attitudes, lack of friends, lack of possessions, loss of contact with the outside world, and the general atmosphere in the hospital wards which all contribute to the institutionalisation (Barton, 1959, cited in Snowdown et al., 2001). Snowdown et al. (2001) further state that clients who are institutionalised could become dependent on the institution, thereby hindering their self-esteem and decision-making abilities, and consequently reducing the control they have over their environment.

Haney (2002) addresses the institutionalisation of prisoners and elaborates on the challenges they face in adapting to life after prison and reintegrating into their communities. His view corresponds with that of Snowdown et al. (2001), that when institutionalised, people become dependent on the institutional structure to such an extent that they forget how to use their initiative and how to be independent, as they are denied control daily. As a result, when the structures of the institution are removed, they no longer know how to do things on their own. Haney (2002) argues that the effects of institutionalisation often only surface once the person has returned home. In order to combat institutionalisation in the case of prisoners, Haney (2002) recommends that programmes in prison should allow prison life to replicate normal life as much as possible and that prisoners should be encouraged to exercise some autonomy. In addition, strategies should be put into place to develop prisoners' insight into the changes engendered by prison life and to provide them with tools to assist their adaptation to the outside world. Most importantly, Haney (2002) proposes that support mechanisms should be put in place within communities, focusing on strengthening family systems through family counselling sessions, to ease the transition from prison to home.

Therapeutic milieu therapy is another strategy that can be implemented to address institutionalisation and has been a central part of mental health nursing practice. According to Mahoney, Palyo, Napier, and Giordano (2009), a therapeutic milieu requires cooperation among clinicians to provide clients with an optimal healing environment that is based on continuous therapeutic relationships between clients and service providers that are client-centred. Additionally, a therapeutic milieu provides a framework to organise care in a holistic manner that supports positive health outcomes. Ben-Yishay (1996) asserts that a therapeutic milieu should include all clients as equal members of the programme who have the primary responsibility over their lives with the aim of returning to fully productive lives as soon as possible after becoming ill. Accordingly, the therapeutic environment provides a framework within which the necessary therapeutic interpersonal interventions can be coordinated in such a way that each intervention facilitates the other (Ben-Yishay, 1996).

Shattel, Starr, and Thomas (2007) conducted a study on mental healthcare users' experience of a therapeutic milieu. The findings of their study showed that what they required from their therapeutic relationships with the multidisciplinary team was for the team members to make time to truly get to know and understand them. They also expressed the need for staff to be caring towards them when communicating to ensure they received the necessary clarity. They needed a sense of connectedness to ensure they felt understood by the staff. Vatne and Hoem (2008) highlight the importance of communication in what they refer to as milieu therapeutic approaches to mental healthcare. They state that milieu therapy should be a multi-professional approach. While Vatne and Hoem's findings draw attention to the importance of medical management and physical comfort with regard to clients' experiences in hospital, emotional security and the importance of communication were prominent findings. The participants in their study expressed that truthful communication as well as the sense that the staff were available when needed enhanced their experience and reduced their anxiety. Gilburt Rose and Slade (2008) conducted a study on client experiences of hospitalisation at a psychiatric hospital. The importance of interpersonal relationships and communication was a key finding in their study. They concluded that effective communication, cultural sensitivity and the absence of coercion ensured that clients developed a sense of trust with staff, thus highlighting the importance of a therapeutic relationship in providing a safe, therapeutic milieu for treating clients with mental illness.

3.9 OCCUPATIONAL THERAPY STRATEGIES TO ADDRESS OCCUPATIONAL INJUSTICE

3.9.1 Occupational justice

In addressing occupational injustice, Hammell (2009a) argues that occupational therapy intervention should allow everyone the opportunity to engage in occupations that have a positive impact on their health, while Townsend and Wilcock (2004) propose that intervention should also facilitate occupational justice in acknowledging that people are occupational beings as well as social beings. According to Townsend and Wilcock (2004), autonomous engagement in occupations as well as enabling an individual's choice and control over occupational engagement, comprises the beliefs and principles that guide occupational justice. Furthermore, Townsend and Wilcock (2004) propose four occupational rights that aim at ensuring occupational justice. The four occupational rights are the right to experience occupation as meaningful and enriching; the right to develop through participation in occupations for health and social inclusion; the right to exercise autonomy through having a choice in occupation; and the right to have the privilege of engaging in diverse occupations.

Hammell (2009b) however argues that one should acknowledge how Western cultures guide occupational therapy intervention and the impact they have on the efficacy of the implementation of such interventions on other cultures. She argues that although occupational therapy theories are largely developed in Western cultures, most occupational therapists do not work with people from these settings. She asserts that where Western cultures promote individualism and independence, other cultures focus on interdependence and connectedness which contribute positively to well-being. She therefore asserts that occupational therapy should not focus on occupations purely in relation to self-care, work, and leisure, but that they should also include prayer, caring for others, making love and supporting others as meaningful occupation. Townsend and Wilcock (2004) state that occupational therapists can facilitate occupational justice by collaborating with clients to advocate for social inclusion, using enabling methods that encourage clients to make their own decisions about participation in occupations.

According to Stadnyk et al. (2010), evolving theory of occupational justice states that in order for occupational justice to be facilitated, structural and contextual factors need to align so that individuals have the opportunity to participate in their choice of meaningful activity. Additionally, Stadnyk et al. highlight four beliefs within their theory: humans are occupational beings; they participate in occupations as autonomous agents; participants in occupations are both interdependent and contextual; and occupational participation is a determinant of health and quality of life.

In Whiteford and Townsend (2011), the participatory occupational justice framework mentions six processes that can occur in any order: raise consciousness of occupational justice; engage collaboratively with partners; mediate agreement on a plan; strategize resource funding; support implementation and continuous evaluation; and inspire advocacy for sustainability.

Occupational justice is linked to social justice. Durocher, Gibson, and Rappolt (2014) summarise occupational justice as a concept that advocates for individual and population rights to unique occupational needs and habits, and recognises that these are based on individual capacity and circumstances, while Hocking (2017) defines social justice as addressing important social goals that befit an equitable and compassionate world, respecting human dignity and creating an inclusive society. Moreover, occupational justice is concerned with enabling, mediating and advocating for environments in which people are afforded opportunities to engage in occupations that are just, meaningful and promote health (Hocking, 2017). Occupational injustice therefore occurs when participation in health-enhancing occupations is inequitable across different groups in society, with some people unfairly benefiting and others forced to engage in occupations that are detrimental to health and well-being (Hocking, 2017).

Townsend (2012) draws attention to the interconnectedness between the central human capabilities framework and the framework for occupational justice. She states that justice requires societal accountability; that all people should be included in everyday occupations; societies need to create textual forms of governance that would prompt changes in housing, employment, and community recreation; and societies need to engage people and support their participation in controlling their environments rather than to be subjected to occupational justice.

3.9.2 Occupational enrichment

With regard to intervention strategies to address occupational injustice, several authors recommend occupational enrichment programmes to address occupational deprivation and occupational imbalance (Duncan, 2004a; Farnworth & Muñoz, 2009; Molineux & Whiteford, 1999). These authors state that occupational enrichment programmes aim to provide people with opportunities for autonomous choice, independent structuring of daily routines and active participation in programmes which support personal and skills development needed for successful integration into their families and communities (Duncan, 2004a; Farnworth & Muñoz, 2009; Molineux & Whiteford, 1999). Duncan (2004a) suggests that occupational enrichment allows individuals to access personally satisfying activities by addressing personal and environmental issues that could act as barriers against participation in meaningful occupations. She states that occupational enrichment recognises occupational risk factors and addresses the effect these risk factors have on the individual's occupational needs. Similarly, Molineux and Whiteford (1999) define occupational enrichment as the deliberate manipulation of an individual's environment to support and facilitate meaningful occupations by addressing the needs of people who experience occupational risk.

3.9.3 Occupational consciousness

More recent literature focuses on the impact of colonialism on occupational engagement and how that informs occupational justice. Hammell (2011) draws attention to the role that colonialism and hegemony of Western cultures play in the definitions of occupational engagement. She argued that Western views are not universal and that occupational science requires theories to be formed by diverse perspectives. Furthermore, Hammell and Beagan (2017) challenge the definitions of occupational injustice, stating that they are discriminatory and have the potential to disempower, as they are unjust manifestations of the dominant Western culture and a result of colonialism. They assert that the concept of occupational injustice focuses on social exclusion as well as the imposition of occupations in which individuals might not want to engage. They therefore advocate that occupational injustices should be viewed in terms of occupational rights. According to Hammell and Beagan (2017), occupational injustice occurs when the rights and freedoms of an individual are violated.

In highlighting the link between hegemony and colonialism to occupational injustice, Ramugondo (2015) introduced the concept of occupational consciousness which refers to the "ongoing awareness about the dynamics of hegemony and the recognition that dominant practices are sustained through what people do every day, with implications for personal and collective health (Ramugondo, 2015, p. 488). Occupational consciousness is therefore advanced as a critical notion that frames everyday doing as a potentially liberating response to oppressive social structures. Ramugondo concluded that occupational consciousness is a readily available response to individuals and communities on the periphery of dominant worlds to disrupt the cycle of oppression and inequality through everyday doing by elucidating the critical perspective of the oppressed. Ramugondo therefore encourages therapists to question whether there are specific expressions of occupational consciousness in individuals or communities and how communities engage in acts of resistance in their everyday occupations. She also encourages therapists to draw links between occupational consciousness and occupational injustices. Likewise, Richards and Galvaan (2018) propose that occupational therapists need to become more conscious of how socio-political factors influences' on clients' contexts shape their occupational engagement. Galvaan (2015) asserts that as occupational choice is influenced by structural, contextual and personal factors, creating opportunities through introducing a wider range of opportunities for participation in occupations is insufficient for promoting occupational justice and social inclusion. Therefore, the existence of opportunities to participate in occupations may not translate into changes in actual occupational performance (Galvaan, 2015).

3.9.4 Occupational engagement

Historically occupation has been categorised in terms of self-care, work and leisure. Hammell (2009b) however suggests that occupations can be categorised as restorative occupations, occupations that foster belonging, connecting and contributing, occupations that engage in doing and occupations that reflect life continuity and hope for the future. Restorative occupations are described as occupational experiences that contribute to well-being, especially in circumstances when people are going through difficult life changes such as life-threatening illnesses. Examples of restorative occupations include reading, creative arts, prayer and meditation, music, and enjoying nature. Such occupations are neither goal directed nor purposeful, but have the potential to be extremely meaningful and rewarding (Jonsson & Persson, 2006).

Occupations fostering belonging, connecting and contributing include the occupations that afford clients the opportunity to contribute to others in reciprocal relationships than encourage perceptions of value, competence, self-worth, connecting with others and belonging. Iwama (2006) also states that in collective societies where high value is placed on social relationships, belonging is more important than doing. Similarly, Duncan (2004b) contends that doing valued occupations with and for others fosters a sense of connectedness. Occupations can therefore be chosen specifically to encourage social connectedness and enable individuals to make contributions to others. "Doing" occupations, according to Hammell (2009b), contributes to meaning and purpose in everyday life and therefore aids health and well-being. Hammell further asserts that for people who have sustained a life-altering injury or illness, the process of refocusing on abilities, interests and personal goals often entails redefining one's values and rethinking one's priorities (Hammell, 2009b). According to Law et al. (1998). occupations need to meet the intrinsic needs of individuals. Hammell (2004) defines these intrinsic needs as meaning, purpose, choice, and control.

Meaning and purpose attached to occupational engagement can also be linked to occupational potential. Wicks's (2005) research focused on occupational potential, which she argued evolves over time and can be likened to becoming. Occupational potential, as defined by Wilcock (1998a, p. 25), is the "future capability to engage in occupation towards needs, goals and dreams for health, material requirement, happiness and well-being". She asserted that each person's occupational potential is unique and is based both on environmental factors and sociocultural, political, and personal factors – the meaning and value that occupations hold. Wicks (2005) asserts that understanding occupational potential is pivotal to understanding humans as occupational beings.

Occupational engagement can provide experiences of pleasure and joy and can be associated with experiences of enjoyment, amusement and contentment (Moll et al., 2015). An individual's potential to experience occupational well-being is dependent on available occupational opportunities. Limited occupational choices can threaten an individual's ability to meet his or her occupational needs (Doble & Santha, 2008). Hasselkus (2006) states that occupational therapy interventions should include goals of living with one's self and finding fulfilment in one's self and need to be based on the individual's subjective needs. According to Doble and Santha (2008), occupations need to provide an individual with control, efficacy, value and self-worth; demonstrate who they are and want to become as occupational beings; allow individuals to learn and master new skills; relate to others; and make connections with their past, present and future. Occupational engagement is able to address an individual's need for accomplishment through learning and mastering new skills, meeting performance expectations and achieving goals (Doble & Santha, 2008). Additionally, accomplishment is not only dependent on physically engaging in an occupation, but can also be achieved through planning, sharing experiences with others, sharing information, teaching others how to do things, as well as by reflecting on past accomplishments. Opportunities for occupational engagement need to recognise the importance of acknowledging the individual's occupational choices as worthwhile and valued. When doing things for others, the acknowledgement that people receive also serves as affirmation that they are being valued. Doble and Santha (2008) challenge occupational therapists to rethink occupational therapy outcomes and identify individuals' subjective occupational experiences as the central focus of interventions. Occupational therapists therefore need to extend their focus beyond occupational performance and examine how individuals compose their occupational lives and to what extent they, the therapists, meet their occupational needs. Occupational needs include accomplishment, affirmation agency, coherence, companionship, pleasure, and renewal. Therapists must work collaboratively with their clients or advocate on their behalf to ensure that they have access to occupations that can potentially meet their needs (Doble & Santha, 2008).

Ikiugu, Hoyme, Mueller and Reinke (2015) state occupation has a role to play in health and well-being, in that it provides meaning and is psychologically rewarding. Psychological rewards of occupational engagement include experiencing a positive mood, physical stimulation, and having fun. However, they state that meaningful occupations may not necessarily provide psychological rewards while they are being performed.

3.9.5 Psychosocial rehabilitation

The use of psychosocial rehabilitation principles is recommended when occupational injustices are addressed and occupational enrichment programmes implemented (Duncan, 2004b; Farnworth & Muñoz, 2009; Firfirey & Hess-April, 2014). The Southern Development Group (2003, cited in Duncan, 2004b, p. 213) states that psychosocial rehabilitation focuses on "individualized, client-centred care, which instils hope, and focuses on the strengths and abilities of the client while building a partnership within a secure environment". Farnworth and Muñoz (2009) suggest that a psychosocial rehabilitation programme should include topics such as adult literacy, vocational skills training, religious groups, groups focusing on community reintegration, and support groups. They further state that intervention should aim at improving or maintaining daily living skills, as well as developing and redefining roles that will support successful community integration. In her study on the occupational adaptation of clients with MDR-TB who undergo long-term hospitalisation, Firfirey (2011) recommended that the role of the occupational therapist in the implementation of programmes for clients hospitalised for MDR-TB should be to take the lead on all psychosocial interventions offered as part of the programme. She proposed that psychosocial interventions should include psychoeducation, life skills, pre-vocational skills training, stress management and leisure activities which will facilitate occupational enrichment while clients are in hospital.

The Clubhouse model of psychosocial rehabilitation is one example of a dynamic, all-inclusive intervention programme that was developed as a means of deinstitutionalisation for people who underwent long-term hospitalisation for mental illness (Coniglio, Hancock & Ellis, 2010; Fountain House, 1999; Norman, 2006). The International Center for Clubhouse Development (Clubhouse International, 2018) defines a clubhouse as a supportive community that allows its members to reconnect with friendships, family, work, employment and education, where the focus is on a work-ordered day as well as evening, weekend and holiday programmes. According to Fountain House (1999), the Clubhouse model focuses on the strengths of its members and not on their illness and all participation is voluntary. The core principles of this model are that programme members are provided with a supportive environment where they are accepted and there is commitment to help them meet their full potential; they have a place where they can belong as adults who have something to contribute as opposed to adopting the role of a client; they are encouraged to work at the clubhouse or to explore employment opportunities in the community; and they are allowed to choose the activities they engage in based on their interests and skills. Coniglio et al. (2010) assert that the Clubhouse model provides peer support to its members and encourages a sense of social inclusion, belonging, interdependence and a shared sense of accomplishment through engaging in activities together.

3.9.6 Community-based rehabilitation

"Community-Based Rehabilitation" (CBR) is a strategy within community development for the rehabilitation, equalisation of opportunities and social inclusion of all adults and children with disabilities. CBR is implemented through the combined efforts of disabled people themselves, their families and communities, and the appropriate health, education, vocational and social services (WHO, 2004). In addition, CBR practice has changed from a medical-orientated, often single-sector (e.g. health or education), service-delivery approach, to a comprehensive, multi-sectoral, rights-based one to ensure that people with disabilities have the same rights and opportunities such as education, skills training, employment, family life, social mobility, and political empowerment as all other community members (WHO, 2004).

The strategy of CBR places equal emphasis on inclusion, equality and socio-economic development as well as rehabilitation of all people with disabilities. The CBR framework comprises five components (health, education, livelihood, social, and empowerment components). Each component has five key elements which inform the implementation of CBR. Both the components and their elements are underpinned by the principles of participation, inclusion, sustainability, and self-advocacy. According to the World Health Organization (WHO, 2010a), these principles should inform and affect the activities within each of the topic areas.

The five key elements which inform the implementation of CBR are shown in Figure 2 overleaf. Both the components and their elements are underpinned by the principles of participation, inclusion, sustainability, and self-advocacy. CBR guidelines state that all elements are not required to be addressed simultaneously and that interventions are dependent on context, needs and resources available in the setting. According to the World Health Organization (WHO, 2010a), these principles should inform and affect the activities within each of the topic areas

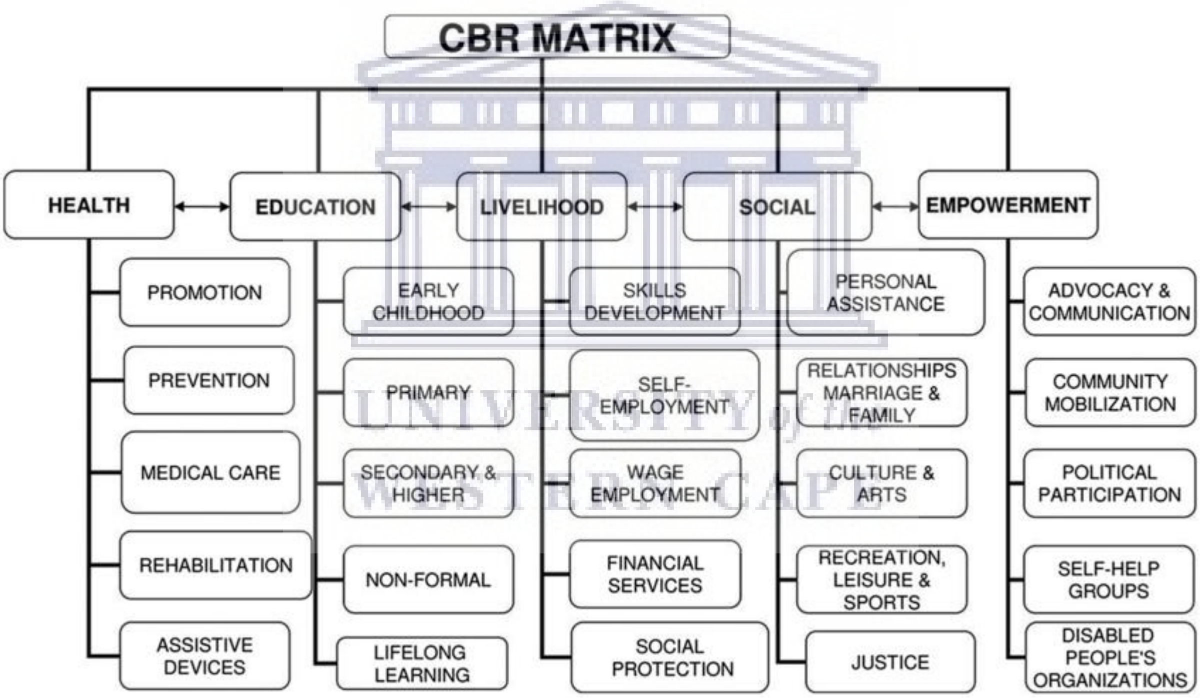


Figure 2: CBR Matrix (WHO, 2010 a)

3.10 THEORETICAL FRAMEWORK

3.10.1 Person–environment–occupation–performance model

The Person–Environment–Occupation–Performance (PEOP) model was developed by Baum and Christiansen (2005) as a guide to occupational therapy intervention and can be applied to individuals, groups (or organisations) and populations. The PEOP model is an interactive systems model that focuses on the client as well as relevant intrinsic and extrinsic influences on the performance of everyday occupations. Central to the PEOP model is occupational performance, which involves three components: (1) characteristics of the person (including physiological, psychological, motor, sensory/perceptual, cognitive, or spiritual), (2) features of the environment (including cultural, social support, social determinants, and social capital, physical and natural environments, health education and public policy, assistive technology), and (3) characteristics of the activity, task, or role. Moreover, occupational performance constitutes complex interactions between the person and the environments in which they carry out activities, tasks and roles that are meaningful or required of them. Occupational performance is determined not only by the nature of the activity, task or role to be performed, but also by the characteristics of the person or client (depicted as intrinsic factors) and the environment (depicted as extrinsic factors). Performance and participation always occur in context, and ultimately determine well-being and quality of life. It should be noted that for a given situation or context, the applicability or importance of given intrinsic and extrinsic factors will vary. The interaction between the person and environmental components can therefore positively or negatively influence occupational performance. According to Baum and Christiansen (2005), when there is a person–environment fit in supporting the valued occupation, success in occupational performance eventually leads to participation and well-being.

The PEOP model is client-centred, that is, the client must actively set goals and participate in determining a plan that promotes occupational performance, and can be applied to a variety of settings, focusing first on the situations of clients. The model also allows the practitioner to organise current knowledge of the intrinsic and extrinsic factors to tailor interventions to best suit the needs of the client.

Intrinsic factors in the PEOP model that are central to occupational performance are:

- physiological, including strength, endurance, flexibility, inactivity, stress, sleep, nutrition and health;
- cognitive, including organisation, reasoning, attention, awareness, executive function and memory, all necessary for task performance;
- neurobehavioural, including somatosensory, olfactory, gustatory, visual, auditory, proprioceptive and tactile, as well as motor control, motor planning (praxis) and postural control;
- psychological and emotional, including emotional state (affect), self-concept, self-esteem and sense of identity, self-efficacy and theory of mind (social awareness); and
- spiritual: that which brings meaning.

Extrinsic factors in the PEOP model that are central to occupational performance are:

- social support, practical or instrumental support and informational support;
- societal, including interpersonal relationships (groups), social and economic systems and their receptivity (policies and practices) to supporting participation, laws;
- cultural, including values, beliefs, customs, use of time; and
- the built environment, including physical properties, tools, assistive technology, design and the natural environment, covering geography, terrain, climate and air quality.

The PEOP model uses a systems perspective, recognising that the interaction of the person, environment and occupational performance elements is dynamic and reciprocal, and that the client must be central to the care-planning or intervention process. Only the client (whether person, family, organisation or community) can determine what outcomes are most important and necessary. Furthermore, this model values collaboration with the client, and with important others within the client's social circle and other professionals concerned about the client's well-being, and works to achieve a match between the client's goals and the goals of occupational therapy intervention.

The interaction between the person and environmental components positively or negatively influences occupational performance. When there is a person–environment fit in supporting the valued occupation, success in occupational performance eventually leads to participation and well-being. In addition, the PEOP model is a client-centred model; that is, the client must actively set goals and participate in determining a plan that promotes occupational performance. Application of the PEOP model in practice therefore requires a collaborative relationship with the client and practitioner. The practitioner understands the issues and options presented by the client's needs and goals by asking the appropriate questions to elicit the client's narrative. The model identifies factors in the personal performance capabilities/constraints and the environmental performance enablers/barriers that are central to the occupational performance, which in turns lead to the development of a realistic and sequenced intervention plan. Finally, the intended outcomes of the intervention must be related to well-being and quality of life (Baum & Christiansen, 2005).

Figure 3 provides a graphic representation of the model which illustrates how occupational performance is determined not only by the nature of the activity, task or role to be performed, but also by the characteristics of the person or client (depicted as intrinsic factors) and the environment (depicted as extrinsic factors). Performance and participation always occur in context, and ultimately determine well-being and quality of life. It should be noted that for a given situation or context, the applicability or importance of given intrinsic and extrinsic factors will vary.

Figure 3: Graphic representation of the PEOP model (Baum and Christiansen, 2005)

3.10.2 Chronic Care Model and Innovative Care for Chronic Conditions (ICCC) Model

The CCM is a multifaceted, evidence-based framework for enhancing care delivery by identifying essential components of the healthcare system that can be modified to support high-quality, client-centred chronic disease management (Wagner, Davis, Schaefer, Von Korff, & Austin, 1999). The CCM relies on productive interactions between informed, activated clients, that is, they have the motivation, information, skills and confidence necessary to make decisions about their health and manage it effectively, and a prepared, proactive team of clinicians and healthcare professionals. At the time of the interaction they have the client information, decision support, and resources necessary to deliver high-quality care to improve functional and clinical outcomes. Productive interaction includes assessment of clients' self-management skills and confidence. Once their skills and confidence are assessed, clinical management is then tailored using collaborative goal-setting and problem-solving with the aim of developing a shared care plan, and active, sustained follow-up. In addition, emphasis is put on the client's central role in using effective self-management support strategies that include assessment, goalsetting, action planning, and problem-solving. Furthermore, productive interaction includes effective follow-up and organising the relevant resources to provide support (Wagner et al., 1999). The CCM has been used in a variety of healthcare settings to guide systematic and individual improvement in chronic illness care, including diabetes.

The key interrelated components of the CCM model (Wagner et al., 1999) include:

1. **Health systems and the organisation of healthcare**, including culture, organisations, and mechanisms to promote safe, high-quality care. Health systems comprise programme planning that includes measurable goals for the purpose of better care of chronic illnesses. Healthcare organisations require visible support for improvement at all levels, starting with senior leaders, promoting effective improvement strategies aimed at comprehensive system change, encouraging open and systematic handling of problems, providing incentives based on quality of care, and developing agreements for care coordination.
2. **Delivery system design** to improve teamwork by clearly defining roles within the team, distributing tasks among team members and expanding the scope of practice of team members to improve clinical care, thereby giving care that clients understand and that fits their culture and supports self-management. The aim of interventions should be to improve quality of life, and not purely clinical outcomes.
3. **Decision support** to incorporate evidence-based practice into daily clinical practice that takes into account clients' preferences and needs. Clinicians and other healthcare

stakeholders should implement clinical decision support systems that provide decision support automatically as part of the clinician workflow, deliver decision support at the time and location of decision making, and provide actionable recommendations. Education and specialist support should be provided to the healthcare team.

4. **Client self-management support** emphasises the importance of client- centeredness, thereby enabling clients to manage their health and healthcare. Clients should be equipped with educational resources, skills training and psychosocial support to assist them in managing their care.
5. **Clinical information systems** should be implemented to develop information systems to organise client and population data. Such systems should provide reminders for providers and clients, facilitate individual client care planning, share information with providers and clients, and monitor performance of the team and system.
6. **Community resources and policies** are required to develop partnerships with community stakeholders, mobilise client resources to better meet their needs, identify effective programmes and encourage clients to participate in them, and advocate for policies to improve care (Wagner et al., 1999).

Barr et al. (2003) expanded the CCM, asserting that while Wagner et al. (1999) promoted establishing links with community resources, they failed to address the community's needs or develop health promotion strategies to address those needs. Moreover, Barr et al. (2003) assert that the main social determinants of health are related to social and economic factors and are not specifically due solely to clinical care. The model of Barr et al. differs from that of Wagner et al., in that the latter's model places the four areas, namely, self-management support, delivery system design, decision support, and information systems in the health facility. The model of Barr et al. (2003) depicts those four areas as overlapping with the community in order to address both clinical service delivery in the hospital and population needs in the community. In addition, Barr's model incorporates health promotion action areas, namely, building healthy public policy, creating supportive environments, and strengthening community action into the community component of the CCM to show how the integration of health promotion strategies can improve clinical, functional and population outcomes.

The ICCC is an expansion of the Chronic Care Model (CCM) developed by Wagner et al. (1999). The broader ICCC framework acknowledges the broader policy environment that envelopes clients and their families, healthcare organisations, and communities (WHO, 2002). In addition, the framework recognises the role that decision makers and other leaders in health-care play in initiating and influencing changes in health systems. The ICCC framework (WHO, 2002) in based on a set of guiding principles: evidence-based decision making, population focus, prevention focus, quality focus, integration, and flexibility/adaptability, thereby accommodating changes within the system while remaining robust in dealing with constantly changing demands. The ICCC framework identified building blocks that can be integrated across the health system: micro level (client interaction level), meso level (community level and the healthcare organisation) and macro level (policy environment). See Figure 4 overleaf.

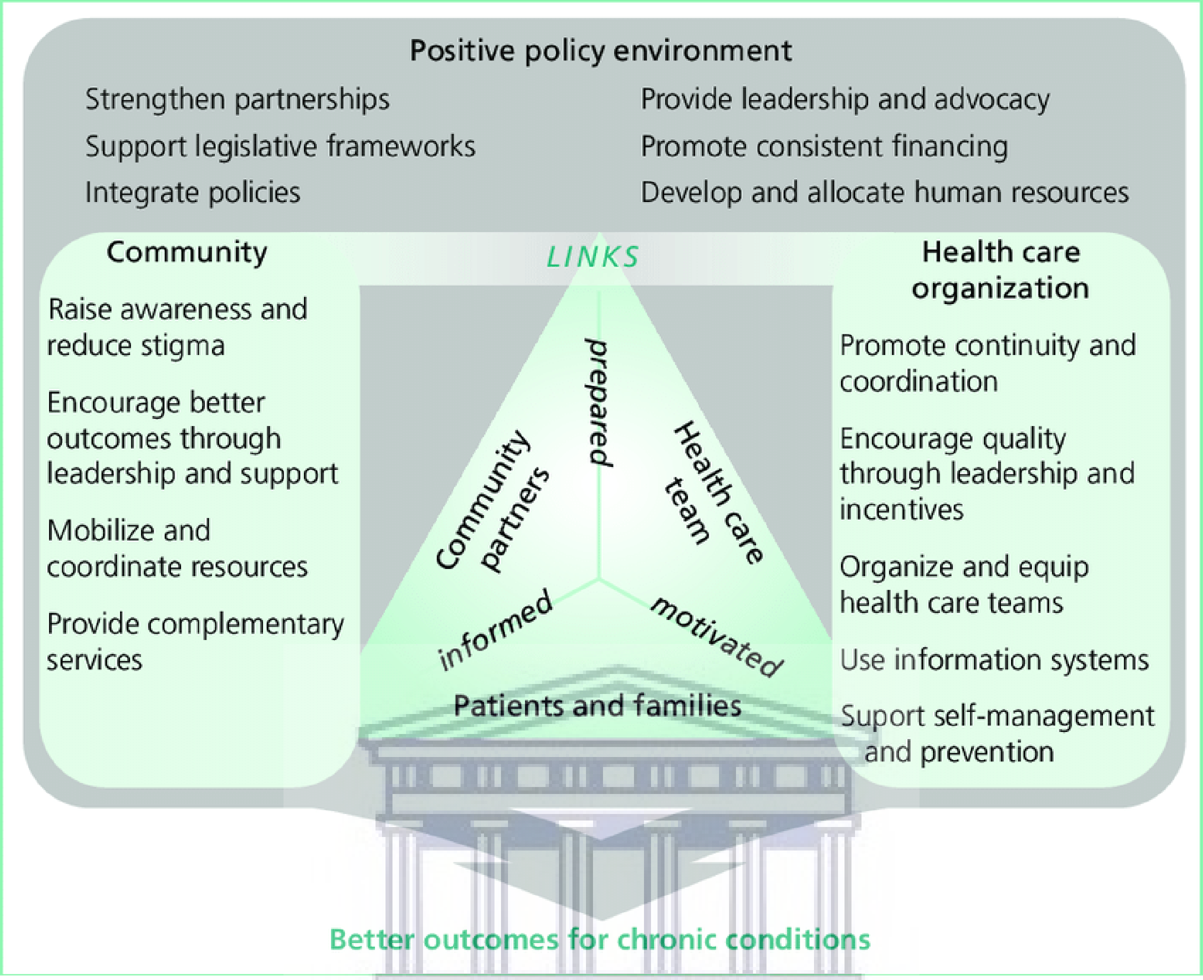


Figure 4: Graphic representation of the ICCC (WHO, 2002)

The building blocks of the ICCC include:

3.10.2.1 Micro level: Client interaction level

Central to the ICCC is the partnership between clients, families, communities and health organisations. The key building blocks at micro-level focus on prepared, informed and motivated clients and families, communities, and health organisations. According to the WHO (2002), this entails that clients and families be educated on their illness, signs and symptoms, be motivated to change their behaviours such as poor adherence and substance use, and be equipped with the necessary life skills such as self-management and self-monitoring required to change their behaviour. In terms of the healthcare teams, they should move away from purely biomedical approaches and work towards better interdisciplinary collaboration with clearly identified roles and responsibilities, while communities need to be prepared with the relevant information and resources to support clients effectively (WHO, 2002).

3.10.2.2 Meso level: Healthcare organisation

According to the ICCC framework, healthcare organisations have the potential to create the environment in which people can flourish (WHO, 2002). The first building block for the healthcare organisation is promoting continuity of care and coordination across all levels of care through improved communication across levels, as well as improved interdisciplinary collaboration as opposed to biomedically driven interventions. The second building block for the healthcare organisation is quality of care through effective leadership, with senior leaders in the health system buying into the required changes and lending support to the facilitation of the needed changes, as well as accelerating a shift in organisational culture. Ongoing monitoring and evaluation as well as quality improvement strategies are imperative to ensuring quality of care. The third building block for healthcare organisations is to organise and equip healthcare teams with the necessary resources, knowledge and skills to provide optimal care that transcends biomedical training, by including behavioural training. Effective communication skills which allow team members to work cooperatively and not in silos are essential. The fourth building block for healthcare organisations is to support self- management and prevention by informing clients and families regarding effective self-management strategies and to offer effective support in conjunction with education provided. The final building block for healthcare organisations is to use information systems to gather and organise data on treatment and health outcomes which can assist in improving planning and the standard of care.

3.10.2.3 Meso level: Community

According to the ICCC framework, community resources are vital in filling important gaps in the service and complementing health services.

The first building block for the community, raising awareness and reducing stigma, is important at community level. NGOs and leaders of international and local organisations all have a role to play in raising awareness and reducing stigma (WHO, 2002). The second building block described by WHO (2002) is to encourage better outcomes through identifying leaders and recognised structures such as community health boards and faith-based groups that can align and support policies and practices. The third building block is to mobilise and coordinate resources by way of health prevention and promotion campaigns, assist in addressing risk factors, train and upskill community health workers, and liaise with sufficient resources in the community (WHO, 2002). The fourth building block is to provide complementary services through partnering with relevant organisations to assist with education and self-management support in the community.

3.10.2.4 Macro level: Positive policy environment

The first building block for a positive policy environment is providing leadership and advocacy. The ICCC framework (WHO, 2002) recognises the role that decision makers and political leaders play in facilitating and creating awareness around policy changes in the health system. The second building block is to promote consistent financing as a means of ensuring and encouraging the implementation of innovative care strategies. The third building block is to develop and allocate human resources, and the fourth building block for a positive policy environment is the integration of policies to ensure minimal redundancies and fragmentation of policies as well as ensuring client-centred policies that cut across boundaries.

3.11 CONCLUSION

From the above literature review, it is evident that the TB epidemic is a growing concern in South Africa, especially with the emergence of MDR-TB. While policies and guidelines have been put into place to address the management of TB, the focus is still on the medical aspects of the disease and very little emphasis is put on the psychosocial components related to the disease. Poor treatment adherence has emerged as a major contributing factor in the progression of the disease, with socio-economic factors playing a major role in treatment adherence of TB clients. The review highlighted the relationship between health and occupation in terms of being able to engage in occupations that are meaningful. The review further revealed that spirituality impacts the meaning that people attach to their occupational engagement and thus impacts people's health and well-being. The literature review also elucidated the link between physical activity, health and well-being. Literature pertaining to long-term hospitalisation, institutionalisation and occupational injustice was also reviewed, and attention was drawn to the role that occupational therapy could play in addressing occupational injustice. Finally, literature pertaining to the two theoretical frameworks, the PEOP model and the ICCC framework, was presented. In the next chapter, the methodology applied in this study is presented.

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

In this chapter, I describe the research methodology employed for this study. Firstly, I describe the research setting. This is followed by the methodological framework which includes the methodological paradigm, research approach and research design. Thereafter, the research process, that is, participant selection, data-collection methods, and data-analysis process used in this study is discussed. Rigour and trustworthiness as well as validity and reliability as maintained in this study are explained. Lastly, the ethical considerations implemented in the study are described.

4.2 RESEARCH SETTING

DP Marais Hospital forms part of the Metro TB Health Centre in the Southern-Western substructure of the Metro District Health Services of the Western Cape. The hospital operates in the South Peninsula Health District. It is based in Retreat, a suburb of Cape Town and accommodates clients from across the Western Cape province. There are six wards at the hospital, with an overall bed capacity of 260 beds. Five wards, of which one is for female clients and the remaining four are for male clients, are for drug-sensitive clients and only one ward is allocated to male clients with MDR-TB. The staff breakdown at the hospital comprises three doctors, one community service doctor, one occupational therapist, two occupational therapy technicians, two social workers, one social auxiliary worker, one psychologist (who is only at the hospital once a week), and one physiotherapist, as well as an HIV nurse and lay counsellors. The nursing staff works 12-hour shifts.

Interdisciplinary services are available at the hospital and include physiotherapy, social services, psychology services and occupational therapy. All clients have access to the physiotherapy gym, including MDR-TB clients, although at specific times to ensure infection control. The social work department focuses primarily on disability grants, ID documentation and finding suitable accommodation for clients, while the psychologist is at the hospital once a week only and therefore focuses on individual cases that are referred to him. Psychosocial interventions are available at the hospital and are driven primarily by the occupational therapy department with the assistance of the social worker or other team members if required. The occupational therapy department comprises a library/TV area, which is also used as a group room as required; there is also a laundry and leather-work area. The OT programme includes life skills groups, education groups, leisure and recreational activities, work simulation, gardening, and car wash projects, as well as social events. While all drug-sensitive TB clients have voluntary access to the OT department, the MDR clients are unable to leave their ward owing to the infection-control measures at the hospital.

Since MDR-TB clients are isolated from drug-sensitive TB clients and therefore cannot access the OT department for the OT programme, all OT interventions implemented for MDR- TB clients need to be rendered in the ward. The ICIP was thus implemented specifically in the MDR-TB ward to afford MDR-TB clients the opportunity to engage in psychosocial interventions while in hospital. The bed capacity in the MDR-TB ward is 55. In the MDR ward the day shift comprises one sister, one staff nurse and three enrolled nurse assistants (ENAs), while the night shift is covered by one staff nurse and one ENA. All additional services included in the ICIP are facilitated in the ward with the exception of physiotherapy gym. There is no designated area for the OT programme to be facilitated in the ward. As a result, groups are facilitated in the dining area or on the veranda, both of which lack the necessary privacy required for group sessions and also cause disturbance to clients who are not participating in a specific activity. The average length of stay for MDR clients is no longer than six months, compared with drug-sensitive clients who spend no longer than two months in hospital. Once clients are discharged they are referred to a clinic closest to their home where they will complete their medical treatment in their community.

4.3 METHODOLOGICAL PARADIGM

According to Creswell (2014), there are four main research paradigms: postpositivist, constructivist, transformative and pragmatic. Postpositivism is used primarily in quantitative research, where the aim is to identify and evaluate the causes that influence outcomes in, for example, an experiment (Creswell, 2014). Constructivism is also known as interpretivism and is typically used in qualitative research where the focus is on the processes of interactions between individuals within specific contexts as well as how they engage with their environment, based on historical and social influences. While postpositivism is deductive in nature, constructivism generates knowledge inductively (Creswell, 2014). The transformative paradigm is used mainly in qualitative research with emphasis on the lived experiences of people in a diverse group or groups that have been traditionally marginalised. Moreover, the transformative paradigm focuses on inequalities based on race, gender, disability, socio-economic circumstances or sexual orientation, and links politics or social action to these inequalities (Creswell, 2014).

Shaw, Connelly, and Zecevic (2010, p. 514) define the pragmatic paradigm as “a philosophy that attends to the practical nature of reality, finding truth in the solutions of problems and the consequences of objects and actions”. Furthermore, the pragmatic paradigm considers the importance of the reality and internal world of human experience in action (Johnson, Onwuegbuzie, & Turner, 2007). Pragmatism encourages the belief that reality is constantly renegotiated, debated and interpreted, and therefore the best method to use is the one that solves the research problem (Creswell, 2014). Additionally, the pragmatic research paradigm allows the researcher to solve problems using the best available possible approaches (Creswell, 2014). This paradigm therefore does not favour a specific research approach. Instead, pragmatism gives the researcher the freedom to choose methods, procedures and techniques best suited to meeting the needs of the research study, thus allowing the researcher to draw from both quantitative and qualitative data, and is therefore appropriate for mixed-methods research (Creswell, 2014).

This study resides in the pragmatic research paradigm. Pragmatism was suited to this study as it allowed me to draw on both quantitative and qualitative research methods to answer the research questions. The aim of this study was to evaluate the process and programme outcomes of the ICIP at DP Marais Hospital in the Western Cape by answering the following research questions: To what extent is the ICIP being implemented as planned and meeting its intended process outcomes? To what extent are the programme outcomes of the ICIP met? In order to answer these questions, I needed the freedom to select methods that were best suited to provide me with the best understanding of the research problem. The pragmatic worldview allowed me to engage with service implementers as well as clients within their context to evaluate the process outcomes of the ICIP using qualitative methods, while relying on quantitative methods to evaluate the programme outcomes of clients who had completed the programme.

4.4. RESEARCH APPROACH

The study employed a mixed-methods approach using both qualitative and quantitative research methodology. Creswell (2014) describes a mixed-methods research approach as one which collects and analyses both quantitative and qualitative data in a single study to provide a more complete understanding of a research problem than either approach would be able to provide on its own. According to Creswell (2014), both qualitative and quantitative research methods are utilised in social sciences. Qualitative data is more open ended, with no predetermined responses, while quantitative data usually contains closed-ended questions in the form of a questionnaire. Qualitative research is based on the experiences, descriptions, opinions, feelings and interpretations of research participants (Sutton & Austin, 2015; Walliman, 2006). In addition, Babbie (2015), as well as Terre Blanche et al. (2006), suggest that the qualitative research approach allows the researcher to engage with the participants in their natural setting, thereby allowing the researcher to gather data which is rich and in depth. According to Ospina (2004), qualitative research allows the researcher to understand a social phenomenon from the perspective of the people involved, rather than explaining it from the outside. She states that by engaging directly with the people involved in the phenomenon studied and getting a first-hand account of their perspectives and experiences, one can better understand the phenomenon (Ospina, 2004). In contrast, quantitative studies involve a systematic collection of data using standardised measures and statistical analysis (Hammarberg, Kirkman, & De Lacey, 2016). Moreover, quantitative data explains a phenomenon using numerical data which are analysed using mathematically based methods (Yilmaz, 2013). An advantage of using quantitative methods is that it allows the researcher to measure the responses of a large number of participants to the same set of questions, thereby allowing the researcher to generalise the findings (Yilmaz, 2013).

Creswell (2014) asserts that while neither quantitative or qualitative research is intrinsically better than the other, they both come with their own sets of strengths and weaknesses. Utilising both quantitative and qualitative methodology therefore allows for a more robust evaluation. Ventakesh, Brown, and Bala, (2013) list seven purposes of mixed-methods research: complementarity, completeness, development, expansion, corroboration/confirmation, compensation, and diversity in an attempt to provide a rationale for using this approach.

1. Complementarity: Enhancing mutual viewpoints about similar experiences.
2. Completeness: Ensuring total representation of experiences or associations is achieved.
3. Development: Building questions from one method that materialise from the outcomes of a previous method.
4. Expansion: Clarifying or elaborating on knowledge gained from a prior method.
5. Corroboration/Confirmation: Evaluating the trustworthiness of interpretations gained from one method.
6. Compensation: Compensating for the weakness of one method by incorporating another.
7. Diversity: Obtaining opposing viewpoints on the same phenomenon.

(Ventakesh et al., 2013).

For this research, a mixed-methods approach served the purpose of complementarity, completeness and diversity, as it boosted mutual viewpoints about experiences of implementing and participating in the ICIP as well as how clients' participation in the ICIP affected their reintegration into their communities. Additionally, utilising mixed methods ensured that the viewpoints of both staff and clients were brought to the fore regarding the same phenomenon, that is, the ICIP.

Furthermore, there are three practical considerations for integrating quantitative and qualitative data and results into a study (Creswell, Fetters and Ivankova, 2004; Plano Clark & Ivankova, 2015). These practical considerations are 1) priority/weighting, that is, when emphasis is placed on either qualitative or quantitative data or equal priority is given to both (Creswell et al., 2004); 2) timing/implementation, that is, a researcher is allowed to collect and analyse qualitative and quantitative data simultaneously or sequentially (Creswell et al., 2004); and 3) integration/mixing, that is, emphasis is placed on combining quantitative and qualitative data at various stages of the research process (Creswell et al., 2004). In this study equal priority was given to both quantitative and qualitative data, therefore data were collected simultaneously and combined to draw a conclusion with regard to the aim of the study.

4.5 RESEARCH DESIGN

According to Creswell (2014), there are three basic mixed-methods research designs (convergent parallel mixed methods, explanatory sequential mixed methods, and exploratory sequential mixed methods) and three advanced mixed-methods research designs (transformative mixed methods, embedded mixed methods, and multiphase mixed methods).

a) Convergent parallel mixed methods

This research design requires the researcher to converge or combine qualitative and quantitative data with the aim of providing a comprehensive analysis of the research problem. In this design, both the qualitative and quantitative data are collected at more or less the same time followed by an integrated analysis of the data. The convergent parallel research design allows the researcher to pick up on incongruences and contradictions in the findings (Creswell, 2014).

b) Explanatory sequential mixed methods

This research design requires the researcher to first conduct quantitative data research, analyse the findings and then build on the results with qualitative research to explain the findings in more detail. The design is explanatory because it relies on qualitative data to explain the quantitative data. It is sequential because data collection occurs in phases (Creswell, 2014).

c) Exploratory sequential mixed methods

This research design begins with qualitative data collection and analysis. The information gained from the qualitative research process is used to build on the quantitative phase, for example, the development of an instrument/questionnaire to collect quantitative data or to decide on variables that need to be assessed in the quantitative phase Creswell 2014).

d) Transformative mixed methods

This research design uses a theoretical lens as an overarching perspective within a design that uses both qualitative and quantitative data. This data could be converged or obtained sequentially (Creswell, 2014).

e) Embedded mixed methods

With this research design the researcher can also converge data or obtain it sequentially; however either the qualitative or quantitative data is embedded in a larger design, for example, an experiment, with the data playing a supportive role in the broader design (Creswell, 2014).

f) Multiphase mixed methods

Multiphase research designs are commonly used in programme evaluations and programme interventions (Creswell, 2014). This research involves either concurrent or sequential mixed-method strategies over time to assist the researcher in understanding the long-term programme goal.

This current mixed-methods study aims at evaluating the process and programme outcomes of the ICIP at DP Marais Hospital in the Western Cape. After reviewing the various mixed-methods designs, a convergent parallel mixed-methods design was selected. In contrast to other designs which place greater emphasis on either quantitative or qualitative methods, or require one method to build on from the other as the study progresses, the convergent parallel mixed-methods design was appropriate to the study as equal priority is given to both qualitative and quantitative data in this design and allowed me to gain a comprehensive view of the research problem. All data were collected in parallel, analysed separately and then merged to provide a comprehensive analysis of the research problem. The qualitative and quantitative findings will be presented in Chapters 5 and 7 respectively while the discussion of each of these findings will be presented in Chapters 6 and 8 respectively.

4.6 GUIDING EVALUATION FRAMEWORK

The Centers for Disease Control and Prevention (CDC) Framework for Program Evaluation in Public Health (CDC, 1999) was utilised to guide the evaluation questions, design and methods for the overall evaluation of the ICIP as implemented at the hospital. According to CDC (1999), effective programme evaluation is a systematic way to improve programmes and account for actions that involve procedures that are useful, feasible, ethical and accurate. Additionally, the framework is a practical, non-prescriptive tool designed to summarise and organise essential elements of programme evaluation. The CDC framework identifies six steps in the evaluation process: engage with stakeholders, describe the programme, focus the evaluation design, gather credible evidence, justify conclusions, and ensure use by sharing lessons learned (CDC, 1999).

Furthermore, the framework identifies standards of effective programme evaluation with the specific purpose of summarising and organising the essential elements of programme evaluation, providing a common frame of reference for conducting effective programme evaluation, clarifying steps in programme evaluation, reviewing standards for effective programme evaluation, and addressing misconceptions about the purposes and methods of programme evaluation. In this study, the evaluation framework helped to organise the overall programme evaluation and guide the identification of appropriate data-collection and analysis methods according to six steps as described in Table 2.

Table 2: Breakdown of CDC Framework for Programme Evaluation as applied in this study

Steps of Programme evaluation	Measures used	Population Sample	How was each step implemented	Where is this discussed in the study
1. Describe the programme, based on need, expected effects, activities, resources, stage, context, and logic model	Process outcomes Programme outcomes	Service Providers Clients	Development and piloting of the ICIP	Chapter 2
2. Focus the evaluation design in terms of purpose, users, uses, questions, methods, and feasibility.	Research Aim Research Objectives			Chapter 1
3. Engage stakeholders (those persons involved in or affected by the programme and primary users of the programme).	Purposive sampling	Clients Service Providers	Participants and service providers were recruited and selected according to specific selection criteria	Chapter 4
4. Gather credible evidence. Consider indicators and sources of evidence/methods of data collection, issues of quality and quantity, and logistics	Convergent-Parallel Mixed-methods	Clients Service Providers	**Qualitative data:** Semi Structured interviews Focus Groups Document reviews **Quantitative data** HeiQ^{tm} Questionnaires	Chapter 4
5. Justify conclusions according to standards. Conduct data analysis/synthesis, interpret data, and make judgements.	Thematic content analysis (Qualitative) SPSS (Quantitative)		Data were then analysed using thematic content analysis for qualitative data and SPSS for quantitative data, and conclusions were drawn.	Chapters 5 and 6 Qualitative findings and discussion Chapters 7 and 8 Quantitative findings and discussion
6. Ensure use and share lessons learned. Provide feedback and draft recommendations. Support stakeholder preparation for receiving and utilising results. Disseminate findings and follow-up with stakeholders (CDC, 1999).			Discussion of findings in relation to literature. Drawing Conclusions based on the findings of the study. Recommendations i.e.: Revised ICIP Community-Based Model Innovative Care Framework for MDR- TB	Chapter 9

The CDC (1999) asserts that all steps are interdependent and can therefore occur in a non-linear sequence; however there are four standards for fulfilling each step, as the earlier steps provide the foundation for subsequent steps. The four standards for effective evaluation are:

1) Utility – serve the information needs of the intended user
2) Feasibility – be realistic, prudent, diplomatic and frugal
3) Propriety – behave legally and ethically, considering the welfare of those involved or affected.
4) Accuracy – reveal and convey technically accurate information (CDC, 1999).

4.7 QUALITATIVE RESEARCH METHODS

4.7.1 Qualitative research design

A exploratory, descriptive research design was followed for the qualitative component of this study. According to Babbie (2015), qualitative research designs include ethnography, life histories and case studies. Ethnographic studies focus on larger entities or communities, case studies focus on more specific entities such as families, institutions or communities, and life histories focus on one or more individuals (Babbie, 2015). Furthermore, exploratory, descriptive research allows the researcher to find commonalities as well as contradictions and inconsistencies in the participants' responses, as each person has a unique set of experiences (Eichelberger, 1989). Likewise, Finlay (2009) asserts that exploratory researchers explore fresh, complex phenomena in rich detail, where the focus is on the lived experiences of the people directly linked to a phenomenon. Finlay further asserts that exploratory, descriptive research provides concrete, first-hand descriptions of lived experiences of the research participants. Lester (1999) highlights a link between exploratory,descriptive research and qualitative research. He states that exploratory research focuses on studying a phenomenon from the participant's perspective, whereby the researcher attempts to bring subjective, deep issues faced by the participant in relation to the phenomenon being studied to the fore. Accordingly, an exploratory, descriptive approach to qualitative research was best suited to this study, as it allowed me to explore the lived experiences and perceptions of the participants with regard to the implementation of and their participation in the ICIP. In this study, the phenomena under investigation are staff experiences of the implementation of the ICIP as well as the clients' perceptions of and experience with regard to participating in the ICIP. In relation to this, an exploratory, descriptive design allowed me to explore each participant's unique experience of their engagement in either facilitating the programme or engaging in the programme as a participant. The current study is contextual as it focuses on the perceptions and experiences of service providers and clients within the context of DP Marais Hospital. The descriptive nature of the study allowed me to gain an in-depth understanding of the participants' perceptions and experiences of the ICIP.

4.7.2 Participant recruitment and selection

Purposeful sampling is a method commonly used to select participants in qualitative research (Patton, 2002). According to Babbie and Mouton (2015), purposive sampling occurs when the researcher makes use of their own knowledge of the population, its elements and the nature of the research aims to ensure that participants are selected accordingly. Furthermore, Creswell and Plano Clark (2011) state that this method of sampling is particularly insightful into the phenomenon being studied. Hence, purposive sampling was utilised in this study as it allowed for the selection of participants based on specific criteria.

Participants were selected from a population that included all service providers within the setting who participated in the development of the ICIP as well as all clients who had completed the ICIP and had been discharged for a period of 8–12 months. Purposive sampling to ensure representation of service providers and clients was applied according to the following criteria:

- Service providers had participated in the development of the ICIP.
- Service providers were part of the clinical team responsible for the implementation of the ICIP.
- Clients who had completed the ICIP.
- All clients interviewed were 18 years or older and had been discharged for a period of 8–12 months.
- All participants were fluent in at least one of the three official languages of the Western Cape: English, Afrikaans or isiXhosa.

All staff members who participated in the development of the ICIP were recruited to participate in the study. They were provided with the information sheet and I explained the purpose of the study to them. Although 13 staff members were involved in the development of the ICIP, several team members had subsequently left the institution. As a result, only six of the original team members participated in the study. The new OT was included, as she was able to provide input regarding the implementation of the PSR programme as the programme coordinator. Below is a description of the focus-group participants:

Table 3: Description of Focus Group Participants

PARTICIPANT	QUALIFICATIONS	YEARS OF EXPERIENCE IN TB	RESPONSIBILITIES AT DP MARAIS HOSPITAL
Dr 1	MBChB	10 years	Medical management of MDR-TB clients according to the Department of Health Guidelines
OT 1	BSc OT, PGDip Addictions	10 years	Harm Reduction Groups, Overall Management of OT staff
OT 2	BSc OT	7 years	Coordination and Management of OT Programme/PSR, Assessment of Clients
OTT	Occupational therapy Technician	22 years	Education Groups, Arts and Crafts
Dr 2	MBChB	20 years	Medical Management of Drug-Sensitive Clients
Dr 3	MBChB	14 years	Medical Management of Drug-Sensitive Clients
SAW	Social Auxiliary Worker	Unknown	Disability Grants, ID Documents

In order to recruit participants for the semi-structured interviews, I interrogated the occupational therapy department's manual statistical records for October 2013–October 2015 to determine which of the clients met the criteria for this study. In addition, I requested the admission list for the MDR-TB ward from the ward clerk so that I had access to the contact information of eligible clients. I then attempted to contact all eligible clients telephonically; however, several of the clients' contact information was incorrect on the documentation I had received. Subsequently, I went directly to the homes of the eligible clients based on the addresses provided. However, this also proved challenging as some clients provided the residential addresses of family members on admission and were therefore not always living at the address provided. I then relied on the assistance of the occupational therapy staff at DP Marais Hospital to recruit the remaining participants. Initially ten clients agreed to participate but two participants did not arrive for their appointment to be interviewed. As a result, only eight semi-structured interviews were conducted for this study. Table 3 overleaf provides a description of the study participants.

Table 4: Description of participants interviewed

	Age	Gender	Multiple Readmissions	Length of Stay	Diagnosis	Period of discharge	Participation in the ICIP	Additional information:
Participant 1	36 years old	Male	Yes	6 months	MDR-TB	1 year	In addition to medical care, he participated in the harm- reduction groups, the OT programme and physiotherapy. He also had access to social services.	Single, father of three, known defaulter with multiple hospital admissions for MDR-TB. Does not know the names of the medication he takes for TB. Lives in an RDP house with seven other residents. Completed Std 9 (Grade 11) Work experience includes being a taxi driver and security guard. Currently unemployed
Participant 2	54 years old	Male	Yes	6 months	MDR-TB	1 year	In addition to medical care, he participated in the harm- reduction groups, the OT programme and physiotherapy. He also had access to social services	Single, father of four estranged from his children. Known defaulter with multiple readmissions. Completed matric. Worked as a handyman and cleaner. Was previously admitted to a psychiatric hospital for mental illness. Lives in a suburban home with his sister. No insight into his medication. Currently unemployed.
Participant 3	37 years old	Male	Yes	6 months	MDR-TB	1 year	In addition to medical care, he participated in the harm- reduction groups and the OT programme. He did not participate in physiotherapy gym sessions as it was too strenuous, and he had limited endurance. He also had access to social services.	Single. Father of four children from various partners. Lives in a suburban home. Known defaulter with three previous admissions to hospital for MDR-TB. Has spent time in prison. Completed Std 7 (Grade 9). Currently unemployed.

Participant 4	55	Male	Yes	6 months	XDR-TB	8 months	In addition to medical care, he participated in the harm- reduction groups, the OT programme and physiotherapy. He also had access to social services.	Single. No children. Level of education – primary school. Known defaulter. History of multiple admissions for MDR-TB. In 2017 he was admitted to hospital for XDR–TB. Has no fixed abode which contributes to poor treatment adherence. Work history includes casual jobs as a handyman, cleaner and packer. Unemployed.
Participant 5	46	Male	No	18 months	MDR-TB	1 year	Only received medical care, did not attend OT or physiotherapy. OT groups did not interest him.	Married but estranged from his wife. Father of two. Has worked as a truck assistant but currently unemployed. Additional work experience includes shop assistant and packer. Lives with his parents in a suburban home. Has no history of defaulting his treatment and has only had one admission. He suffered severe side effects to treatment medication including liver and kidney failure. Has a history of substance use. Completed Std 8 (Grade 10.) Currently unemployed.
Participant 6	24	Male	Yes	6 months	MDR-TB	8 months	In addition to medical care, he participated in the harm- reduction groups, the OT programme and physiotherapy. He also had access to social services.	Single, unemployed. Lives in an RDP house. Multiple admissions for MDR-TB due to poor treatment adherence. Work experience includes building construction work. Completed Std 7 (Grade 9)
Participant 7	50	Male	Yes	6 months	MDR-TB	8 months	In addition to medical care, he participated in the harm- reduction groups, the OT programme and physiotherapy. He also had access to social services.	In a relationship. Has two children. Lives in an informal dwelling and is estranged from his family who live in Port Elizabeth. History of poor treatment adherence and multiple admissions for MDR-TB. Completed Std 8 (Grade 10). Worked as a painter. Currently unemployed.
Participant 8	34	Male	Yes	6 months	MDR-TB	7 months	In addition to medical care, he participated in the harm -reduction groups, the OT programme and physiotherapy. He also had access to social services.	Single, father of one. Lives in a shelter. Estranged from his parents. He has been hospitalised twice for TB. Completed Grade 11. Worked in construction as a carpenter, plasterer and tiler. Currently unemployed.

4.7.3 Data-collection methods

4.7.3.1 Semi-structured interviews

Semi-structured interviews are conducted between the researcher and a single research participant and allow for a more natural way of interacting (Terre Blanche, Kelly, & Durrheim, 2006). Interviews aim at determining what participants think, know and feel. During semi-structured interviews, a set of predetermined questions may be used to guide the interview process but the interviewer begins the interview with an open-ended question and picks up on cues from the participant's response to ask further questions (Terre Blanche et al., 2006). An interview guide can thus be used in a flexible manner. According to Boyce and Neale (2006), the main advantage of interviews is that they provide much more thorough data than other data-collection methods. In listing the disadvantages of interviews, they explain that the process of conducting, transcribing and analysing interviews can be very time consuming, and owing to the small number of research participants, results cannot be generalised. Interviews were applicable to this study as they allowed me to interact with the participants in a natural and informal way to get an in-depth description of their experiences of participating in the ICIP.

For the purpose of this study, semi-structured interviews were conducted with eight clients who had completed the ICIP and had been discharged for a period of 8–12 months. The interviews covered a wide range of topics, including a description of the participants' experience of participating in the programme. The interview guide comprised seven questions (see Appendix 3). The duration of each interview was between 45 and 60 minutes. All interviews were recorded using a Dictaphone. I also made notes after each interview of any information that stood out and reflected on what was discussed by the participants.

Seven of the interviews were conducted at health facilities, so it was a safe and familiar environment for the clients. One interview was conducted at a local library. I had not interacted with any of the clients prior to the interview but this did not affect their ability to open up to me about their experiences. I started each interview first by finding out more about the participant's background and life experiences before commencing with the actual interview questions. This allowed the participants to feel more comfortable with me and allowed for better interaction during the interview. In addition, participants did not see me as being affiliated to the hospital in any way and viewed me as a neutral person; they were therefore willing to share thoughts and feelings with me that they may not have shared with a staff member at the hospital. Some participants were reluctant to share their perceptions of the ICIP initially; however, after explaining the benefits that sharing their experiences at DP Marais Hospital would have on clients accessing the service in the future, they were also more positive towards divulging their experiences of the ICIP. One participant had been admitted to a psychiatric hospital several years before his admission to DP Marais Hospital and would at times share his experience of occupational therapy at the other institution as well and would therefore need to be prompted more in terms of his reflections on the ICIP specifically. There were also participants who needed to be prompted more in terms of the challenges they experienced while participating in the ICIP as they were hesitant to portray the hospital in a bad light, while others shared their challenges more freely in terms of what they felt the ICIP lacked and how it could be improved.

4.7.3.2 Focus groups

Barbour (2010) describes a focus group as a highly effective technique for data collection in that the amount and range of data is greater as more people are interviewed at the same time.

Furthermore, focus groups can help facilitate more ‘forbidden’ topics, as a less inhibited participant may break the ice and the group dynamic may stimulate a discussion or reactions from other participants (Mack, Woodsong, MacQueen, Guest, & Namey, E. (2005). The main strength of focus groups is that they allow researchers to distinguish similarities and differences in participants’ opinions and experiences through group interaction (Ashbury, 1995; Kitzinger, 2013), thereby allowing them to examine different perspectives as they operate within a social network (Barbour, 2010; Kitzinger, 2013). Focus groups were applicable to this study as it allowed me to gain insight into the perceptions of all team members involved in the implementation of the ICIP. It also allowed me to extricate similarities and differences in the opinions and experiences of the various team members regarding their perceptions of barriers and facilitators of the implementation of the ICIP.

For the purpose of this study, two focus groups were conducted with the remaining members of the interdisciplinary team. The intention was to divide the team into two groups of six, and each group of six would participate in two focus groups. However, several members of the original team were no longer working at the hospital, and as a result only two focus groups were conducted with the remaining team members. The focus groups concentrated on their experiences and perceptions of the implementation of the programme as well as facilitators and barriers experienced by the team. See Appendix 4 for the Focus Group Question Guide. The duration of each focus group was between 60 and 90 minutes. All interviews were recorded using a Dictaphone. I also made notes after each focus group of any information that stood out and reflected on what was discussed by the participants.

All participants in the focus group were familiar with me as we worked as a team to develop the ICIP. They were therefore comfortable to share their views as the cohesiveness of the team provided a safe space to express their shared views and/or differences in opinion without much prompting from me. I was however able to pick up on some participants' feelings towards the medical dominance or hierarchy within the team and was thus able to prompt participants to share their thoughts on the matter, which they may not have been comfortable to do outside of the focus group. In prompting participants to express how medical dominance impacts their contributions within the team, they were able to have a more robust discussion on how such challenges could be addressed to ensure that the team functioned better going forward. The opportunity to engage in the focus group also allowed the participants to reflect on the barriers to the implementation of the ICIP relating to hospital management, which led to the hospital CEO being invited to the second focus group so that he was present when decisions needed to be made regarding these barriers and could address them immediately.

4.7.3.3. Document reviews

When doing programme evaluation, document review allows a researcher to collect data by reviewing existing documents (CDC, 2009). There are several ways that documents can be reviewed for programme evaluation. For example, document review can be used to gather background information to help understand the history and operation of the programme being studied, to determine if implementation of the programme reflects the programme plans, and to assist in developing data-collection tools. The review of programme documents may also reveal a difference between formal statements of programme purpose and the actual programme implementation (CDC, 2009). According to Albright, Howard-Pitney, Roberts, and Zicarelli (1998) as well as Bowen (2009), document reviews can be used to triangulate data as they can confirm comments made by respondents. Both CDC (2009) and O'Leary (2014) propose that when planning document reviews, the researcher needs to assess existing documents, secure access to the documents identified during the assessment, ensure confidentiality, understand how and why documents were produced, ensure accuracy of the documents, and summarise information from the documents. According to CDC (2009) and Bowen (2009), the advantages of document review are it is cost effective, time efficient, less obtrusive, provides a broad coverage, and offers a behind-the-scenes view of a programme. It can also bring issues to the fore that may not have been picked up otherwise. Disadvantages include insufficient detail; inapplicable, disorganised or outdated documents; incomplete or inaccurate information; and biased selectivity (Bowen 2009; CDC, 2009). Document reviews were relevant to this study as they assisted me in evaluating the process outcomes of the study. They allowed me to corroborate what was discussed in the focus group regarding the implementation of the ICIP. By checking whether the ICIP documentation had been completed correctly and placed in the clients' folders for record keeping, I was also able to gain further insight into clients' experiences of the group sessions through available documentation.

Documents were selected based on whether they were able to triangulate information shared by participants during the focus group and interviews regarding both the process and programme outcomes of the ICIP. I first assessed what documents were available from the period between 1 January 2015- 31 December 2017. Available documentation included client folders which contained clinical notes; assessment forms and the individual support plans; group-evaluation reports; and client-evaluation forms. During the development of the ICIP two documents were developed: the *integrated assessment form* and the *individual support plan*. The aim of these documents was to assist with the implementation of the ICIP as well as improve recordkeeping of interventions implemented as part of the ICIP and progress made by clients; both were meant to be completed during Phase 2 of the ICIP and placed in the clients' folders. Furthermore, these documents served as minutes of team planning meetings in some cases as they contained all clinical decisions taken by the team at the planning meeting. Once I was aware of which documents were available, I worked closely with the OT Department to determine the names of clients who attended the programme. I then selected the names of clients who attended the programme and requested access to their folders from the registry clerk. In addition, the head of the OT department provided me with group evaluation reports compiled in the OT department as well as client evaluation forms. For the purpose of this study I reviewed 20 client folders, three group evaluation reports compiled by the OT department, and 20 client evaluation forms to obtain background information regarding actual programme implementation and to determine if what was divulged in the focus groups regarding staff experiences of the process of implementing the programme correlated with what was documented. Overall, the documents I requested were easily accessible and readily available.

4.7.4 Data analysis

According to Braun and Clarke (2006), thematic analysis is defined as a method of data analysis by way of identifying, analysing and reporting 'themes' within the data. They describe thematic analysis as consisting of six phases: familiarising yourself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. I employed a hybrid approach of inductive and deductive reasoning to the thematic analysis of the findings where I applied the steps prescribed by Braun and Clarke (2006) as follows:

1. *Familiarising yourself with the data:* I transcribed all data, and read and re-read each transcript while reflecting on what I was reading and making notes of my initial ideas.
2. *Generating initial codes*: Once familiar with the data, all data sources, that is, interview and focus-group transcripts, were colour coded. I coded interesting features of the data across the entire data set followed by grouping data according to each relevant code.

3. *Searching for themes:* I further collated codes into categories which were then grouped into possible themes.
4. *Reviewing themes*: These themes were then reviewed and generated a thematic map of the analysis.
5. *Defining and naming themes:* Continuous analysis was conducted to refine each theme and create a clear definition and name for each theme.
6. *Producing the report:* The themes were then analysed and related to published literature that support or contrast with the findings of this study. I drew extracts from the data that related to my analysis to provide a detailed, in-depth report on the analysis.

4.7.5 Rigour and trustworthiness

According to Aroni et al. (1999, cited in Tobin & Begley, 2004), rigour determines the integrity, competence and legitimacy of a research project. Qualitative researchers make use of different techniques to ensure the trustworthiness of their findings, namely credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

4.7.5.1 Credibility

Credibility can be achieved through prolonged engagement in the field, constantly pursuing interpretations of data in different ways: triangulation, referential adequacy (recording interviews on tape/video), peer debriefing, and member checks (Babbie, 2015). I ensured the credibility of this study through triangulation, member checking and referential adequacy.

Triangulation can be employed in both quantitative and qualitative studies as a means of broadening data sources, thereby offering a deeper, more comprehensive result (Tobin & Begley, 2004). Babbie (2015) indicates that triangulation is the application and combination of several methodologies in a research study, where data is collected from different sources, while Guion, Diehl, and McDonald (2002) state there are five types of triangulation. The five types of triangulation are data triangulation (using different sources of data), investigator triangulation (using more than one researcher), theory triangulation (using a multiple set of professional perspectives to interpret a single set of data), methodological triangulation (using both qualitative and quantitative methods in the study), and environmental triangulation (using different locations, settings or other key factors related to context, for example, time of day, day of the week, or season). In this study I employed data triangulation where the semi-structured interviews constituted the first source of data, focus groups the second source of data, document reviews the third source of data, and questionnaires the fourth source. Furthermore, methodological triangulation was used through utilising both quantitative and qualitative methods in this study. Using different data sources resulted in richer, more in-depth data elicited in this study.

Member checking entails consultation with the participants to confirm whether the research findings are an accurate reflection of their experiences and perceptions (Babbie, 2015). During the analysis phase I facilitated an additional focus group with the staff at DP Marais Hospital for the purpose of member checking to verify whether the data had been interpreted accurately and whether the findings of the study were a true reflection of their experiences of the implementation of the ICIP. I presented and discussed my initial interpretations of the themes and categories as well as possible conclusions with the participants. I recorded all the suggestions made by the participants and then incorporated them into the study. I was unable to follow the same process with the interview participants owing to my inability to make contact with them as a result of incorrect contact information having been provided.

Referential adequacy entails using various materials to document findings (Babbie, 2015). For the purpose of this study, the interviews and focus groups, as well as the member-checking group were audio-recorded using a dictaphone.

4.7.5.2 Transferability

Transferability is achieved through providing a thick description of data as well as purposive sampling (Babbie, 2015). In this study I recruited the participants using pre-determined criteria and I was able to use multiple sources of data to provide an in-depth description of the participants' experiences of implementing the ICIP as well as participating in the programme.

4.7.5.3 Dependability and confirmability

Dependability includes auditing of data while confirmability incorporates maintaining an adequate audit trail: raw data, data analysis products, evidence of themes that were developed, findings and conclusions, and materials-related intentions and dispositions, including personal notes and expectations (Babbie, 2015). I kept a thorough record of the research process and data analysis trail throughout this study with the purpose of ensuring dependability and confirmability of the study should anyone want to audit the data.

In addition, personal notes were maintained during the research process for the purpose of reflexivity. Darawsheh and Stanley (2014) suggest that reflexivity allows the researcher to montitor subjectivity in generating credible findings in the study. Reflexivity entails depicting the growing "ideas, assumptions, hunches, uncertainties, insights, feelings, and choices the researcher makes as a study is implemented and as a theory is developed, providing means for making transparent the interpretive, constructive processes of the researcher" (Fassinger, 2005,

p. 163), while reflexive bracketing allows researchers to identify and 'bracket' any potential bias so that they influence the research minimally (Ahern, 1999).

Acknowledging thoughts, feelings, insights and perceptions, and bracketing issues that would result in any potential bias that arose from my being actively involved in the development of the ICIP, were an important process of being reflexive in this study. One of the issues I had to contend with was the fact that I constantly had to reflect on my role as a researcher.

I maintained reflexivity throughout the research process by documenting my observations, thoughts and perceptions during the research process in a journal and by having debriefing sessions with my research supervisor. These sessions, as well as the journal entries, allowed me to reflect on the research process and to maintain objectivity as a researcher. During the analysis process I constantly had to reflect on whether or not I was bringing my own opinions and expectations to the forefront of the research or whether my findings were a true reflection of the participants' experiences. By meeting with my research supervisors and discussing my findings with them at length, I was able to bracket issues that were a result of my preconceived notions of the participants' experiences.

4.8 QUANTITATIVE METHODOLOGY

4.8.1 Quantitative research design

A cross-sectional descriptive research design was used in this study in order to determine whether the implementation of the ICIP had been successful, based on the intended programme outcomes**.** According to Levin (2006), cross-sectional studies are conducted to estimate the commonness of the outcome of a specific interest for a given population. Moreover, cross-sectional studies are commonly used for the purpose of public health planning (Levin, 2006).

4.8.2 Population and sample

This study made use of convenience sampling to select research participants. Initially I wanted to select participants who been admitted to the hospital and had participated in the ICIP between the period 1 October 2013 and 31 October 2015 and who were now living back in their communities. I received the list of admissions for the time period from the ward clerk in the MDR-TB ward. The total number of admissions for that period was 603; however, the data had not accounted for the number of readmissions, deaths and clients with incorrect or no contact information, or no fixed abode. Consequently, locating these clients at their homes was extremely challenging. I subsequently approached the City of Cape Town Health Department as they render a service to the majority of the MDT-TB clients at their clinics. The DR-TB manager advised that the best way to contact MDR-TB clients in their communities would be to select clients who were still on treatment and attending their local clinics, as they would be easily accessible. For this reason, the study population consisted of clients who were admitted to the hospital and participated in the programme from 1 July 2017 until 30 June 2018 and had subsequently completed the ICIP and been discharged from the hospital. In addition, inpatientts who participated in the ICIP but were allowed to go home at weekends or allowed a day pass while at the hospital, were also allowed to complete the questionnaires as they had experienced reintegration into their communities to some extent and had the opportunity to implement what they had learned as part of the ICIP. The total number of admissions during this period was 150; however, after a process of data cleaning it emerged that 17 clients were listed as deceased and 11 were listed as loss to follow up. As a result, the total population for this study was 121. The Yamane $n = \frac{N}{1+N(e)^2}$ was used to obtain the study samples, where n is the sample size, N is the population size and e is the level of precision (Yamane, 1967).

In this study, N = 121.

$$n = \frac{N}{1 + N(e)^2} = \frac{121}{1 + 121(.05)^2} = 93$$

Therefore, based on the above formula, the sample size for the quantitative data collection was 93 research participants. See Appendix 5 for the table used to extract demographic information from each participant.

4.8.3 Data collection

4.8.3.1 Questionnaire

The Health Education Impact Questionnaire (heiQ™) (Appendix 6) was used for the purpose of this study. The heiQ™ was developed in Australia to measure the effects of a health education programme and provide valuable information to health and medical professionals, researchers, and policymakers on the effectiveness of health education programmes in chronic disease management (Osborne, Elsworth, & Whitfield, 2007). The questionnaire comprised eight domains and 40 questions. The eight domains are: *1)Positive and active engagement in life; 2) Health-directed behaviour; 3) Skill and technique acquisition; 4) Constructive attitudes and approaches; 5) Self-monitoring and insight; 6) Health service navigation; 7) Social integration, and 8) support and emotional wellbeing* (Gill, Wu, & Taylor, 2011). These domains of the heiQ™ concur with the outcomes of the ICIP, namely, to modify the clients' health-directed behaviour to the extent that there is an improvement in treatment adherence and a reduction in high-risk behaviour. A licence to make use of the heiQ™ was obtained from Deakin University (Appendix 7). Owing to the copyright, I was unable to translate the questionnaire into Afrikaans and isiXhosa. The option of verbal translation of the questions into Afrikaans or isiXhosa was made available to participants, however, all of the participants were comfortable with the questionnaire being administered in English. Finally, a questionnaire was drawn up to gather demographic data from participants.

A research assistant was appointed to contact the DR-TB nurse at the relevant clinics across the Cape Metropole to establish when the selected clients were attending that particular clinic in order to make appointments to administer the questionnaires; 35 questionnaires were completed at the clinic. The remaining 59 questionnaires were completed by clients who were still inpatients at DP Marais Hospital.

4.8.4 Data analysis

The data collected were captured on a Microsoft Excel spreadsheet in preparation for analysis. The data were subsequently imported into the Statistical Package for the Social Sciences (SPSS) Version 25.0, where data analysis was then performed. Descriptive statistics, that is, frequencies, percentages, graphs, means, and standard deviations were used to describe the characteristics of the sample and responses to the questionnaires presented to the participants. Thereafter, the Kruskal–Wallis test was applied to find the statistically significant difference between groups in terms of participants' demographics: age, gender, race, marital status, level of education, employment status, as well as clinical profile of participants in the study: diagnosis, admission history, and attendance and completion of the programme. Finally, inferential statistics, specifically Spearman correlation, were used to identify correlations between programme outcomes: positive and active engagement in life; health-directed behaviour; skill and technique acquisition; constructive attitudes and approaches; self-monitoring and insight; health service navigation; social integration and emotional wellbeing; and participant demographic data (age, gender, race, marital status, level of education, employment status). In addition, a multiple logistical regression analysis was performed. All statistical tests were performed at 90% confidence level.

4.8.5 Reliability & validity

Validity refers to the extent to which the questionnaire measures what it intends to measure. Measures have been established to ensure valid and reliable research findings such as protocols for questionnaire design (Durrheim, & Painter, 2006). Face and content validity is the extent to which a research instrument accurately measures all aspects of a construct (Heale & Twycross, 2015). For the purpose of this study, I piloted the questionnaire and no challenges with face and content validity were highlighted during this process.

Osborne et al. (2007) conducted a study to determine the validity and reliability of the heiQ^{TM}. Over 90 candidate items were generated, with 42 items selected for inclusion in the final scale. Eight independent dimensions were derived: Positive and Active Engagement in Life (five items, Cronbach's alpha (α) = 0.86); Health-Directed Behaviour (four items, $\alpha = 0.80$); Skill and Technique Acquisition (five items, $\alpha = 0.81$); Constructive Attitudes and Approaches (five items, $\alpha = 0.81$); Self-Monitoring and Insight (seven items, $\alpha = 0.70$); Health Service Navigation (five items, $\alpha = 0.82$); Social Integration and Support (five items, $\alpha = 0.86$); and Emotional Wellbeing (six items, $\alpha = 0.89$). They concluded that the heiQ^{TM} has high construct validity and is a reliable measure of a broad range of client education programme benefits.

4.9 ETHICS STATEMENT

Ethics approval was sought from the University of the Western Cape Bio-Medical Research Ethics Committee (Appendix 7) as well as the Western Cape Provincial Health Ethics Committee (Appendix 8) and the City of Cape Town Ethics Committee (Appendix 9). Subsequent to this approval, permission to conduct the study was requested from the facility management structure in the setting where the study took place to ensure that this study was conducted in an ethical manner (Appendix 10). The participants were provided with an information sheet where they were informed of the nature and significance of the study (Appendix 11). Informed consent (Appendix 12) was sought from all the participants in the study**.** Participation in the study was voluntary and participants were informed of their right to withdraw their participation at any time without being penalised for not participating. The confidentiality of participants was maintained by ensuring that all audiotapes and other data were stored in a locked cupboard that only I had access to. All focus-group participants were requested to complete a focus-group confidentiality binding form (Appendix 13) to ensure that all discussions as well as the identity of group members were not divulged to members outside the focus group. Anonymity was maintained in this study and any reports or publications that may result from it will not contain information that may identify participants or hospital staff. I assured all participants of their right to access the findings of the completed study.

4.10 CONCLUSION

This chapter provided a detailed description of the research setting, including the general appearance of the hospital and the intervention programme currently offered. In addition, the pragmatic research paradigm was discussed and applied to this study. The mixed-methods research approach and the convergent parallel research design were highlighted in terms of how their principles were applied in this study. This was followed by a discussion on rigour and trustworthiness, as well as the validity of the study. Finally, ethical standards were ensured in the study. The next chapter provides a qualitative analysis of the research findings where specific trends and patterns that emerged from the data are presented as themes and related categories.

CHAPTER 5

PRESENTATION OF QUALITATIVE FINDINGS

5.1 INTRODUCTION

The qualitative and quantitative findings and discussions of this study will be presented in for separate chapters i.e. the qualitative and quantitative findings will be presented in Chapters 5 and 7 respectively followed by the qualitative and quantitative discussions in Chapters 6 and 8 respectively. The aim of this study was to evaluate the process outcomes and programme outcomes of the ICIP at a hospital in the Western Cape. This chapter presents the key qualitative findings of the study that intended to answer the following objectives: to explore the participants' perceptions and experiences regarding barriers and facilitators of the ICIP, to explore the participants' perceptions and experiences of how the outcomes of the ICIP were addressed, and to explore the perceptions and experiences of service providers regarding the barriers and facilitators related to the implementation of the ICIP programme. The themes and categories presented in this chapter were derived from the focus groups held with the staff who were involved in the development of the ICIP as well as semi-structured interviews conducted with clients who had completed the ICIP. Document reviews were conducted to corroborate information shared by staff members regarding the implementation of the ICIP during the focus group. Four themes underpinned by related categories emerged from the data: (1) The importance of a therapeutic milieu. (2) Gaps in the ICIP. (3) Factors facilitating the implementation of the ICIP. (4) Factors hindering the implementation of the ICIP. Table 4 outlines the themes and categories that emerged from the data analysis.

Table 5: Themes and Categories

THEMES	CATEGORIES
Theme 1: The importance of a therapeutic milieu	• Building supportive relationships • Opportunities to engage in meaningful occupation • Opportunities for learning • Opportunities for self-examination
Theme 2: Gaps in the ICIP	• Discharge planning and preparation for re-entry into the community • Lack of appropriate support in the community • Difficulty putting skills into practice • Pathology implications on occupational engagement
Theme 3: Factors Hindering the Implementation of the ICIP	• Lack of commitment of staff • Lack of resources due to medical dominance • Limited movement around the hospital
Theme 4: Factors Facilitating the implementation of the ICIP	• Programme factors • Team factors

5.2 THEME 1: THE IMPORTANCE OF A THERAPEUTIC MILIEU

Theme 1: The importance of a therapeutic milieu	**Building supportive relationships** **Opportunities to engage in meaningful occupation** **Opportunities for learning** **Opportunities for self-examination**

This theme highlights the importance of creating an atmosphere in which all the resources available are organised to provide optimal care for clients. During the interviews, attention was drawn to the importance of creating a positive treatment environment for positive programme outcomes. Participants expressed the value of positive interpersonal relationships formed with both staff and clients while in hospital and the impact these had on their ability to cope with their hospitalisation. Furthermore, the opportunities to engage in meaningful occupation helped enhance their health and wellbeing through occupation, while groups facilitated at the hospital created a platform for clients to develop insight into their behaviour and their illness. Theme 1 is divided into three categories: building supportive relationships; opportunities to engage in meaningful occupation; opportunities for learning and opportunities for introspection.

5.2.1 Building supportive relationships

During the interviews the participants described the support they received from the staff at the hospital, stating that the environment made it easier to cope with being hospitalised. Furthermore, staff was willing to assist them at any time and provided them with useful information. One way the staff was able to provide a supportive environment was through the facilitation of the orientation programme where the team met with new admissions to introduce themselves, discuss the hospital rules with them and also provide them with information on the various services they had access to while in hospital. Participants expressed that they found this information to be useful, with one participant stating that it helped him feel more relaxed, as illustrated by the following quotations:

> *OT people come to us and they tell us about the rules with the doctor, uhm, for me, um it must be like that. (Participant 8, semi-structured interview)*

> *And you know (they explain) what clubs they are having that you can be with. Then you know different things man. Then you feel like relaxed. And if they put down the time that you will have to stay here, and they tell you what is happening, then it all helps you feel relaxed. (Participant 1, semi-structured interview)*

During the interviews, participants described the support they received from the staff at the hospital, stating that the environment made it easier to cope with being hospitalised. Furthermore, staff was willing to assist them at any time and this helped them feel like they were not alone and had support as demonstrated in the following quotation:

> *They make me feel happy and so. They make me feel happy that I am not alone yes, then you know you don't have to panic. (Participant 1, semi-structured interview)*

In addition, some participants expressed that they were extremely weak, non-ambulant and unable to care for their own basic needs on admission and had also observed several other clients in similar positions. They found the care they received from staff to be extremely encouraging as illustrated by the following quotations:

> *I couldn't even walk at first and they were there to wash me, help me. (Participant 5, semi-structured interview)*

> *The staff at DP Marais, um, the staff is working very hard and they are doing so much, helping clients up and down and stuff. I see a lot and sometimes, and sometimes they are helping a client who is almost dying. (Participant 2, semi-structured interview)*

Participants articulated that they were particularly grateful for the support they received with regard to taking their medication daily, as illustrated by the following quotation:

> *The nurses helped me ... I got my tablets on time and everything. They would wake me up in the morning to take my medication. So, I find that there is a lot of support in the hospital. (Participant 6, semi-structured interview)*

The participants further regarded the support they received while in hospital to be holistic, mentioning that the staff not only addressed medical needs but also offered information about their illness and helped clients address issues related to overall wellness, as the following quotations illustrate.

> *They are ok, if you need something, they are there for you. With a press of the button they assist in any way possible ... in hospital you drink your tablets ... and they tell you also about your health and what is important for your health and that kind of stuff. And exercises they teach you all that kind of stuff and to keep yourself clean. (Participant 8, semi-structured interview)*

> *They treat us very well, and if we ask them for anything then they help us. (Participant 7, semi-structured interview)*

Participants also described their relationship with the doctor in the ward as a positive relationship. They felt that he made an effort to recognise their needs and concerns and this made them feel as if they were understood and that he empathised with them. Moreover, he encouraged them to overcome their circumstances and motivated them to take the necessary steps towards improving their health as illustrated in the following quotation:

> *Dr H is working so hard with these MDR clients and he is very nice. And we have a good understanding and when we are talking to him in our language because we are not experts in English but he is always there for us then even when he doesn't know exactly what we are saying he will try to understand us or he will call the nurses to come help him understand. But even if the nurses are not there, he knows how to understand, and he tries to be there for us. That for me is very important and for the clients. (Participant 2, semi-structured interview)*

> *They actually saved my life there. I came in there like a dead person. That Dr there, he is a very good doctor. And I can see that he cares for his clients and he motivates them. And especially when you are in that condition it helps you a lot. (Participant 5, semi-structured interview)*

One participant stated that he felt at ease in hospital knowing that there was help at any time if he needed it. Furthermore, he appreciated the structure the hospital provided him with, as illustrated by the following quotation:

> *But when you are at DP Marais then there are always people around who are there for you, the security, the nurses, walking around at all hours … 8 o'clock you wake up and you must eat your porridge, at 9 o'clock we are eating pills, and then go back to bed. Some of them they are up and they are outside taking some exercises. So, the nurses are always around. The doc is always around. Working with these people. (Participant 2, semi-structured interview)*

Moreover, as participants discussed the importance of a supportive environment in the hospital and reflected on the support they received, they articulated that they felt supported by all members of the team. Several participants expressed being tremendously weak on admission. They appreciated the support they received from the physiotherapist to improve their endurance through her encouragement to engage in health-directed physical activity, as the following quotation illustrates:

> *There's some other clients who are not walking there, and other clients is walking, running, sprinting, others are sick and weak, … the physio, because I woke up in bed even it was difficult for me to move and to stand up and stuff you see, so, the physio would come and do his thing with us you know and the other clients. And I can see the clients are trying to get the exercises you know. (Participant 2, semi-structured interview)*

In addition, participants articulated that the support they received specifically with regard to their disability grants and finding accommodation for clients was invaluable, as illustrated by the following quotations:

> *uhm, they are busy even now, with the medical grant … So um, they are doing things, um, so they make sure we get the medical papers then they are giving the poor people so that we can get a medical grant when we are going home. (Participant 2, semi-structured interview)*

> *And also finding a place for you to stay when you leave the hospital. They assist you with all of that. (Participant 8, semi-structured interview)*

Apart from the supportive environment created by staff, participants also expressed the value of the supportive relationships they formed with other clients in the hospital. They found meaning and purpose in helping other clients both physically and emotionally. They also found that in assisting others it was reducing the burden of their illness on themselves, as illustrated by the following quotation:

> *I speak to the old men … about the hospital. And then when you sit and talk to them then afterwards you say well, I am talking here but it is taking my mind off from what I was thinking … because I give them attention and I talk to them ... For me it is very nice … and then I will go to the shop for them if they need my help or I take them to the toilet. And I will throw their bottles away if they can't walk. (Participant 4, semi-structured interview)*

Moreover, being able to help others made them feel as if they were able to give back and do something meaningful for others, as illustrated by the following quotations:

> *I was like a healthy person; I could help the other clients nicely. I knew how to give out the clients' tablets, I helped the doctors pack away folders and all that. And then I could also see myself doing something better with my life. (Participant 6, semi-structured interview)*

> *When I could move around I would go around to the clients and talk to them about where I came from, what I have been through, a living hell, and help them get out of that zone that they are in because it is hard for them to get out of that zone and they are still young and I like to go to them and speak to them because if that was me I would want that. (Participant 5, semi-structured interview)*

5.2.2 Opportunities to engage in meaningful occupation

Participants regarded the activities presented by the OT department to be meaningful to them. They enjoyed being able to use their hands to make things such as beadwork. Furthermore, attending the programme also afforded them the opportunity to interact with their friends. The following quotations demonstrate this:

> *Yes, we made little things like beads and that type of thing. And we got things from the staff that we could use to make things. Or we would write down things and then we paste it on the wall … and then next week we get a few questions and we talk or so. So yes, it is very nice at OT. (Participant 6, semi-structured interview)*

> *I mean; at OT you can do anything … and I spend time with my friends (at OT). (Participant 7, semi-structured interview)*

> *If you wanted to participate then there was beads that you could work with or leather, but anyone could do it if you were creative enough … (Participant 5, semi-structured interview)*

Attending physiotherapy gym and engaging in physical activity also proved to provide meaning and purpose to the clients and reduce the effects of institutionalisation through engagement in health-directed physical activity. Participants stated that they enjoyed attending gym sessions. The following quotation is evidence of this:

> *We learned about going to gym, and there are so many things, how can I put it, how to manage ourselves and to get my body healthy …. so it was alright at the hospital, I enjoyed myself (Participant 6, semi-structured interview)*

One of the participants reflected on the positive impact of engaging in physical activity to improve one's health and well-being. He expressed that while there were benefits to increasing the one's physical activity, the opportunities presented at the hospital didn't suit his specific needs, as demonstrated by the following quotation:

> *And you see with us we get to stand up and go to gym and lifting irons there and trying to change our future … we can take our exercises and stuff but there's heavy stuff that is in there and I for one feel that I am not going to do that. Like lifting the weights, I am not going to do that ... they have everything there for the others, it is just not for me. (Participant 2, semi-structured interview)*

Another participant expressed that attending the programme helped them cope better with being hospitalised and took their minds off negative emotions and placed them in a healthier mind space, as illustrated by the following quotations:

> *uhm it helps me like in, to keep your mind uhm focused on the problem that you have you see, uhm. It makes you stronger in a lot of stuff like what can that do or what can this do to yourself, it motivates you; it is motivating in a lot of ways. (Participant 8, semi-structured interview)*

> *that was fine so then my mind was good because I could do something. (Participant 2 semi-structured interview)*

Some participants found comfort in their spirituality, stating that it gave them strength to cope with their illness and with being hospitalised. Although the programme didn't cater for his spiritual needs, it was able to address his spiritual needs on a personal level. The following quotation is evidence of this:

> *I prayed. I became emotional and I started asking (God) for something and I had never done that before. (Participant 5, semi-structured interview)*

> *It just keeps the stress out of my mind while I am learning about God. Uhm, it gives me strength to move every day and through my prayers, it tells me with your prayers, your prayers will be answered. (Participant 8, semi-structured interview)*

When reflecting on what can be added to the existing programme to facilitate meaningful occupational engagement, suggestions included more art-based activities as well as activities focused on spirituality and support groups as demonstrated by the following quotations:

> *Perhaps painting and maybe drawing … and then we stand outside and let the paint dry … and then I feel better. (Participant 7, semi-structured interview)*

> *More spiritual people to come in and help them. Without that, knowing that whatever you are going through that there is someone looking out for you then it's tough. For example, like on a Sunday morning if you get someone in, and if anyone wants to go to church, they can join, I don't think they have something like that and it would really help people. That is something I would like to see. Maybe they won't listen to the doctor, but they will listen to that person. (Participant 5, semi-structured interview)*

> *Support groups, maybe, and the support groups would also help with how we are with the staff because you can't force the clients to do something (Participant 5, semi-structured interview)*

5.2.3 Opportunities for learning

The participants regarded the activities presented as part of the OT programme as significant opportunities to learn more about their illness as well as develop insight into their behaviour. The participants expressed that they enjoyed attending the group sessions as they found the information about treatment adherence and the importance of completing one's treatment particularly helpful, as illustrated by the following quotations:

> *They actually told me how to take my treatment and that the treatment is important … I learnt a lot, that I shouldn't hide my pills. (Participant 7, semi-structured interview)*

> *… how to treat TB, how to prevent TB, and talk to people that are there about the disease and how to treat the people who are not doing good things because they have been drinking. And then the other people are drinking heavy and other people that don't know. (Participant 2, semi-structured interview)*

> *… and then we all sit together and talk about how to take our pills and they ask for advice. They (staff) are clever and I also want to learn what advice they give you and what the medication does to you. (Participant 4, semi-structured interview)*

In addition, participants valued the opportunities they were given to make their own decisions about their lives after engaging with their peers on certain topics as illustrated by the following quotations:

> *We come here, and we meet and make decisions about everything and it helps a lot. If I don't go, then I may regret it afterwards and I don't want that. (Participant 7, semi-structured interview)*

> *It was a lot better because they talk to you nicely, give you advice and they tell you the truth even though you don't always want to hear it. (Participant 4, semi-structured interview)*

Participants also enjoyed interacting with others regarding a variety of topics. They stated that group sessions allowed them to introspect about their behaviour and how they could make positive changes in their lives. The following quotations illustrate this:

> *… for me, just to talk, I learn a lot like sometimes I complain and then perhaps the OT says no, you can't do that then afterwards I think about what happened and what she said. (Participant 7, semi-structured interview)*

> *We talked about drugs and alcohol and how it ruins our lives and stuff and how we must try to fix the things in ourselves and not do the wrong things (Participant 2, semi-structured interview)*

> *I went to OT often and I enjoyed it a lot because you can do things there … we learnt stuff about how life is outside and our illness and how we get it. That's all the things we learnt there … and TB and STIs and that type of thing. (Participant 6, semi-structured interview)*

Participants further expressed that they found value in being encouraged to plan for reintegration into their communities and the positive life changes they should be considering. The following quotations illustrate this.

> *They talk to us about the outside, to know about the stuff that we are doing, they advise us about how if we start to take the drugs then we will lose our lives, how we are supposed to live our lives we must stop before we lose our lives and what is the good things to do to get better to stay alive. (Participant 2, semi-structured interview)*

> *The groups I attended were those that the two OTs would do every Thursday, they would come to us … it was very nice, every week something different, what you do outside, drugs and so on. What drugs do to you … and the sickness you have it (drugs) will make you more sick. (Participant 3, semi-structured interview)*

The focus-group discussion brought to light the severe impact of substance abuse on the progression of MDR-TB. The team reflected on the lack of clients' insight into the impact that substance use has on their bodies. Team members believed that just creating an awareness was not enough to positively impact programme outcomes, as illustrated by the following quotation:

> *But with you know, the thing is also with substance abuse, we're never going to succeed in modifying behaviour until they're kind of receptive towards it … (Dr 1, focus group)*

The occupational therapist thus facilitated substance abuse interventions using a harm-reduction approach because she felt it was more appropriate for the clients at the hospital as it aimed at helping them look at their own behaviour and how they need to change it to improve their health and well-being. The following quotation illustrates this:

> *… the harm reduction method is more accepting and it doesn't label them whereas before with the substance abuse group, you would come to the substance abuse group because you have a problem, and we don't do it like that anymore. It is more about how we can improve our lives and improve our lifestyle and what are the consequences*

> *of your actions ... it's not us giving them information about substance use ... (OT 1, focus group)*

Moreover, she indicated how the information discussed in the harm-reduction groups is integrated into the rest of the programme, as illustrated in the following quotation.

> *She (OTT) will perhaps do quizzes or play a game that links with the information that we have covered and incorporate it into the session instead of just an education group. (OT 1, focus group)*

Participants also voiced their satisfaction with the way in which the group sessions were presented to them. They appreciated the incentives provided and fact that they could win prizes and play games while gaining valuable knowledge. The following quotations are evidence of this.

> *We would have like a group session together, uhm ask questions and then you give the answer and the first one who gives the answer gets a prize and so… it's not the winning of the prize, it is all the stuff that they learn you because it is important stuff but they have a game thingy there with you. (Participant 8, semi-structured interview)*

> *Yes, the guys enjoy it. And it is also about the little present that you get that you can take out of the box. So, you enjoy yourself more because you get a present. (Participant 6, semi-structured interview)*

The focus-group discussion allowed team members to consider evidence of positive programme outcomes in certain clients. The MDR-TB doctor mentioned specific cases where he observed a noticeable change in the behaviour of clients who had been through the programme, as illustrated in the following quotation.

> *But then we had clients that, one specific client, … I mean he, he attended the groups … So, I saw him when he came to collect his disability grant … you could see I mean, a guy that's so responsible, his mother got him to come in. So I could see the family is also sort of you know, because there was no family, basically a relationship with his mum and you could see a complete difference you know, just looking at him, I didn't even have to talk to him… (Dr 1 focus group)*

Another team member emphasised that the opportunities presented through these group sessions are steps towards achieving a breakthrough with clients. He further highlighted the complexity within the lives of the clients and their social circumstances, stating that although immediate changes will not be evident in all clients who go through the programme, the group sessions are still beneficial in that they are helping clients develop insight into their behaviour and in doing so laying the foundation for future interventions, as the following quotation demonstrates.

> *I'm saying we're chipping away and chipping away … you don't know at what stage that breakthrough is going to come … you know maybe they're going to go out and come back … So, it's …, it's such a complex, multi-layered problem and it's so intertwined with the social dysfunctionality that … so if you, you know you've already seen two or three really tangible results and you may well be*

> *laying the groundwork with the others… (Dr 2, focus group)*

5.2.4 Opportunities for self-examination

Being in hospital meant that many participants had to face the reality of the effects of their behaviour on their illness and face the possibility of dying. They expressed that there were times when people that they formed close relationships with died while in hospital. The following quotation demonstrates this:

> *There was a man at DP Marais at the same time when I was there. He came in and he would just lie down. He told the doctor that he wasn't feeling well … when we were going to eat, I went to go look for him because he um he would always go on with me, so I went to look for him. Normally he would call me … but when I got to him, he was already gone. (Participant 4, semi-structured interview)*

In reflecting on their observations of the death of their friends while in hospital, participants expressed that these cases forced them to introspect about their own behaviour and what they needed to change within their own lives to ensure that they regained their health and well-being, as illustrated in the following quotations:

> *All the people around me are dying and I am still busy with tik [methanphetapine]. And then I realised that the drugs … drugs are going to finish me … I Was also very busy with other things… drugs … but then I saw, no, I can't anymore because I saw that I was also busy dying. (Participant 4, semi-structured interview)*

> *They can't cry, can't call the nurse, can't say anything, can't even cry because they are too sick ... Me I used to cry also because we have time to ourselves to think about it. About what is happening to us. (Participant 2, semi-structured interview)*

One participant articulated that he had been admitted to DP Marais several times and on his last admission he was extremely ill and weak and explained that he had almost died. He described how this experience affected him and how it helped him focus on changing his behaviour, as the following quotation illustrates:

> *Because when I came in … I couldn't even breathe it was so hard, so difficult for me to breathe in. So, in the first place it was too much for me; I could have died … the doctor just gives me … he told me I am going to die if I don't come right, I must not play about TB because TB isn't the same like before and next time maybe I won't survive. There are too many out there who are playing so I must just focus for my children, for myself, and take care of myself. (Participant 2, semi-structured interview)*

Another participant also expressed how being hospitalised changed his outlook on life. He articulated that prior to getting ill he spent most of his time drinking excessive alcohol, however, becoming ill made him consider what he still wanted in life, for example, building his relationship with his children and grandchildren as the following quotation illustrates:

> *I started opening up to people … I wanted to be there for my children and be a grandfather. Before I got sick I used to drink every day – we were five or six friends – if I didn't drink a day it was because I was driving and had to make sure the others got*

home safely. I drank a lot and was always getting drunk. (Participant 5, semi-structured interview)

5.3 THEME 2: GAPS IN THE ICIP

Theme 2: Gaps in the ICIP	- Discharge planning and preparation for re-entry into the community - Lack of appropriate support in the community - Difficulty putting skills into practice - Pathology implications on occupational engagement

This theme describes the gaps in the ICIP as experienced by both staff and clients. The biggest gap identified was in terms of poor discharge planning and lack of emphasis on community integration. Participants also highlighted the fact that they found it challenging putting skills they had learned while in hospital into practice when re-entering the community owing to the lack of sufficient support in the community as well as how their illness had affected occupational engagement. The gaps identified are reported in the following categories: discharge planning and the preparation for re-entry into the community; difficulty putting skills into practice; and pathology implications for occupational engagement.

5.3.1 Discharge planning and preparation for re-entry into the community

The focus groups provided the opportunity for participants to express their views on gaps in the programme. Several gaps were highlighted, however; the biggest disparity from the planned programme was centred around discharge planning and community integration. Firstly, it emerged that discharge planning meetings were not taking place in the MDR-TB ward. The document review further corroborated this as there was an absence of a completed individual support plan indicating that all planned interventions had in fact been completed. The following quotation is evidence of this:

> *... that was a very big challenge ... um, we don't have a planning meeting for the discharges. (Dr 1, focus group)*

One of the main reasons for the lack of discharge planning was directly linked to the fact that the management of MDR-TB clients was still largely driven by the medical model where decisions are made purely on clients' clinical progress. When probed about the current discharge process in the ward, the doctors expressed that they discharged clients based on what they perceived to be the priority, that is, medical status, as the following quotation demonstrates:

> *Yes, I just look at the medical side and that is why I discharge them based on medical. It can happen at any time when the client from a medical point of view basically is culture negative, when a client is ready to go home. (Dr 1, focus group)*

In addition, issues pertaining to the social conditions of clients were also seen as a priority, for example, accommodation and access to disability grants, while in some cases discharges were prompted by additional factors such as bed pressure sores, as illustrated in the following quotation:

> *But there will unfortunately be other considerations when you discharge clients you know, so those things crop up and family things crop up and you suddenly*

> *need beds or you know, there will a lot of external influences which will force you to short-circuit that or ... (Dr 1, focus group)*

> *For discharge preparation, I mean there are obviously certain medical things that need to be taken into consideration but beyond that the majority of the need is based on their social needs, you know their accommodation, finances, family support and that sort of thing. (Dr 2. Focus group)*

Although the discharge plan is dependent on medical outcomes, a concerted effort is made to ensure that there is sufficient support in terms of the clients' clinical needs in the community. The doctor explained that he relies significantly on the DR-TB coordinators from the City of Cape Town to follow up on clients once they are discharged to ensure treatment adherence. These coordinators play an integral part in the discharge process, where they counsel clients. The counsellors are usually invited to meet with clients prior to discharge as a means of preparing them for re-entry into the community. The only staff members present at these meetings are the doctor, ward clerk, nurse, and counsellor. The counsellors also do home visits and communicate with the clients' families when necessary. The doctor, however, acknowledged that despite this process assisting with linkage to clinical care in the community, it does not address all of the clients' psychosocial needs. The following quotation is evidence of this:

> *So, the counsellor would do a home visit to the family and explain to them that the client is culture negative and they are coming home from DP Marais and must complete their treatment. So, there is that link with the community kind of support but not the psychosocial support that we do here ... that is why we see clients coming back into*

> *sort of this cycle of discharge, come back. Because we never really reach out to you know the other resources outside.* (*Dr 1, focus group)*

Despite having a discharge plan in the ward, it is driven by the medical model, with core team members such as the OTs, who are committed to providing comprehensive, integrated care, excluded from the process. The OTs articulated that they were often not informed of impending discharges of clients and would only find out after the event. In addition, they expressed that this made them feel as if their role within the team lacked significance and they believed that they had an integral role to play in ensuring successful reintegration into the community, as illustrated in the following quotations:

> *I just go to the wards sometimes and they're gone. So, I don't know when they will be discharged. (OT 2, focus group)*

> *I think … just with regard to OT. Sometimes it gets overlooked, the importance of psychosocial interventions and just focuses on the physical symptoms that you can see and not what is happening around the clients every day. We work with these clients through the programme … when they are discharged … it would be nice if we could be referring them to places in the community. (OT 1, focus group)*

The doctor in the team acknowledged that failing to address psychosocial issues such as clients' behaviour contributes to recidivism of MDR-TB clients. He stated that addressing these barriers could help break this cycle, although he was not sure how he would achieve this. The following quotation illustrates this:

> *I think of what is important at that time for the client, disability grant, medical but I'm not looking further than look, this client is getting discharged, the community, OK I contact the coordinator but I don't … I mean I could inform the rest of the team but … what do you do to get that message out into the community? (Dr 1, focus group)*

Moreover, upon further reflection regarding the way discharges were taking place at the time, he agreed that it would be beneficial to include the entire team in the discharge of clients. Furthermore, the discharge plan should be based on the initial assessment. So, if there were issues identified on admission that had not been addressed, the client should not be discharged without consulting with the relevant clinician. The following quotation is evidence of this:

> *… what we can do is, if a client has completed the groups then that must be discussed at discharge planning. Because the decision is already made in terms of medical. But maybe we should then start with what the physio has to say and what the OT has to say and then put that all together. And then make sure that whoever on the outside is informed – like the counsellors need to be informed and the clinic informed … (Dr 1, focus group)*

> *… maybe we need to make sure that discharge planning only happens when all the other blocks have been completed. So that will be a discussion at your assessment … before discharge planning so you already have an idea and you just need to pull everything together. (Dr 2, focus group)*

5.3.2 Lack of support in the community

The lack of appropriate support in the community was also identified as a gap in the

ICIP. As mentioned in the previous theme, several clients expressed that the support they received in hospital, specifically around taking their treatment on a daily basis, was invaluable. They asserted that they did not have the same level of support in their communities. For instance, they found the support they received in terms of encouragement to take their medication in hospital particularly helpful and participants expressed that they did not receive that type of support in the community, as illustrated in the following quotation:

> *… so, they do what they can for us in hospital, but outside it's … it's a different atmosphere. You see, especially there outside, the people won't say "Come, come, come, take your tablets, or have you been to the clinic?" Now it makes you feel ... why do I have to stand* [get] *up, there is nobody who cares about me so why do I have to go. Because you see it's not an easy thing this ... to drink tablets every morning. (Participant 3, semi-structured interview)*

> *Because in the hospital they do that and if you take your tablets you are alright. There outside, if you are not in the mood to take your tablets, then you even throw your tablets away. For me it's like, I like it when they watch me. If someone tells me I need to then I will do it. (Participant 4, semi-structured interview)*

In addition, participants expressed that they prefer the hospital setting to the environments from which they come. They spoke specifically of gangsterism and drugs, and how these have a negative effect on their well-being, as illustrated in the following quotation:

> *I enjoy my time at the hospital because life is rough outside. There in the communities*

> *where we live, it's an unsettling place. They shoot a lot over there and there is a lot of gangsterism and so. (Participant 6, semi-structured interview)*

The semi-structured interviews afforded the participants the opportunity to further consider the difference in the support they received in hospital compared with in the community. One participant articulated that he would prefer completing his treatment in hospital as opposed to in the community because of the support he received in hospital. This particular participant had no fixed abode in the community and was living on the street. Thus, he stated that the chances of engaging in high-risk behaviour in the community were also greater because of the environments in which many clients reside, as illustrated by the following quotations:

> *I would prefer to finish my treatment in the hospital rather than outside ... If you take your tablets outside then ... look you won't take it yourself ... you will tik [use methamphetamine] again, you will smoke again ... there is no-one to watch you out there or to tell you to take your tablets. (Participant 4, semi-structured interview)*

Another participant articulated that he preferred being in hospital as he didn't want to be a burden to his family and whether they would be able to address all of his needs at home, as the following quotation illustrates:

> *I didn't actually want to go home. I wanted to finish my treatment in hospital ... I got comfortable there and I thought to myself that I don't want to be a burden to my people at home because they don't know what I'm going through and what I need. (Participant 5, semi-structured interview)*

Another participant highlighted the lack of community-based resources to assist them with addressing their high-risk behaviour, which in his case was risky alcohol use. He stated that when faced with challenges in the community and one's responsibility to one's family, alcohol use becomes a coping mechanism to overcome these negative emotions. The following quotation is evidence of this:

> *… I am not taking drugs, but it is always hard when you are drinking. It is hard, to stop … you see, for us we have never been given help, we have never been counselled … For us it is very difficult because for our families are struggling, you see, even our children, they are playing outside without shoes and socks so even us some of our girls need things and … we have problems so see why we do stuff because even if we do know but we are not working then all of these things are worrying on our heads, and other thing is we don't have money for school or anything … (Participant 2, semi-structured interview)*

Furthermore, participants acknowledged the need to take responsibility for their own behaviour and make better choices around their well-being. One participant explained that while drug use is rife in his community, he needs to take ownership of his choices and not blame his environment for his choices. The following quotation is evidence of this:

> *… see there where I stay, now a lot of them use drugs there where I live … now I can't blame other people for what happens, I must blame myself … I mean we need to adapt ourselves for what is available in the community … it depends on what I want to do and so on … if I go to the clinic, eat on time, sleep enough … it depends on what I do for*

> *myself and I need to tell myself that I must take my treatment and get better. (Participant 3, semi-structured interview)*

He further articulated that in not taking responsibility for his behaviour he was doing himself an injustice by wasting opportunities to improve his health and well-being, as illustrated in the following quotation.

> *I'm actually wasting my life because I have this illness, but I go out and I still use* [drugs] *and that's the thing about my life … I know but then I still do it. And I wonder often, why did I get sick but I can't help myself and it makes me angry … (Participant 3, semi-structured interview)*

During the focus group, one of the doctors also highlighted the lengthy treatment regimen as a challenge. He acknowledged that competent self-management requires commitment from the client, as illustrated in the following quotation:

> *And compliance, yes. And especially in the drug-resistant ward we put* [clients on] *prolonged treatment, you know, and it takes a lot of effort and a lot commitment to get through the treatment programme (Dr 1, focus group)*

5.3.3 Difficulty putting skills into practice

Several clients articulated that it is difficult to put skills into practice in the community, owing to environmental constraints. Despite finding the information they received extremely useful in developing their insight, implementing what they had learned upon reintegration into their respective communities proved to be a challenge. They stated isolation from effective support systems in their communities as a major contributing factor. The following quotations are evidence of this:

> *It's like, I didn't really put that skills into practice outside because I am alone … I don't have the support, like for example a mother to come in the room and say hey did you drink your tablets or whatever, like I think if she is gonna take it and give my tablets to me and make sure that I am drinking it then you know, but I don't have that. (Participant 8, semi-structured interview)*

In addition to the lack of support, poverty and distance from clinic services and just coping with life in their community also posed a challenge as articulated in the following extract:

> *… they do have some information to help us outside but sometimes the help they try to get for us for outside… some of us we are not following it because we are all from different places and some of us are far from the nearest clinics … it is very difficult really, I am not going to lie, it is us who is not following what they say here because we are trying to go through life; that is tough, it is hard even us we don't have enough money for transport to go to try to ask these places for help. So, all those things we talk in the groups, all the advice it's difficult to do in other places so it is very hard. (Participant 2, semi-structured interview)*

They emphasised that life in the community is very different from the supportive structure provided while in hospital and this made implementing what they had learned in group sessions very difficult. As a result, despite trying to execute what they had learned, it was easier to engage in risky behaviour, and they reverted to drug and alcohol use. The following extracts describe this:

> *I can't say it helped … but when I got out then I started using drugs and smoking again … it's different out there. I mean, uhm, … there are lots of things that they taught me in the groups that I keep in mind … but I didn't obey it. (Participant 3, semi-structured interview)*

> *… I learned a lot at OT. See the time when I went home, I had just learned it and I went on but after a while then I said no, man and I started smoking and drinking again. (Participant 7, semi-structured interview)*

In terms of treatment adherence, while participants developed insight into the importance of completing their treatment, they stated during the interviews that they could not guarantee adherence to treatment owing to several factors such as the number of medications they needed to take, the duration of their treatment, and side effects of the medication, as illustrated in the following quotation:

> *… you see this treatment that we are on now, this 22 tablets, sometimes it makes you feel sick, sometimes it doesn't, so I can't guarantee, you understand, that I am going to cope with this long two-year story with this tablets. I am honest with myself. (Participant 8, semi-structured interview)*

The interviews allowed the participants to further reflect on their social circumstance. They expressed that factors such as poverty, limited resources and proximity to the nearest clinic also were barriers to completing their treatment in their community, as expressed in the following quotations:

> *… some of us are staying far from the clinics, so some of us are struggling, we don't have something to eat, we don't have groceries so you see, we are not strong enough to get the medication, it is so far, …* [to] *go fetch the medication. (Participant 2, semi-structured interview)*

The side effects of the medication were raised as another challenge. One participant expressed that the side effects of the medication made him feel ill on some days. As a result, he was not sure how he would cope with completing his treatment in the community. The following quotation illustrates this:

> *Sometimes, you eat ne but then when you take this tablets then it burns you inside your stomach. So, it is almost like it is eating your food away then you are hungry after that tablets you are hungry again. This is the worst medicine ever in my life. I don't worry for drinking this tablets but the thing is I am not going to cope because one day you feel fine then for two days you are not. (Participant 8, semi-structured interview)*

Despite challenges experienced with regard to the side effects of their medication, participants still preferred going to the clinic daily instead of getting their tablets on a weekly basis and taking the responsibility of completing their course without extrinsic motivation, as illustrated in the following quotations:

> *… if I get my pills for a week then I won't drink it. I will say OK I will drink it later. And then when the times come to drink it later then I will say just a little later and then it will be the night and I still have not taken my tablets. (Participant 3, semi-structured interview)*

> *… you see, I would rather go and take my tablets every day at the clinic because if they give it to me for a week then I know I am going to default. That I know just because of how the tablets make me feel sometimes, it's a bad feeling (Participant 8, semi-structured interview)*

Several participants expressed the need for additional psychosocial support in the community to help them cope with the aforementioned challenges. They indicated that they would be more than willing to attend psychosocial interventions if such support was available in their communities. The following quotations are evidence of this:

> *I will attend, and I also think that it will help other people … even if I can go to the clinic, I use some of the information there. And some of the stuff there I know there is a lack of knowledge with the people in the clinic. (Participant 2, semi-structured interview)*

> *… But the thing is, you are in a situation and then you put that one side. The support that the groups are talking about. Maybe some of the guys has that support. Certain people don't have that support. (Participant 8, semi-structured interview)*

Participants expressed the need for more support in the community to help motivate them to complete their medical treatment. This support could be achieved by strengthening family relationships or getting members of the community to offer support and encouragement, as illustrated by the following quotations:

> *… the person doesn't have to come every day but just to check if you drank your tablets and so on … see, I don't have family, I am on my own and I need to do everything on my own and life is tough … (Participant 3, semi-structured interview)*

> *There is no one there to help me collect my tablets every day at the clinic. I don't have the motivation to ask someone or to say will you help me fetch my tablets, go with me to fetch it… (Participant 6, semi-structured interview)*

During the focus-group discussion, team members were encouraged to reflect on available support for clients re-entering the community. The discussion drew attention to the need to strengthen community-based support, with members of the team expressing that in order to address this need, intermediate care facilities could be looked at as an option so that clients who no longer need to be hospitalised can still receive the necessary transitional support before going back to their homes, as illustrated by the following quotation:

> *One of the benefits of such facilities is that they are community based. And from what I understand they are looking at moving MDR facilities there* [community]. *There needs to be commitment to developing support programmes and part of what they are saying is that with MDR they need support in the community … I think it's a good idea. Perhaps we can look at the possibility of when people in facilities become stable, that*

> *they then move out to a more decentralised area where they still get the needed support before going back into their communities. (Dr 2, focus group)*

Participants also highlighted stigma around DR-TB as a hindrance to their relationships with their friends. This resulted in their feeling isolated from their community and contributed to their feeling as if they are not supported, as illustrated by the following quotations:

> *… they* [friends] *are saying wrong things like er, they don't want to even do something because they have TB; they don't want to talk to them, they don't want to play with them … it makes me feel bad because they don't have a feel for you with TB because they don't know about TB. (Participant 2, semi-structured interview)*

> *When you have this illness, you don't have friends, I mean, you will have to adjust to different things because they are not with me so much anymore when they go out. (Participant 3, semi-structured interview)*

The participants felt that even though they still had friends in the community, they could not really rely on them as they were still engaging in high-risk behaviour not conducive to their well-being, as illustrated by the following quotation:

> *Not in today's world* [*I don't have support*]*, because there is a lot of gangsterism going around and all that. So the old friends that I have, their lives is also not right. (Participant 8, semi-structured interview)*

5.3.4 Pathology implications for occupational engagement

Participants expressed the need for opportunities to engage in meaningful occupation in the community. They stated that being exposed to such opportunities could impact positively on their health and wellness. One participant expressed his willingness to give back to his community in the form of volunteer work. Furthermore, he possessed the skill of making bags which could be used to generate an income. The following quotation is evidence of this:

> *The problem is when you don't have something to do, like working. You must have something that you can do, or make things ... something just for me so that I have something to put in my mouth. Even volunteer, if it is one hour or two then I can give back to my community. I will be doing something. I can even make bags or something. (Participant 2, semi-structured interview)*

Other participants highlighted other skills such as fixing cupboards, gardening and art as meaningful occupations in which they would be willing to engage, as illustrated in the following quotations:

> *Yes, I enjoy gardening and cleaning ... and at school I did a lot of artwork ... that was actually, my aim (Participant 6, semi-structured interview)*

> *I would do any type of work and I am one who learns quickly. You just show me once and I will know what to do. (Participant 3, semi-structured interview)*

Two participants expressed, however, that engaging in such occupations is difficult owing to the lack of resources in his community, as illustrated by the following quotations:

> *Now that's the thing. A person can't do things when you don't have anything with you. (Participant 7, semi-structured interview)*

> *Because there is nothing you can do, you are just at home, you do nothing. You don't work. So, I can't sit at home and do nothing. (Participant 6, semi-structured interview)*

Although several participants expressed the need for meaningful occupation, they also acknowledged that owing to the effects of their illness, they had limited endurance and were therefore not able to engage in those occupations as they tired easily. There were, however, no alternatives available to accommodate their endurance levels. The following quotations is evidence of this:

> *... and the tiredness I experienced, and then I just lie down and when I am at home when I feel like that then I just lie down and sleep ... Then I tell myself that I won't be able to help myself and do the things that I want to because I do one thing and then I leave it because I am short of breath. (Participant 3, semi-structured interview)*

Not being able to work and lack of an income made reaching their occupational potential in the community particularly trying. Clients rely heavily on their disability grants but even when receiving a grant, they are still unable to meet all their needs, as illustrated in the following quotation:

> *... because it is so hard when you are not working, it is so hard when you have nothing to eat because there is nothing, there is no money outside and you must have money.*

So, you can try when they are giving us the medical grant so … we can get groceries and stuff. Because you cannot think straight when you are hungry and there is no food. There is not even medicine in your blood you see. (Participant 2, semi-structured interview)

5.4 THEME 3: FACTORS HINDERING THE IMPLEMENTATION OF THE ICIP

Theme 3: Factors Hindering the Implementation of the ICIP	• **Lack of commitment of staff** • **Lack of resources due to medical dominance** • **Limited movement around the hospital**

This theme highlights the barriers that hindered the successful implementation of certain aspects of the programme as experienced by staff and clients. The team faced several challenges in respect of the implementation of the ICIP that were a cause of frustration. They were faced with the lack of commitment of certain members of the team as well as limited resources, medical dominance, and lack of buy-in from management. Factors affecting clients included that they were confined to the MDR-TB ward and not allowed to move freely around the hospital. These factors are discussed in the following categories: lack of commitment of staff, lack of buy in from management, lack of resources, and limited movement around the hospital.

5.4.1 Lack of commitment of staff

Over time, several of the original team members were no longer working at the health facility and this shift in the core team affected the commitment of the rest of the team as well as new staff who joined the team. During the focus-group discussion, participants stated that it was always a challenge to get the whole team together to plan their interventions and that team members needed multiple reminders, as illustrated by the following quotations:

> *It was always an effort to get them to attend … I don't know why but it was always a struggle. We always had to phone them and call them to remind them. There was always a set date and a set time, but we struggled. (OT 2, focus group)*

> *It was a question of making an announcement and then phoning … I think I just got tired … (Dr 1, focus group)*

The lack of commitment specifically from the social worker was raised as a great cause of frustration to committed team members. They noted that the social worker would often not be in the hospital at the scheduled time of the planning meeting as he would have arranged home visits for that time. They believed team planning meetings should be prioritised, as illustrated by the following quotation:

> *I think that the priority is the meeting and you need to organise your home visits around that, and I don't think that you need to now go to the home visit at that particular time. And I think that's the problem and that is frustrating because I think a lot of the social work stuff is discussed at those meetings. (Dr 3, focus group)*

In addition, the importance of the role the social worker could play at these meetings was also raised by team members. They felt that clients were most concerned about their social circumstances and that the social worker needed to be present to address the questions raised by clients. Moreover, team members felt that clients would be more willing to participate in the rest of the programme if they were reassured that their social needs were being addressed, as the following quotation illustrates:

> *The majority of the questions are about, I feel, their grant and when their money will be paid and I don't know, that is in a way all that matters to them at that point. And that is very early on in the process … very often the clients are so fixed on that, that to get them to participate in other activities is a challenge until that is sorted out. (Dr 2, focus group)*

Another significant member who was no longer attending the team planning meetings and orientation meetings with clients, was the representative of the nursing staff in the ward. There were however operational challenges around this issue, since the nurses rotate. The consensus, however, was that attendance of a nurse at planning and orientation meetings is essential, as the following quotation illustrates:

> *I think in the beginning we got one nurse to come but then they stopped coming. It will be good to include them as well and integrate as well when we talk to the clients … (OT 2, focus group)*

> *And the staff nurse has generally been there for longer and is quite good. I think it will be good for them to be there when we sit down with them and explain to them. (Dr 1, focus group)*

Another point of discussion was the fact that the turnover of staff also needs to be considered in the implementation of the programme. It was acknowledged during this dialogue that orientation of new staff members on the ICIP is crucial to ensuring commitment to the programme, as illustrated by the following quotation:

> *There are all these kinds of variables here with people always coming in and out and what we should try to do is to see how we can make it work … it's part of being professional … if you get a new person and you don't just plonk them into the system … (Dr 2, focus group)*

5.4.2 Lack of resources due to medical dominance

The lack of resources was another hindrance to the implementation of the ICIP. For instance, one of the main barriers to successful implementation of the ICIP was the closing of Ward 7, which was the initial area allocated to the implementation of the psychosocial interventions by the OT department. It also served as a recreational area for the MDR-TB clients that was separate from the area the drug-sensitive TB clients used as an infection-control measure. This area was specifically provided to the OT department so that they could render a similar service to the MDR clients as to the drug-sensitive clients. It would also allow MDR clients to leave their ward to access these interventions, essential for the psychosocial rehabilitation component of the ICIP as illustrated by the following quotation:

> *The venue was always a problem and now it is a bigger problem … because now it's on lockdown … The problem is that we put our mouths in saying that we're just wanting to fix the windows… so because we said we wanted them to fix the windows at the meeting they said well, then it's just lockdown … they're not planning on doing anything (OT 1, focus group)*

The team felt strongly that the absence of an appropriate venue in which to facilitate the psychosocial interventions grossly disrupted the implementation of the ICIP and saw this a threat to the future of the programme, as the following quotation illustrates:

> *Basically, you can't use here, and you can't use there? So that's basically undercut the whole programme ... it completely sabotages the whole programme. (Dr 2, focus group)*

As a result, the OT programme had to be facilitated in the ward, which presented a myriad problems. Firstly, the psychosocial aspect of the ICIP needed to be watered down. As a result, the clients no longer had access to the full programme, as illustrated by the following quotations:

> *We used to have a regular programme, like a full programme that the clients would attend at least once every day for life skills, substance use, arts and crafts, support groups, education, and the OTT would do the leather work and so on and the gym in the afternoon. And it worked very well; we had a lot of clients attending the programme most of the time but now we have our five clients in that room. We can't get more clients in there. We just have that one room (O T1, focus group)*

> *We don't do all of the groups we used to do before, but I do other things, I do the educational groups ... We used to do it in Ward 7, it was easier then. We could do it fulltime. (OTT, focus group)*

Secondly, the revised programme lacks the structure that the original programme offered, as illustrated by the following quotation:

> *It's not like when they used to do it in Ward 7. It was more structured; it wasn't a matter of people walking in and out… like … now with having it in the ward. (Dr 1, focus group)*

Thirdly, as the following quotation illustrates, there was limited space in the ward for the purpose of facilitating groups and the area that was identified was not private.

> *It's a crowded place on the stoep* [veranda]. *And it's not private. You get clients popping in there … And there is not enough space to have it in the dining room … (Dr 1, focus group)*

Another important observation made by the doctor was that there was a significant difference in the clients' morale as a result of the full programme no longer being facilitated. Moreover, the doctor felt that he was also more involved with the clients' day-to-day routine and progress when the full programme was in place, as illustrated by the following quotation:

> *They're going backwards now, because there's no routine so they bounce back to where it was a year ago; I don't see them. Whereas with the programme … I was forced to see them because I used to be part of* [reminding them] *have you been to the programme, remember this programme's important … you need to attend all the groups … (Dr 1, focus group)*

The quotation by one of the participants supports the doctor's observation of low motivation in clients not attending the programme.

> *Most of us don't want to, we just want to lay in bed, only stand up to eat; some of them don't even want to wash. (Participant 5, semi-structured interview)*

There was a strong sense that some of the barriers related to the lack of resources were due to the lack of buy-in or commitment from hospital management. The doctor concluded that management needed to be made aware of the importance of psychosocial rehabilitation as a crucial component of the ICIP. The team envisaged that in creating that awareness and gaining buy-in from management, a major barrier would be resolved, as illustrated by the following quotation:

> *So, if management was involved and not just me, we can have a programme in the ward. We need commitment; we need commitment from management. Management is not committed. I don't think management is aware of what we are doing in the ward. (Dr H, focus group)*

The OT felt particularly disheartened with the position she found herself in. She believed that she could offer the clients much more than she was giving them because of influences that were beyond her control, as illustrated by the following quotation:

> *I really want to help these clients and it eats me up inside when I can't. I mean they employed me to do my job so they must provide a venue and there is space,*

> *I mean, there's space all over, make a plan. (OT 1, focus group)*

5.4.3 Limited movement around the hospital

A direct repercussion of the lack of resources described in the previous category was the limited movement around the hospital. During the semi-structured interviews, participants reflected on their experiences at the hospital. They articulated that they were confined to the ward during their hospitalisation and that their inability to move freely around the hospital made them feel constricted, as illustrated in the following quotations:

> *… if you come in then there is a gate, then when you enter the doors there's a gate and at the ward there is also a gate. It is too much. It feels as if you are in prison. You feel as if you are trapped. You see the same people every day, everything is closed, the gates are closed, and you just want to jump over them. (Participant 4, semi-structured interview)*

> *… at the MDR ward you can't move around the hospital you must be isolated in the ward … I only go to the groups they have in the ward … now because you have MDR you can't leave the ward. You are like 24/7 on this premises (Participant 8, semi-structured interview)*

Furthermore, they stated that being confined to the ward elevated their stress levels; life in the ward was monotonous and these aspects of being hospitalised impacted their emotional wellness negatively, as the following quotation illustrates:

> *Being by myself, can't move around, just laying. Eat, wash, watch TV, the same. It is all the same stuff over and over man. They should make us see more of the hospital, walk around a little; I mean if you must stay for six months here just in one place between this five walls, no man. You are gonna get crazy man to be honest with you. Because now you stress about what? You can't do nothing here, it's the same thing over and over and over again. (Participant 8, semi-structured interview)*

The doctor also acknowledged the negative impact of being confined to the ward. He felt strongly that the clients should have the opportunity to move around within the hospital as he had seen the benefits of this with the drug-sensitive clients. He believed that confining clients to the ward would be destructive and opposed the intended outcomes of the programme. He further highlighted the role the OT programme could play in reducing the effects of hospitalisation if it were moved to a different area in the hospital, as illustrated by the following quotation:

> *I think you know with the sensitive clients, when you send the client to OT they are going to a group, they are going through the building, they are in a different environment ... But with the MDR clients, they are already locked up and then they go into the small room and then it's the counsellors and the cleaners and clients walking around, and everybody is there and that is unpleasant. So, now if you are going to assess the outcome of the client then you are going to not get anywhere. So, I feel that the OT programme must come out of Ward 5. There are too many things happening there and its toxic. (Dr 1, semi-structured interview)*

In reflecting on their lack of freedom within the hospital, participants explained that they believed they should be allowed more movement around the hospital premises, especially once their sputum results were negative and they were no longer infectious.

> *… freedom in the hospital, yes, then you can meet like other people, talk lekker, maybe this person is from the same place … then you can communicate with other people as well. Because you are maybe here for two months now so you know all these people already you understand. So, to meet new faces every day it makes you feel alive, it makes the days go quicker (Participant 8, semi-structured interview)*

They felt that it would give them the opportunity to interact with different people from outside of their ward which would in turn boost their morale, as illustrated by the following quotation:

> *… you maybe have a friend in the other ward but the reason that you can't go there is now because you have MDR. But now if your sputum is negative that means mos now, that I can't affect that guy with the MDR now, but it is still a problem you understand …. yeah because your sputum is negative, and you are taking mos your treatment so when you are taking your medication, your TB can't spread to other people. So, you can speak without wearing a mask. (Participant 2, semi-structured interview)*

In addition to feeling restricted in the MDR-TB ward, some participants also acknowledged limited opportunities for meaningful occupational engagement in the ward. This resulted in boredom as they felt that they had nothing to do, as demonstrated by the following quotations:

> *There's pool, you could play pool … that's about it and dominoes, cards … but only in the ward. (Participant 5, semi-structured interview)*

> *Some of the people that are here do go home on a weekend pass. But some of them they don't have houses or places to go home to so I'm talking about those people who are for six months in a place like this. I mean for me I'm talking about myself now, I can't handle it because now if I go to my bed I just lay a few minutes then I stand up and I walk till that side and no, it is boring, walk this side no, it is boring. What do the people do, they watch TV the whole time. (Participant 8, semi-structured interview)*

5.5 THEME 4: FACTORS FACILITATING THE IMPLEMENTATION OF THE ICIP

Theme 4: Factors Facilitating the implementation of the ICIP	• **Programme factors** • **Team factors**

This theme highlights the perceptions and experiences of staff members relating to what they understood to have facilitated the implementation of the ICIP. Several facilitating factors were identified during the focus group with the team members. The team was able to identify influences within the team itself, such as their determination to continue with the implementation of the ICIP, as well commitment to the process, albeit with a smaller composition of the team despite several challenges they faced in terms of poor commitment of certain team members and the lack of physical resources. Another facilitator was the value the team found in the structure the ICIP provided to the team and how it facilitated better interprofessional and interpersonal relationships with some team members. In addition, the team was able to identify positive programme outcomes for some of their clients, which they perceived as a being a result of having participated in the ICIP. This theme thus divides these factors into two categories: team factors and programme factors.

5.5.1 Team factors

Team factors emerged as the second positive influence in the implementation of the ICIP. When reflecting on some of the team factors that facilitated the ICIP, improvement in the interdisciplinary relationships was an important aspect that was discussed. Participants expressed that prior to the implementation of the ICIP, interdisciplinary collaboration was not seen as a priority in the MDR-TB ward; however, since incorporating team planning meetings into their routine, they found it to be beneficial.

> *Yes, I mean I suppose if you look at the… we… I mean we've never had contact with the other team members but now we're forced to have contact and we're forced to discuss the clients ... (Dr 1, focus group)*

The ICIP provided the team with structured opportunities to communicate and interact with one another.

> *…the fact that we're together with the planning and even after the planning meeting, makes it ... Makes a big difference, yes. (Dr 1, focus group)*

The team found this helpful in building relationships with the outcome of more inclusive client care, as illustrated by the following quotation:

> *I think I work better with Dr 1 now … We work better together because we talk .. .(OT 1, focus group)*

The overall improvement in relationships between team members was also highlighted to have had a positive effect on the team morale and helped maintain the routine within the team, as illustrated by the following quotation:

> *But myself and OT we actually formed a relationship where we can sit together and discuss clients and it's actually quite nice sitting and discussing clients … So, we sort of formed a nice group … small but nice … I think it is after a long time that we have a routine. (Dr 1, focus group)*

In addition, the fact that the entire team was involved in planning interventions for the clients meant that the team was able to provide a more comprehensive service and address problems that would previously have been overlooked, as illustrated in the following quotation:

> *… the fact that there is a process and that there is an on-going kind of expected, planned-for intervention programme means that a lot of those issues will get addressed that might not have been addressed otherwise. Just the mere fact you've got the process also automatically becomes a lot more comprehensive and inclusive. (Dr 2, focus group)*

The participants in the focus group reflected on their experiences of the implementation of the ICIP. They drew attention to certain personal factors that facilitated the implementation of the ICIP. One of these factors was the decision team members took to continue with the programme despite the limited commitment they received from certain team members to prioritise team meetings and interprofessional collaboration. They were determined to make do with what they had and persist, as illustrated by the following quotation:

> *You've got a committed OT and a committed physio and a committed doctor so that's good enough for now … we make do with what we've got in terms of commitment … myself and OT were saying OK we are here, let's just continue and then I will do my part, the physio will do her part and the OT. (Dr 1, focus group)*

5.5.2 Programme factors

As the team members reflected further on the facilitators of the ICIP, they voiced the value they found in the structure the programme provided the team, as illustrated in the following quotation:

> *The structure, I think from what I could see worked well; just to have that structure in place or that plan. I think … that's why this programme has been quite successful in that we had that structure in place. (Dr 1, focus group)*

We discussed each phase of the ICIP during the focus group. It emerged that Phase 1 and Phase 2 were still being implemented, although with a smaller team. In addition, the document corroborated the fact that they were still making use of the integrated assessment form and the individual support plan, as is also illustrated by the following quotation:

> *We still do the introduction to the clients, explain about the rules to all the new clients in the group. The clients then go back to the ward and we will then plan … in terms of what else they will need … we've got the modified assessment form … we still use it at*

> *the planning meeting. So, I fill in my section, there's the physio section, the OT section and the social work section (Dr 1, focus group).*

The orientation meetings with the clients were still taking place and the team found these meetings to be valuable, although the OT felt that it would be even more beneficial if all team members attended these sessions, as illustrated in the following quotations:

> *Yes, we tell them about the OT programme and the physio will talk about what she does and what happens in the gym. (Dr 1, focus group)*

> *I think it's good to have those meetings with the doctor and not just the OT by herself so that they* [the clients] *can understand that it is not just the OT, that this is what their doctor also wants (OT 2, focus group)*

Another influence that emerged from their reflections was the fact that the team was able to identify cases where positive programme outcomes were evident in some clients who had participated in the programme. One doctor acknowledged that although majority of the clients who attend the groups do not show positive changes in their behaviour immediately, there are a few clients who attend the programme where a positive difference can be seen. The following quotation illustrates this:

> *A few individuals that attended the groups, you could definitely see the difference and then you obviously have a spell with the groups where you know, ja, they're just participating just for the sake of participating. (Dr 1, focus*

> *group)*

Another doctor encouraged team members to focus on these positive outcomes as motivation to continue with the programme, as illustrated in the following quotation:

> *But generally there is that sense that… we do notice a difference in certain clients and I think we should maybe not have the expectation that every person that attends the group is going to be … you win some and you'll lose some … But those ones that you've won are invaluable and the others, you may well be making a difference to them, you've just got to keep going. (Dr 2, focus group)*

5.6 CONCLUSION

In this chapter the qualitative findings of the study were presented in four themes. Theme 1 emphasised the importance of creating a therapeutic environment for clients and reported on clients' experiences of how the ICIP achieved this. These were threefold: Positive interpersonal relationships were formed with both staff and clients while in hospital and impacted clients' ability to cope with their hospitalisation. The opportunities to engage in meaningful occupation helped enhance their health and wellbeing. A platform was provided for clients to develop insight into their behaviour and their illness. In Theme 2, gaps in the ICIP were identified to draw attention to further strengthening community-based support in order to enhance the efficacy of the ICIP and mitigate factors hindering its efficacy: poor discharge planning and lack of emphasis on community integration; challenges experienced putting skills into practise ; lack of sufficient support in the community; and how clients' illness affected occupational engagement. Theme 3 highlighted the challenges experienced by the participants to effectively implement the ICIP: the lack of commitment of certain members of the team, as well as limited resources, medical dominance, and lack of buy-in from management. Finally, Theme 4 described the various factors that facilitated the implementation of the ICIP: the determination of staff members to continue with the implementation of the programme, the value the team found in the structure the ICIP provided, and positive programme outcomes they were able to identify. In the next chapter the quantitative findings of the study are presented.

CHAPTER 6

DISCUSSION OF QUALITATIVE FINDINGS

6.1 INTRODUCTION

In the previous chapter I presented the qualitative findings of the study. This chapter discusses the qualitative findings as they relate to the objectives: how the participants and service providers perceive the barriers to and facilitators of the ICIP; how the programme outcomes of the ICIP were addressed; and the perceived barriers and facilitators related to the implementation of the ICIP. Finally, I shall discuss the findings of the study in relation to the ICCC framework.

6.2 HOW PARTICIPANTS AND SERVICE PROVIDERS PERCEIVED THE BARRIERS TO AND FACILITATORS OF THE ICIP

6.2.1 Facilitators of the ICIP

With respect to the first research objective, the findings of the study revealed that one of the main facilitators of the ICIP was the therapeutic milieu at the hospital. According to Mahoney et al. (2009), a therapeutic milieu requires cooperation among clinicians to provide clients with an optimal healing environment based on continuous therapeutic relationships among clients and service providers that is client centred and where **e**very interaction is an opportunity for therapeutic intervention. Additionally, a therapeutic milieu provides a framework to organise care in a holistic manner that supports positive health outcomes. Likewise, Townsend (2014) states that within the therapeutic milieu, care is directed by an interdisciplinary team where a comprehensive treatment plan is formulated and agreed upon by the team members

The current study showed that the multidisciplinary team was able to produce a therapeutic milieu through the supportive environment they created in the ward. Participants valued the support they received from the staff. The nursing staff in particular provided them with the necessary comfort that made it easier to cope with being hospitalised and also impacted treatment adherence positively while in hospital. The participants further regarded the support they received while in hospital to be holistic, mentioning that the staff not only addressed medical needs but also offered information about their illness and helped clients address issues related to overall wellness

Townsend (2014) asserts that a therapeutic milieu should include all clients as equal members of the programme who have the primary responsibility for their lives with the aim of returning to fully productive lives as soon as possible after becoming ill. Accordingly, the therapeutic environment provides a framework within which the necessary therapeutic interpersonal interventions can be coordinated in such a way that each intervention facilitates the other (Townsend, 2014). This study was able to demonstrate that the ICIP facilitated therapeutic interpersonal relationships as described by Townsend (2014) through the orientation groups during Phase 2 of the ICIP. Both staff and clients articulated that they found these sessions valuable. The service providers articulated that these sessions were useful in building a rapport with clients, while the participants noted that orientation made them feel more relaxed and reduced their levels of anxiety on admission to hospital.

The current study showed that the therapeutic milieu was further enhanced through the supportive relationships built with other clients in the hospital as they provided participants with a sense of belonging during their hospitalisation. These findings are significant as belonging refers to the need for social interaction, mutual support and friendship, as well as the need to be included and an affirmation that one's life has value to others (Hammell, 2004; Rebeiro et al., 2001). Furthermore, meaningful occupations should contribute to a person's sense of belonging and feeling valued in everyday life, as well as provide hope for the future. Within a network of social support, belonging can underpin both the ability to do and contribute to the pleasure of meaningfulness of doing (Hammell, 2004). Additionally, when doing things for others, the acknowledgement that people receive also serves as affirmation that they are being valued. It can thus be argued that for the participants in this study, experiencing a sense of belonging was an integral part of helping them deal with being hospitalised (Doble & Santha, 2008).

The findings revealed that participants found meaning and purpose in helping other clients both physically and emotionally. They also found that assisting others reduced the burden of their illness on themselves because it made them feel as if they were able to give back and do something meaningful for others. The findings of this study are in line with Firfirey's (2011), which showed that among participants who underwent long-term hospitalisation, the ability to build strong bonds with one another provided them with a sense of belonging and a support system which made it easier for them to cope with the hospital environment. Based on these findings, it can be inferred that the sense of belonging experienced by participants facilitated the ICIP in that it created a supportive environment for them while in hospital. Moreover, the sense of connectedness and interdependence experienced while participating in the ICIP provided participants with meaning and purpose in their daily occupations, which had a positive impact on their well-being while in hospital.

Another facilitator of the ICIP was spirituality. Interestingly, the findings showed that participants found comfort in their spirituality, despite its not being part of the hospital programme. This finding is consistent with other research that draws an association between health, well-being and spirituality. According to Unruh (2007), spirituality is subjective in that it is personal, intimate and private. She states that people, depending on the their awareness and acceptance of spirituality, will incorporate spirituality into their lives in the manner they are most comfortable with. Some participants in the current study found comfort in their spirituality, stating that it gave them strength to cope with their illness and with being hospitalised. Although the ICIP didn’t cater for their spiritual needs directly, they were able to address their spiritual needs on a personal level. These findings support literature that suggests that spirituality provides people with hope and is often attributed to positive experiences that are essential for a meaningful life. It provides someone with a reason to live, supports a person in his or her daily life, and provides meaning to everyday occupations, as well as helps people cope with their illness as it provides emotional support and is therefore directly related to people’s health (Firfirey, 2011; Weskamp & Ramugondo, 2004; Wilding, 2007). The findings further revealed that participants would appreciate having spirituality addressed in the ICIP, which supports the findings of Thompson et al. (2018), who state that while clients often wanted their spiritual needs addressed as part of their treatment, therapists did not recognise this need as a priority and the issue was therefore not addressed in treatment. Doble and Santha (2008) challenge occupational therapists to rethink occupational therapy outcomes and identify an individual’s subjective occupational experiences as the central focus of interventions. Mthembu et al.. (2017) and Thompson et al. (2018) propose that therapists should reflect on their own spirituality so that they are more sensitive to the needs of their clients, while Feeney and Toth-Cohen (2008) state that failing to respond to a client’s spiritual needs will result in interventions being ineffective.

6.2.2 Barriers to the ICIP

Despite hospitals usually being associated with restoration of health, hospitalisation can also have a negative impact on health and well-being (Bynon et al., 2007). This was demonstrated by Firfirey and Hess-April (2014) in reference to clients hospitalised for MDR-TB that associated the hospital environment with negative experiences resulting in their needs not being met. This consequently resulted in their experiencing occupational injustice due to institutionalisation, exacerbated by reduced role performance and an inability to set goals. The ICIP was thus developed to provide holistic interventions that are not purely biomedically driven and address the psychosocial needs of clients hospitalised for MDR-TB, thereby addressing the negative effects of long-term hospitalisation. A key component of the ICIP is the occupational enrichment programme. Occupational enrichment programmes aim to provide people with opportunities for autonomous choice, to advocate for independent structuring of daily routines, and to provide opportunities for active participation in programmes which support the personal and skills development needed for successful integration into their families and communities (Duncan, 2004b; Farnworth & Muñoz, 2009; Molineux & Whiteford 1999). Duncan (2004b) suggests that occupational enrichment allows individuals to access personally satisfying activities by addressing personal and environmental issues that could act as barriers against participation in meaningful occupations. She states that occupational enrichment recognises occupational risk factors and addresses the effect these risk factors have on the individual's occupational needs. Likewise, Molineux and Whiteford (1999) define occupational enrichment as the deliberate manipulation of an individual's environment to support and facilitate meaningful occupations by addressing the needs of people who experience occupational injustice.

A significant finding in this study is the major barrier that the closing down of Ward 7 posed for the ICIP. For example, participants were limited in terms of occupational choice as they no longer had access to the full occupational enrichment programme. Also, there were limited resources in the ward in terms of recreational facilities, which resulted in boredom due to monotonous daily routines. In addition, they were confined to the ward with limited to no movement around the hospital grounds which resulted in their feeling restricted. These findings are in line with the finding of Farnworth and Muñoz (2009), which showed that people experience both occupational deprivation and occupational imbalance when they undergo long-term hospitalisation.

According to Doble and Santha (2008), an individual's potential to experience occupational well-being is dependent on available occupational opportunities; as a result limited occupational choice can threaten an individual's ability to meet his or her occupational needs. Additionally, personal factors such as expectations, competencies, mood, attitudes and past experiences, as well as environmental factors, can also have an influence on an individual's occupational needs (Doble & Santha, 2008).

The current study revealed that participants were limited in terms of occupational choices as they no longer had access to the full occupational enrichment programme. Therefore, within the context of the hospital, participants had limited opportunities for exposure to a wider range of opportunities to engage in meaningful occupations, resulting in their occupational needs not being met. This hindered their occupational engagement, which suggests that they experienced occupational deprivation. Occupational deprivation is defined as people's inability to engage in occupations owing to some external restriction outside of the control of the individual (Whiteford, 2005; Wilcock, 1998). The findings of this study further revealed that even though the OT programme still provided some opportunities to explore new occupations, although limited, some participants felt that those occupations did not meet their needs and therefore chose not to participate in them. These findings support the view of Galvaan (2015) that occupational choice is influenced by structural, contextual and personal factors. It is proposed that creating opportunities through introducing a wider range of opportunities for participation in occupations is insufficient for promoting occupational justice and social inclusion. Therefore, the existence of opportunities to participate in occupations may not translate into changes in actual occupational performance (Galvaan, 2015). When reflecting on what can be added to the existing programme to facilitate meaningful occupational engagement, suggestions included more art-based activities as well as activities focused on spirituality and support groups.

The relationship between long-term hospitalisation and occupational injustice was further highlighted in the participants' views of how being confined to the ward prevented them from moving freely around the hospital and subsequently made them feel constricted and thus elevated their stress levels. This concurs with the findings of the study by Firfirey and Hess-April (2014), where participants likened their experience in the ward to being in prison. Additionally, they found that life in the ward was monotonous and lacking meaning, which the authors argued indicated occupational alienation. In can thus also be argued that the participants' experiences in the current study are also consistent with occupational alienation, which is defined as feelings of frustration, isolation and separation from an occupation when individuals' needs are not met by engagement in a particular occupation (Wilcock, 1998). Similarly, Townsend and Wilcock (2004, p. 80) define occupational alienation as "prolonged disconnectedness, isolation, emptiness, lack of a sense of identity, a limited or confined sense of spirit or a sense of meaninglessness".

In addition to feeling restricted in the MDR-TB ward, some participants also acknowledged limited opportunities for meaningful occupational engagement in terms of leisure and recreation in the ward. This resulted in boredom, as they felt that they had nothing to do. This signifies occupational imbalance as their occupational engagement failed to meet their unique social, mental or rest needs. Occupational imbalance occurs when individuals either have too much or too little to do, or lack a variety of meaningful occupations to engage in. It differs from person to person in relation to capacities, interests and responsibilities, and could result in either burnout or boredom (Stadnyk et al., 2010; Townsend & Wilcock, 2004). The findings of this study further lend support to the findings of Farnworth and Muñoz (2009), that people who are institutionalised are not allowed to freely choose the occupations in which they engage and are therefore limited in terms of occupational engagement. They emphasise that because routines in hospitals are highly structured and monotonous, they allow for little or no choice. As a result, the opportunity for purposeful occupational engagement is lost to the individual and impacts negatively on his/her health and well-being.

One member of the team, a doctor, also shared his observations on the negative impact of clients being confined to the ward. According to him, the lack of an occupational enrichment programme resulted in regression in terms of health-directed activity and positive and active engagement in life. He believed that confining clients to the ward was destructive and counteractive to the intended outcomes of the programme. This is a noteworthy finding as it illustrates how the process of implementing the ICIP allowed the doctor to become more aware of the benefits of holistic interventions that were not purely biomedical. Through this process he was able to place value on the occupational enrichment programme as an essential component of the intervention required when hospitalised for MDR-TB.

The findings also revealed the experience of occupational apartheid in participants. Occupational apartheid occurs when people are restricted from engaging in specific occupations based on personal characteristics such as race, age, disability, gender, nationality, religion, sexuality and social status (Kronenberg & Pollard, 2005). Occupational apartheid is therefore a formally established form of occupational injustice. The findings of this study suggest that clients were excluded from certain aspects of the programme based on their diagnosis. For example, the full occupational enrichment programme was available in the occupational therapy department to drug-sensitive TB clients. However, based on the participants' MDR-TB diagnosis and policies on infection control within the hospital, the participants in this study did not have access to this programme as they were not allowed to leave their ward. Stigma, lack of support and isolation are well-known challenges experienced by MDR-TB clients. For example, Mohamed et al. (2015) highlight social aspects such as isolation and loneliness due to stigma as a serious challenge to participants in his study. Similarly, the findings of this study revealed that participants felt isolated and stigmatised because of their MDR-TB diagnosis. In reflecting on their lack of freedom within the hospital, participants in this study explained that they believed they should be allowed more movement around the hospital premises, especially once their sputum results were negative and they were no longer infectious. They felt that allowing them more freedom within the hospital would give them the opportunity to interact with different people from beyond their ward and encourage inclusiveness by participating in an occupational enrichment programme with clients from other wards, which would in turn boost their morale.

Interestingly, despite the stigma and isolation experienced by MDR-TB clients owing to the infection control policies implemented in the hospital, the policy framework on decentralised and deinstitutionalised management of drug resistant-TB does furnish guidance for the management of stable, MDR-TB clients closer to their homes in their communities (Department of Health, 2011). This means that MDR-TB clients are integrated into society at communnity level, with less stringent infection control measures compared with those in hospital. These findings have led me to question why the policies in the hospital are so stringent in not allowing MDR clients to be integrated with drug-sensitive clients when accessing the occupational enrichment programme if MDR-TB clients who access treatment in the community are integrated into their communities. I am therefore of the opinion that the hospital should review its infection control policies to allow the ICIP to address the issues related to the stigmatisation of MDR-TB by affording MDR-TB clients more freedom in accessing the occupational enrichment programme in the OT department, considering the lack of available resources in the ward. By adapting the ICIP, it will not only allow clients to access a more comprehensive therapeutic service, but will also boost their morale by including them with the greater client population, thereby reducing feelings of isolation.

6.3 HOW WERE THE PROGRAMME OUTCOMES OF THE ICIP ADDRESSED?

The programme outcomes of the ICIP were to modify the clients' health-directed behaviour to the extent that they engage in health-directed physical activity; to improve their motivation to the extent that they experience positive and active engagement in life; to develop their self-monitoring insight through psychoeducation, thereby improving treatment adherence through better self-management as well as a reduction in high-risk behaviour; to ensure successful reintegration into the community by providing clients with the necessary confidence and skills to negotiate with service providers in the health system to better meet their needs; to develop the necessary knowledge-based skills to manage their illness; and to improve emotional well-being. In this section I shall outline how the team was able to address the programme outcomes of the ICIP as well as the participants' experience of how the ICIP addressed the programme outcomes from their perspectives.

6.3.1 Opportunities to engage in health-directed physical activities

It emerged from the findings that interventions of the ICIP would, in many cases, address more than one outcome at a time. For example, physiotherapy interventions address health- directed activity, emotional well-being, and positive and active engagement in life. Physical exercise provides opportunity for clients' mental and/or physical health problems to be addressed (Knapen, Vancampfort, Moriën, & Marchal, 2015). In addition, exercise therapy improves body image, coping strategies, quality of life and independence in activities of daily living (Knapen et al., 2015). Occupational therapy literature also draws attention to the link between physical activity and well-being, with Moll et al. (2015) stating that engaging in physical exercise is a way of activating one's body, mind and senses, which makes it a key contributor to health. In terms of physical rehabilitation of TB clients, a comprehensive programme of physical rehabilitation accompanied by therapeutic physical training, physiotherapy and educational programmes to improve lung function, functional state of the cardiorespiratory system, and quality of life of clients with pulmonary tuberculosis, is advised (Nogas et al., 2019).

The current study supports the research by Knapen et al. (2015) that physical activity can improve motivation as well as mental and physical well-being. The findings illuminated that physiotherapy gym and engaging in physical activity provided meaning and purpose to the participants, which in turn improved their motivation to participate in physical exercise activities. In this study, several participants expressed being tremendously weak on admission. Health-directed activity was thus addressed with physiotherapy interventions, including mobilising of non-ambulant clients who were weak on admission. The physiotherapy gym additionally allowed participants to engage in weight training or cardio exercises. Participants in this study also appreciated the support they received from the physiotherapist to improve their endurance through her encouragement to engage in health-directed physical activity. Positive and active engagement in life involves a change of lifestyle and life activities, including the motivation to be active in re-engaging in life-fulfilling activities by converting intentions into positive outcomes (Osborne et al., 2007). In this study, physiotherapy interventions addressed positive and active engagement in life as they provided some participants with the opportunity to regain their strength and re-engage in life-fulfilling activities. Lastly, emotional well-being was addressed because engaging in physical activity helped reduce the effects of institutionalisation and anxiety, which ultimately improved participant motivation.

One of the participants reflected on the positive impact of engaging in physical activity to improve one’s health and well-being. He expressed that while there were observable benefits to increasing one’s physical activity, he did not find meaning and purpose in attending that aspect of the ICIP. Bezner’s (2015) study noted the importance of incorporating motivational strategies in exercise interventions to enhance clients’ motivation. Physiotherapists encounter clients who engage in unhealthy behaviours such as a lack of physical activity, smoking, poor nutrition, inadequate sleep, and an also experience the negative effects of stress. They therefore have a responsibility as healthcare providers to address factors that influence health and wellness in their interventions (Bezner, 2015). According to Reynolds (2001), physical therapists need to educate clients about the benefits of physical activity, make clients aware of the recommended minimum requirements of physical activity, explore perceived barriers to physical activity, encourage goal setting and monitoring outcomes, and include strategies to help clients and clients to prevent relapse and build social support. Likewise, Bezner (2015) states that physical therapists have a role to play in promoting health and wellness and in order for them to do this they need competency in counselling, behaviour change and motivational interviewing across a range of health behaviours that promote health and well-being. These skills will help the therapist to incorporate health and wellness interventions into the physical therapy plan (Bezner, 2015). Barriers to incorporating health and wellness in physical therapy treatment plans include a lack of interest on the part of clients, lack of counselling skills, and the perception that the physical therapy environment is not conducive to health promotion (Bezner, 2015). These barriers were evident in this study, as the findings illustrate that even though the participant could see the benefits of physical activity, he did not have the interest in or motivation to participate in the activities presented in the ICIP. At the same time, the findings suggest that while health- directed activity and positive and active engagement in life were nonetheless addressed through the provision of opportunities to engage in physical activity, additional motivational and wellness promoting interventions were not being incorporated into the service to encourage clients to attend that component of the ICIP as in the case of this particular participant in this study.

6.3.2. Opportunities to engage in meaningful occupation

The findings show that the OT programme addressed several of the programme outcomes, including positive and active engagement in life, self-monitoring and insight, skill and technique acquisition, social integration and support, emotional well-being, and constructive attitudes and approaches. According to Doble and Santha (2008), occupations need to provide an individual with control, efficacy, value and self-worth; demonstrate who they are and want to become as occupational beings; allow individuals to learn and master new skills; and relate to others and make connections with their past, present and future. Law et al. (1998) state that occupations need to meet the intrinsic needs of individuals, while Hammell (2004) defines these intrinsic needs as meaning, purpose, choice and control.

The outcome of achieving positive and active engagement in life was addressed by providing clients with opportunities, albeit limited, to engage in meaningful occupation. Meaningful occupation provides a foundation for social participation and has the potential to provide the basis for structuring or re-structuring one's identity and enhancing one's sense of engaging in meaningful occupation. This has a positive impact on health and well-being (Blank et.al., 2015; Gallagher et al., 2015). Also, by facilitating meaningful occupational engagement, therapists create an environment that enables individuals and communities to engage in meaningful occupation, thereby promoting health and well-being (Gallagher et al., 2015). The findings support the view that occupational engagement has a positive effect on well-being by illustrating the value the participants placed on meaningful occupational engagement while in hospital. Occupational engagement has also been shown to have the ability to address an individual's need for accomplishment through learning and mastering new skills, meeting performance expectations and achieving goals (Doble & Santha, 2008; Moll et al., 2015). The current study showed that some participants enjoyed being able to use their hands to make things such as beadwork, which also supports the notion that occupational engagement can provide experiences of pleasure and joy and can be associated with experiences of enjoyment, amusement and contentment (Doble & Santha, 2008; Moll et al., 2015).

Doble and Santha (2008) advocate for occupational therapists to extend their focus beyond occupational performance and examine how individuals compose their occupational lives and to what extent they meet their occupational needs. Occupational needs include accomplishment, affirmation agency, coherence, companionship, pleasure and renewal. Historically occupation has been categorised in terms of self-care, work and leisure. Hammell (2009b) however suggests that occupations can be categorised as restorative occupations, occupations that foster belonging, connecting and contributing, occupations that engage in doing and occupations that reflect life continuity and hope for the future. Restorative occupations are described as occupational experiences that contribute to well-being, especially in circumstances when people are going through difficult life changes such as life-threatening illnesses. Examples of restorative occupations include reading, creative arts, prayer and meditation, music and enjoying nature. Such occupations are not goal directed nor purposeful, but have the potential to be extremely meaningful and rewarding (Jonsson & Persson, 2006). The findings of this study show that the OT programme was able to facilitate restorative occupations by providing participants with a sense of belonging and offered the participant an opportunity to connect with other clients in a meaningful way during group sessions.

Additionally, Doble and Santha (2008) assert that accomplishment is not only dependent on physically engaging in an occupation but can also be achieved through planning, sharing experiences with others, sharing information, and teaching others how to do things, as well as by reflecting on past accomplishments. Opportunities for occupational engagement need to recognise the importance of acknowledging the individual’s occupational choices as worthwhile and valued. The findings of this study show that despite the barriers to the ICIP as described in the previous section of the chapter, the OTs were able to rethink the planned OT programme. This is illustrated in their effective adaptation of the programme to still offer a person-centred programme that provided clients with the sense that they were being valued through the facilitation of restorative occupations as described by Hammell (2009b).

An example of restorative occupations in this study is the harm-reduction group facilitated as part of the OT programme. The harm-reduction group was established to address substance abuse, which emerged as a major challenge in terms of treatment adherence of MDR-TB clients as expressed by the multidisciplinary team during the focus group. They believed clients lacked insight into the impact that substance use has on their bodies and their treatment outcomes because of the negative impact it has on treatment adherence. This finding concurs with literature regarding the negative impact substance abuse has on treatment adherence (Bagchi et al., 2010; Holtz et al., 2006). Holtz et al. (2006) recommended that interventions to address adherence should centre on substance abuse treatment, client education and improving provider–client relationships. In light of the challenge that substance abuse poses to positive treatment outcomes as presented in the findings, a harm-reduction approach was incorporated into the OT group sessions.

Harm-reduction approaches have been proved to be effective in alcohol and substance abuse over a variety of settings and varying populations. The main aim of the harm-reduction approach is to reduce the problematic behaviours associated with substance abuse. The harm-reduction approach supports any steps in the right direction, and while abstinence is the ultimate goal, clinicians who make use of this approach meet the clients in order to determine where they are at. This approach is non-judgemental and could use techniques such as motivational interviewing (Miller & Rollnick, 2012) to allow the client to explore motivation to change. The harm-reduction approach addresses prevention, intervention or maintenance of behaviour (Logan & Marlat, 2010). The findings of this study illustrated how the OT used the harm-reduction approach to facilitate groups in a non-confrontational manner, where clients were given the opportunity to interact with one another and discuss a variety of topics related to their illness as well as their behaviour. They were then encouraged to make positive changes in their lives, thereby addressing self-monitoring and insight. The OT expressed that a harm-reduction approach was more appropriate for the clients at the hospital as it aimed at helping them look at their own behaviour and how they needed to change it to improve their health and well-being. The harm-reduction groups also provided clients with significant opportunities to learn more about their illness as well as develop insight into their behaviour. The participants in this study also expressed that they enjoyed attending the group sessions as they found the information about treatment adherence and the importance of completing one's treatment particularly helpful and this speaks to the intended outcome of improving self-monitoring and insight to the extent that self-management would improve upon reintegration into the community.

The OT programme worked towards developing clients' knowledge-based skills and techniques that assist participants to manage disease-related symptoms and health problems more effectively in the harm-reduction groups. These group sessions ensured that apart from being provided with the necessary information to inform decisions around their behaviour, participants were also given the opportunity to make their own decisions about their lives after engaging with their peers on certain topics. Participants further expressed that they found value in being encouraged to plan for reintegration into their communities and the positive life changes they should be considering.

Hammell (2009a) asserts that for people who have sustained a life-altering injury or illness, the process of refocusing on abilities, interests and personal goals often entails redefining their values and rethinking their priorities. The findings of this study revealed that being hospitalised for MDR-TB forced participants to face the reality of the effects of their behaviour on their illness and face the possibility of dying. These experiences of self-examination forced them to engage in introspection about their own behaviour and what they needed to change within their own lives to ensure that they regained their sense of health and well-being. One participant expressed how the experience of being hospitalised changed his outlook on life. He articulated that prior to becoming ill he spent most of his time drinking excessive alcohol; however, becoming ill made him consider what he still wanted in life, for example, building his relationship with his children and grandchildren. In reflecting on their observations of the death of their friends while in hospital, participants expressed that these cases forced them to introspect about their own behaviour and what they needed to change within their own lives to ensure that they regained their health and well-being. These findings speak to the ability of the programme to address constructive attitudes and approaches in participants.

In addition to the participants expressing how attending the programme also afforded them the opportunity to interact with their friends as well as helped them cope better with being hospitalised, the harm-reduction groups were also able to address social integration, support and emotional well-being. The findings of this study revealed that participants also enjoyed interacting with others regarding a variety of topics. In addition, the programme was able to address constructive attitudes and approaches, which was evident in the participants' view that group sessions allowed them to introspect about their behaviour and how they could make positive changes in their lives. These findings are consistent with Iwama's (2006) view that in collective societies where high value is placed on social relationships, belonging is more important than doing. Similarly, Duncan (2004b) said that engaging in valued occupations with and for others fosters a sense of connectedness. Occupations fostering belonging, connecting and contributing include occupations that allow clients to contribute to others in reciprocal relationships, and encourage perceptions of value, competence, self-worth, connecting with others and belonging. The findings further revealed that attending the group sessions facilitated by the OT staff gave participants a sense of belonging as they forged a sense of connectedness with their peers. The findings also showed that occupational engagement helped them cope better with being hospitalised and took their minds off negative emotions, as groups added a fun aspect to their experience of hospitalisation with the way in which the group sessions were presented to them. The participants in this study appreciated the incentives provided and that they could win prizes and play games while gaining valuable knowledge. This finding concurs with that of Ikiugu et al. (2015), who state that occupation has a role to play in health and well-being, in that it provides meaning and is psychologically rewarding. It includes experiencing a positive mood, physical stimulation and fun. The ICIP was developed to provide a more holistic, integrated service to the clients at DP Marais hospital. Based on the positive experiences expressed by the participants in this study, the findings suggest that by providing the clients with a supportive environment with a variety of activities in which they could engage, the ICIP was successful in addressing more than just the medical needs of the participants.

6.3.3 Creating a supportive environment

The therapeutic milieu has been discussed as a facilitator of the ICIP by making participants feel supported and giving them a sense of belonging. In this section, I shall discuss how the therapeutic milieu addressed programme outcomes. In this study the therapeutic milieu addressed health service navigation and emotional well-being. The first example of how the therapeutic milieu addressed health service navigation was the facilitation of the orientation group with clients in Phase 2 of the ICIP. During this session the team met with new admissions to introduce themselves, discuss the hospital rules with them and provide them with information on the various services they had access to while in hospital. Participants expressed that they found this information to be useful, with one participant stating that it helped him feel more relaxed and more comfortable interacting with staff. The findings revealed that in addition to addressing health service navigation, the orientation group also addressed emotional well-being as the process helped put clients at ease as they were given some insight into what to expect during their hospital stay and reduced their anxiety. These findings match the findings of previous literature that indicated that team members had to make time to truly get to know their clients and understand them (Gilburt et al., 2008; Shattell et al., 2007; Vatne & Hoem, 2008). They had to be caring towards them when communicating to ensure that they received the necessary clarity they needed from their therapeutic relationships with the multidisciplinary team. The participants in both studies expressed the need for a sense of connectedness to ensure they felt understood by the staff to enhance their experience and reduce their anxiety (Gilburt et al., 2008; Shattell et al., 2007; Vatne & Hoem, 2008).

The current study posited that participants further regarded the support they received while in hospital to be holistic, mentioning that the staff not only addressed medical needs but also offered information about their illness and helped clients address issues related to overall wellness. For instance, socio-economic factors such as poverty, unemployment and no accommodation outside of the hospital were major concerns for some participants. These findings concur with those of with Leinhardt et al. (2012) who highlight poverty, undernourishment, poor living and working conditions maintained by social injustice as well as political instability as fertile ground for the progression of TB. Leinhardt et al. (2012) propose that addressing social determinants can improve treatment outcomes, early detection of TB and socio-economic reform. The current study highlighted the value of addressing social determinants of MDR-TB during treatment. Clients articulated that the support they received, specifically with regard to their disability grants and finding accommodation, was invaluable as it gave them more confidence to re-enter their communities and contribute to their households, thereby reducing anxiety and improving emotional well-being.

Furthermore, health service navigation addressed the discharge groups that the doctor in the MDR ward facilitated between the community counsellors and clients that were ready for discharge. These groups aimed at introducing clients to DR-TB counsellors from their community to facilitate better reintegration into the community and provide clients with the necessary information to express their health needs confidently once back in their home environments. Participants described their relationship with the doctor in the ward as a positive relationship. They felt that he tried to recognise their needs and concerns, and this made them feel as if they were understood and that he empathised with them. This made them feel more confident to communicate their health needs to him. These findings contrast with those of earlier studies that highlighted that poor relationships between clients and their healthcare providers have a negative effect on health service navigation. For instance, Holtz et al. (2006) stated that participants in their study were particularly dissatisfied with the attitudes of health-care providers. Likewise, Zachariah et al. (2012) noted strained relationships between healthcare providers and clients, identifying the language used in TB services, for example, words like ‘defaulter’, ‘suspect’ and ‘control’, which they argue are inappropriate and disempowering to TB clients who are already poor and vulnerable, excluded and stigmatised. Moreover, such terminology is perceived as judgemental and criminalising. Zachariah et al. (2012) assert that the core functions of TB services should embrace clients’ dignity, social fairness, social justice and a willingness to serve, which the team members responsible for implementing the ICIP were able to achieve.

6.4 WHAT TEAM MEMBERS PERCEIVED AS BARRIERS TO AND FACILITATORS OF THE IMPLEMENTATION OF THE ICIP

6.4.1 Barriers related to the implementation of the ICIP

The two main barriers identified in this study were the lack of resources and medical dominance. The most significant finding was how the lack of resources, particularly the closing of Ward 7, was a hindrance to the implementation of the ICIP. As discussed earlier in this chapter, the ICIP was developed to provide holistic interventions that are not purely biomedically driven and address the psychosocial needs of clients hospitalised for MDR-TB. Martin et al. (2010) assert that the major component of interprofessional collaboration is to include a bio-psycho-social approach to assessments as well as the development of individual evidence-based interventions, coordination of care, monitoring of overall health status, coaching for clients with chronic illnesses, self-management, and the promotion of community-based services. In line with the proposal of Martin et al. (2010) of a bio-psycho-social approach, a key component of the ICIP is the occupational enrichment programme which aimed at addressing the psychosocial needs of the clients. Occupational enrichment programmes aim to provide people with opportunities for autonomous choice, to advocate for independent structuring of daily routines, and to provide opportunities for active participation in programmes which support personal and skills development needed for successful integration into their families and communities. The findings in this study showed that the closing down of Ward 7 was a major barrier to the implementation of the psychosocial component of the ICIP, the effects of which are evident in the earlier discussion (see Section 6.2.2, paragraph 2) on the participants' experiences of occupational injustice while in hospital. The team attributed this to the lack of buy-in from hospital management as they did not see occupational enrichment as a priority. These findings concur with earlier research by Townsend and Wilcock (2004), who state that intentions of occupational therapists can sometimes be overruled by policies that are not yet client centred (Townsend & Wilcock, 2004). Similarly, Hess-April, Dennis, Ganas, Phiri and Phoshoko (2017) also bring to the fore that occupation-based interventions are often perceived as a challenge owing to medical dominance in hospital settings. Their study draws attention to how medical dominance may have influenced hospital management's decision not to provide an alternative venue for the purpose of the occupational enrichment programme. The findings of this study revealed that the team felt strongly that the lack of physical resources in the form of an appropriate venue in which to facilitate the psychosocial interventions grossly disrupted the implementation of the ICIP, which they saw as a threat to the future of the programme. This is a significant finding. The team contended that creating awareness and gaining buy-in from management are imperative in eliminating a major barrier to implementing the ICIP effectively. They concluded that to address the role that medical dominance could have played in management's decision regarding the venue, they needed to advocate more strongly to make them aware of the importance of psychosocial rehabilitation as a crucial component of the ICIP. According to Bourgeault and Mulvale (2006), medical dominance is a structurally embedded phenomenon and addressing this issue needs to be done at a micro (interpersonal relationships between team members), meso (institutional arrangements within hospital and community settings) and macro (regulations around scopes of practice, economic and regulatory domains) level. Buy-in from management would therefore address challenges at a meso level so that necessary policies can be put in place within the hospital to facilitate improved implementation of the ICIP.

The current study found that medical dominance proved to be a significant barrier to effective implementation of the ICIP due to the ripple effect it had on various aspects of the programme. The first example of medical dominance, discussed earlier, was the closing down of Ward 7 which resulted in a significant lack of resources and hindered an important component of the ICIP. The second example relates to how medical dominance affected interprofessional collaboration, which suggests challenges related to medical dominance on a micro level. Healthcare 2030 advocates for better interdisciplinary collaboration where all stakeholders would work with a single assessment and care planning process as the client's journey crosses the entire service platform. This will ensure continuity of care in a seamless and consistent manner. Furthermore, it states that an effective process of discharge planning or referral from hospital has the potential benefits of reducing readmissions and the average length of stay and empowering clients with useful information for self-care (Western Cape Department of Health, 2014). Tousjin (2012) underscores the need for the integration of health and social care to address certain health conditions such as those of the elderly, people with disabilities, and people with addictions and mental illness. He highlights medical dominance as one reason for reducing professional autonomy and stresses the need for a more balanced role between medicine and other professions. He states that the function of the multidisciplinary team is to evaluate the needs and kinds of treatment required and draft care plans, and that at organisational level a convention between healthcare and social care is required. He also promotes transparency in terms of client records and the monitoring of client rights. Despite the increasing drive to enhance interprofessional collaboration in the health sector, effective interprofessional collaboration remains a challenge within the health system (Bridges et al., 2011).

In this study, medical dominance was particularly evident in discharge planning which was challenging within the team. When probed about the current discharge process in the ward, the doctors expressed that they discharged clients based on what they perceived to be the priority – medical status. As a result, discharge planning meetings did not take place with the entire team and focused primarily on the medical needs of the clients, indicating that the management of MDR-TB clients was still largely driven by the medical model where decisions are made purely on clients' clinical progress. One of the main reasons for not having a discharge planning team meeting was because the doctor believed it was not necessary, based on the size of the team and what he perceived as the lack of commitment of certain team members. These results concur with the results of other studies. For example, in their study on the discharge decision making in a geriatric assessment unit, Gair and Hartery (2001) found that the senior doctors exercised a disproportionate degree of power compared with other team members. However, in Gair and Hartery's study, they found that when the other team members' opinions were taken collectively, their views outweighed the opinion of the doctor. This indicated that interpretations of medical dominance are relative to context and the expectations of the team. Gair and Hartery (2001) concluded that teams are more effective when medical dominance is reduced, and all team members are committed to being involved in the decision-making process. Additionally, the team should all be in agreement on how the team will operate and should try to maintain stability within the team.

The findings of this study conversely suggest that although the team members were not happy with the way in which client discharges were facilitated, they were not comfortable challenging the decision of the doctor and as a result accepted the status quo as opposed to confronting the issue. For example, apart from clinical progress, only issues pertaining to the social conditions of clients were regarded as a priority, for example, accommodation and access to a disability grant, while in some cases discharge was accelerated by additional factors such bed pressure sores. As a result, the OTs who were committed to providing comprehensive, integrated care were excluded from the discharge process. The OTs articulated that often they were not informed of the imminent discharge of clients and would only find out after clients had been discharged. In addition, they contended that this made them feel as if their role within the team lacked significance. These findings concur with Gair and Hartery's (2001) description of medical dominance as a structural feature of the hospital system. They state that health professionals are aware of this dominance and it impacts their autonomy negatively. Caldwell and Atwal (2003) attribute such challenges as experienced by the team members in this study to the fundamental ideological differences between the various professions, unequal power relations between different members of the team, challenges with communication between healthcare professionals, and the fact that roles change over time, which often results in an overlap in skills and therefore role confusion. Similarly, Zwarenstein et al. (2009) warn that although interprofessional collaboration can improve healthcare processes and outcomes, if there are problems with communication and interactions between healthcare professionals, these can manifest themselves as problems with client outcomes. The challenges faced by team members in this study with regard to medical dominance were only raised with the doctor in the focus group and were not challenged in the clinical setting. The doctor ultimately acknowledged that failing to address psychosocial issues such as clients' behaviour, contributes to recidivism of MDR-TB clients. He stated that addressing these barriers could help break this cycle, although he was not sure how he would achieve this. The current study illustrates how medical dominance was perpetuated by team members not confronting the doctor with challenges they were experienced in respect of discharge planning.

Fitzgerald and Davison (2008) emphasised the importance of having a better understanding of functional roles and scope of practice within the team. They state that there shouldn’t be the expectation that all healthcare providers have the innate skills required to be team players and that these skills should be developed within the team over time. They also recommended that teams be assessed for team readiness, which assesses functional diversity, social cohesiveness and the superordinate identity of team members. The findings in this study revealed that the turnover of staff at the hospital also affected the cohesiveness within the team, as new members were not orientated to the ICIP. Over time several of the original team members were no longer working at the health facility and this shift in the core team affected the commitment of the rest of the team as well as new staff who joined the team. During the focus-group discussion, team members stated that it was always a challenge to get the whole team together to plan their interventions and that team members needed multiple reminders. In contrast, Gair and Hartery (2001) noted that team members in their study had been part of the team for a long time, which meant they had positive attitudes towards their team and valued one another as individuals and professionals.

6.4.2 Facilitators related to the implementation of the ICIP

The facilitators related to the implementation of the ICIP included staff members’ determination to continue with the programme, the value the team found in the structure the ICIP provided, and positive programme outcomes they were able to identify. When reflecting on some of the team factors that facilitated the ICIP, the improvement in the interdisciplinary relationships was an important finding. Team members in this study noted that prior to the implementation of the ICIP, interdisciplinary collaboration was not seen as a priority in the MDR-TB ward; however, since incorporating team planning meetings into their routine, they found it to be beneficial. These findings concur with the benefits outlined by Choi and Pak (2007). Choi and Pak (2007) state that the benefits of interdisciplinary collaboration include networking, teamwork, gaining new insights and skills, as well as a positive effect on careers.

The findings of this study further highlighted how the involvement of the entire team in planning interventions for the clients collaboratively meant that the team was able to provide a more comprehensive service and address problems that would previously have been overlooked. The team found this helpful in building relationships with the outcome of more inclusive client care. The overall improvement in relationships among team members was also highlighted to have had a positive effect on the team morale and helped maintain the routine within the team. The ICIP provided the team with structured opportunities to communicate and interact with one another. The team found this helpful in building relationships with the outcome of more inclusive client care. These findings match those of Bridges et al. (2011), who define n as a partnership between a team of healthcare providers and a client in a participatory, collaborative way which makes use of a coordinated approach to shared decision making around health and social issues. Moreover, Bridges et al. (2011) state that key elements of interprofessional collaboration include responsibility, accountability, communication, coordination, cooperation, assertiveness, autonomy, mutual trust and respect.

One of the main process outcomes of the ICIP was to improve interdisciplinary collaboration. Choi and Pak (2007) describe three levels of interprofessional collaboration: 1) multidisciplinary collaboration draws on the knowledge of various disciplines but each professional stays within the boundaries of their profession; 2) interdisciplinary collaboration synthesises and harmonises the links between disciplines into a coordinated and coherent intervention; and 3) transdisciplinary collaboration integrates natural, social and health sciences in a humanities context and transcends traditional boundaries. Choi and Pak (2007) report that the benefits of teamwork include increased learning and development of people and organisations, and better utilisation of resources and minimising unnecessary costs. Furthermore, interprofessional collaboration improves job performance and work quality. The findings of this study showed that various members of the team were exercising different levels of interprofessional collaboration. For example, it was reported in the findings that the social worker would not attend planning meetings; however, he would often have scheduled home visits or other social work interventions at the same time as the meeting. Other team members perceived this lack of attendance as a lack of commitment to the team, although an explanation for the social worker's not attending the meeting could be that even though he was not prioritising interprofessional relationships, client care was still being prioritised. It can therefore be assumed that clients were still accessing multidisciplinary care as defined by Choi and Pak (2007).

The findings drew attention to certain personal factors that facilitated the implementation of the ICIP. The team members who were perceived as committed to the ICIP made the conscious decision to continue with the programme despite the perceived lack of commitment they received from certain team members. The findings revealed that Phase 1 and Phase 2 were still being implemented, although with a smaller team. In addition, the document review corroborated that they were still making use of the integrated assessment form and the individual support plan. The orientation meetings with the clients were still taking place and the team found these meetings to be valuable although the OT felt that it would be even more beneficial if all team members attended these sessions. These findings are consistent with Choi and Pak’s (2007) definition of interdisciplinary collaboration, as the team attempted to synthesise and harmonise the links between disciplines into a coordinated and coherent intervention plan.

Another facilitator that emerged from the findings was the fact that the team was able to identify cases where positive programme outcomes were evident in some clients who had participated in the programme. One doctor acknowledged that although the majority of the clients who attended the groups do not show positive changes in their behaviour immediately, there are a few clients who attend the programme where a positive difference can be seen. These findings concur with those of two separate studies where interdisciplinary collaboration resulted in improved treatment outcomes (Choi & Pak, 2007). In a study conducted in an orthopaedic surgery context, it was found that better interdisciplinary coordination resulted in better postoperative functioning and shorter hospital stays, thereby illustrating improved client outcomes (Choi & Pak, 2007). Evidence in the mental health arena indicated that clients with depression rated the quality of care higher and were more adherent to treatment, resulting in fewer symptomatic days as a result of exposure to an interdisciplinary approach (Choi & Pak, 2007).

6.5 TO WHAT EXTENT IS THE ICIP BEING IMPLEMENTED AS PLANNED AND MEETING ITS INTENDED PROCESS OUTCOMES?

The process outcomes of the ICIP were to improve the team members’ insight into client-centred interventions based on psychosocial rehabilitation (PSR) principles; to improve the quality of care at the hospital by integrating services based on existing skills within the multidisciplinary team; to improve interdisciplinary collaboration; to streamline the referral of clients with non-medical issues within the hospital through strengthening communication and relationships among team members; to improve continuity of care upon discharge by strengthening communication and relationships across all levels of care; and to improve record keeping, access to medical records, and efficient transfer of medical information between team members. In this section I shall present the findings of this study, that related to the process outcomes of the ICIP, according to the ICCC Framework.

6.5.1 Discussion of the findings according to the Innovative Care for Chronic Conditions (ICCC)

Figure 5 is a graphic representation of the ICCC framework in relation to the findings of this study. Written in green are all the facilitators of the implementation of the ICIP, while the barriers to the implementation of the ICIP are written in red.

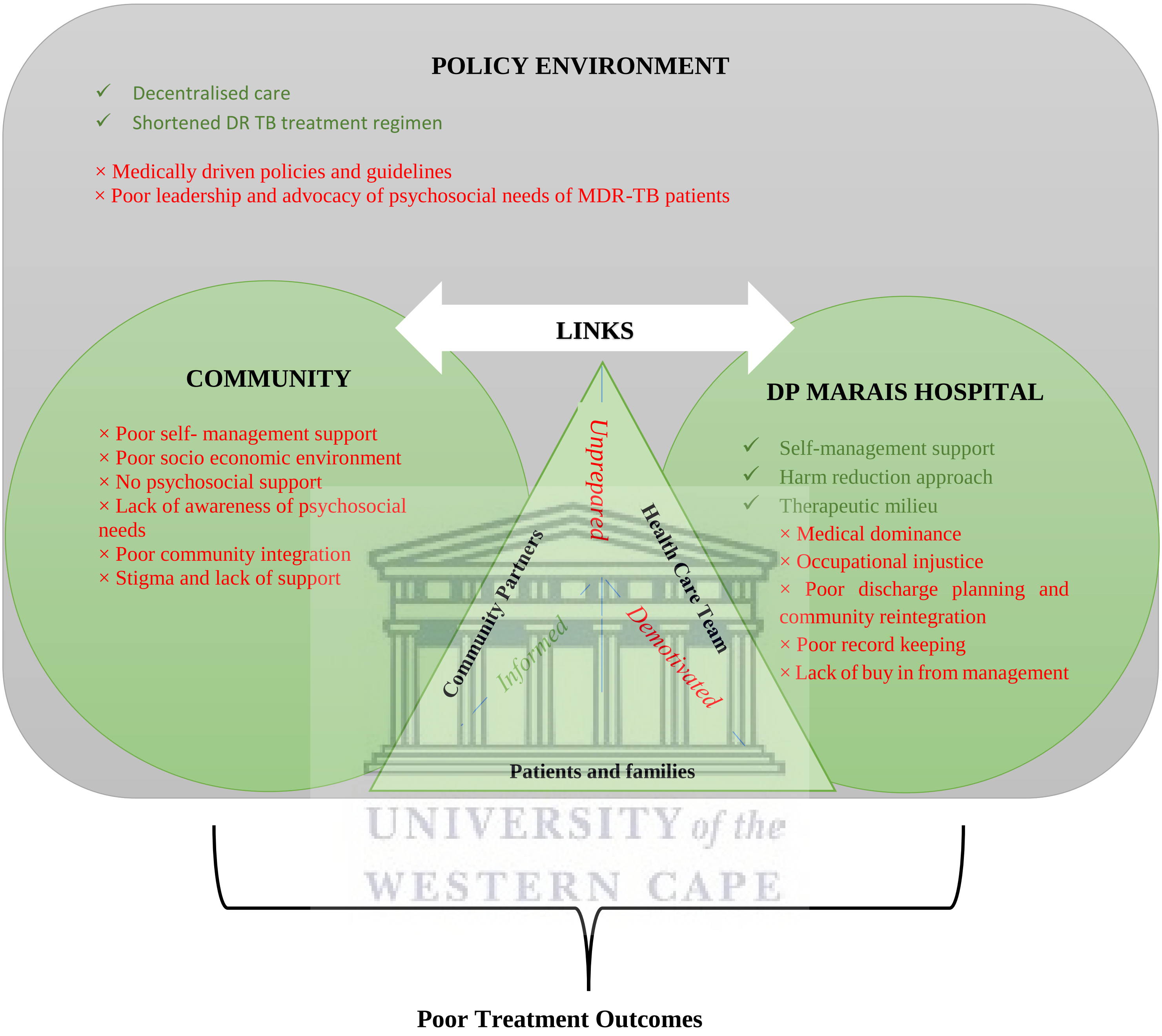


Figure 5: Findings in relation to the ICCC

The ICCC is an expansion of the Chronic Care Model (CCM) developed by Wagner et al. (1999) which is a multifaceted, evidence-based framework for enhancing care delivery by identifying essential components of the healthcare system that can be modified to support high-quality, client-centred chronic disease management. The CCM relies on productive interactions between informed, activated clients and a prepared, proactive team of clinicians and healthcare professionals so that they have the motivation, information, skills, and confidence necessary to make decisions about their health and manage it effectively. The broader ICCC framework acknowledges the broader policy environment that envelopes clients and their families, healthcare organisations and communities (WHO, 2002). In addition, the framework recognises the role that decision makers and other leaders in health- care play in initiating and influencing changes in health systems. The ICCC framework (WHO, 2002) is based on a set of guiding principles: evidence-based decision making, population focus, prevention focus, quality focus, integration and flexibility/adaptability, thereby accommodating changes within the system while remaining robust in dealing with constantly changing demands. The ICCC framework has identified building blocks that can be integrated across the health system: micro level (client interaction level), meso level (community level and the healthcare organisation), and macro level (the policy environment). In this section I shall discuss the findings according to the building blocks of the ICCC framework.

Micro level: Client interaction level

Central to the ICCC is the partnership between clients, families, communities and health organisations. The key building blocks at micro-level focus on prepared, informed and motivated clients and families, communities and health organisations. According to WHO (2002), this entails that clients and families should be educated on their illness, signs and symptoms, they should be motivated to change their behaviours, such as poor adherence and substance use, and be equipped with the necessary life skills such as self-management and self-monitoring required to change their behaviour. In terms of the healthcare teams, they should move away from purely biomedical approaches and work towards better interdisciplinary collaboration with clearly identified roles and responsibilities, while communities need to be prepared with the relevant information and resources to support clients effectively (WHO, 2002).

The findings of this study revealed that even though the ICIP was developed to offer MDR-TB clients better self-management support through the provision of integrated healthcare, and in many ways was able to provide them with such support in hospital, the same level of support was not available in the community. As a result, even though the ICIP played an integral role in developing informed, motivated and prepared clients, the community did not have the same level of preparedness and information that would have been conducive to self-management support in the community.

In terms of having an informed, prepared and motivated healthcare team in the hospital, the findings revealed that all service providers who were involved in the development of the ICIP were informed and prepared to provide an integrated service to clients while in hospital, with clearly defined roles and responsibilities. However, some lacked the motivation to implement the ICIP as an integrated team and therefore the programme was somewhat fragmented. As agreed upon it was the core function of the OT department to facilitate the structured interventions that ensured that clients were prepared with the relevant knowledge and skills required for successful integration into the community. The findings further showed that use of a harm-reduction approach was found to be useful by both OT staff and the participants in helping clients develop insight into their behaviour and consider which lifestyle choices they should be addressing.

Meso level: Healthcare organisation

According to the ICCC framework, healthcare organisations have the potential to create the environment in which people can flourish (WHO, 2002). The first building block for the healthcare organisation is promoting continuity of care and coordination across all levels of care through improved communication across levels, as well as improved interdisciplinary collaboration as opposed to biomedically driven interventions. The main reason for the development of the ICIP was to improve the delivery system design at DP Marais Hospital. The findings of this study showed that although the ICIP had assisted team members in fostering better interprofessional relationships, there were still some team members who were operating in silos. Medical dominance, especially with regard to discharges, was a barrier to effective teamwork and holistic client care. Poor integrated discharge planning also meant that linkage to holistic care in the community was not effective. In addition, turnover of staff and poor orientation of new staff also proved to be a challenge in this study as they were not informed of the ICIP and the rationale behind it when orientated to the hospital.

The second building block for the healthcare organisation is quality of care through effective leadership, with senior leaders in the health system buying in to the required changes and lending support to the facilitation of the needed change as well as a shift in organisational culture. Ongoing monitoring and evaluation as well as quality improvement strategies are imperative to ensuring quality of care. The findings of this study showed a lack of buy in from hospital management regarding the importance of psychosocial interventions for MDR-TB clients owing to medical dominance and management therefore didn’t see needs expressed by staff in relation to resources required for the ICIP as a priority.

The third building block for healthcare organisations is to organise and equip healthcare teams with the necessary resources, knowledge and skills to provide optimal care that transcends biomedical training by including behavioural training. Effective communication skills which allow team members to work cooperatively and not in silos are essential. The findings revealed that silos still existed in the team and that more needs to be done in terms of policies and guidelines on the management of MDR-TB to advocate for more inclusive and holistic team interventions

The fourth building block for healthcare organisations is to support self-management and prevention by informing clients and families regarding effective self-management strategies and to offer effective support in conjunction with education provided. The findings of this study revealed that the ICIP provided participants with a high level of support while in hospital, particularly around treatment adherence. The therapeutic milieu at the hospital made it easier for clients to cope both physically and emotionally with the effects of their medication. The OT programme provided additional psychosocial support and education around their condition. The challenge arose however when they were discharged and did not have the same support in their communities.

The final building block for healthcare organisations is the use of information systems to gather and organise data on treatment and health outcomes which can assist in improving planning and the standard of care. The findings of this study failed to draw conclusions around clinical information systems. The lack of proper record keeping in the hospital was identified as a challenge.

Meso level: Community

According to the ICCC framework, community resources are vital in filling important gaps in the service and complementing health services.

The first building block for the community, raising awareness and reducing stigma, is important at community level. NGOs and leaders of international and local organisations all have a role to play in raising awareness and reducing stigma (WHO, 2002). The findings of this study highlighted the fact that participants still felt stigmatised when re-entering their communities, and as a result felt that they did not have the necessary support required, especially when it came to remaining motivated in terms of treatment adherence. These findings indicate that there is still work that needs to be done at community level in terms of awareness raising and de-stigmatisation of MDR-TB. The second building block described by WHO (2002) is to encourage better outcomes through identifying leaders and recognised structures such as community health boards, and faith-based groups that can align and support policies and practices. The third building block is to mobilise and coordinate resources by way of health prevention and promotion campaigns, assist in addressing risk factors, train and upskill community health workers and liaise with sufficient resources in the community (WHO, 2002). The findings of this study were able to illustrate how the lack of effective leadership, advocacy and support at community level impacted the participants of the study negatively. In addition, poor intersectoral collaboration at community level exacerbated by poor integrated discharge planning and poor advocacy for the psychosocial needs of the participants was also brought to the fore in the findings.

The fourth building block is to provide complementary services through partnering with relevant organisations to assist with education and self-management support in the community. Perhaps the most noteworthy finding in this study was the lack of continuity of care between the hospital and the community. Although the doctor had attempted to develop partnerships with stakeholders in the community, his approach was still dominated by the medical model and based on clinical care. In addition, his decisions were made in isolation from the rest of the team which meant that several psychosocial factors related to treatment outcomes were not addressed. Priority was given to clinical care and socio-economic support in terms of a social grant; however, the findings revealed that participants in this study would have benefited from additional support focusing on health promotion, psychosocial support and interventions geared towards addressing social and occupational injustice. The lack of employment, poor living conditions and lack of support were highlighted in the findings of this study. Moreover, participants experienced social exclusion due to the stigmatisation of MDR-TB and were in environments where the temptation to engage in high-risk behaviour was a daily struggle. Lack of appropriate partnerships within the community as well as the lack of advocacy for the rights of MDR-TB clients to be included in existing interventions seriously hindered the programme outcomes in this study. In the adapted version of the CCM of Barr et al. (2003), they asserted that while Wagner et al. (1999) promoted establishing links with community resources, the CCM did not address the community's needs and develop health promotion strategies to address those needs. Moreover, Barr et al. (2003) assert that the main social determinants of health are related to social and economic factors and are not specifically due solely to clinical care. The findings of this study support the view of Barr et al. (2003). In this study, the participants spoke about how their social circumstances such as unemployment, substance use, stigma and poverty prevented them from implementing the skills they had learned while in hospital. The model of Barr et al. (2003) proposes the integration of population health and supports the role that social determinants play in community and population health. Their model therefore focuses on expanding the community component of the CCM to guide action and address social determinants. The model of Barr et al. (2003) differs from that of Wagner et al. (1999) in that the latter model places the four areas, namely, self-management support, delivery system design, decision support, and information systems, in the health facility. The model of Barr et al. (2003) depicts those four areas as overlapping with the community in order to address both clinical service delivery in the hospital and population needs in the community. In addition, Barr's model incorporates health promotion action areas, namely, building healthy public policy, creating supportive environments, and strengthening community action into the community component of the CCM to show how the integration of health promotion strategies can improve clinical, functional and population outcomes. The addition of the health promotion action areas in the community component of the CCM supports the findings of this study as it will encourage healthcare providers at all levels of the health system to consider more than just the clinical or biomedical needs of people with MDR-TB. Firstly, it will encourage policy makers to work towards policies and legislation that focus on greater equity in society in order to facilitate healthier environments. Secondly, in creating supportive environments, the health system would need to include opportunities that generate better living and employment conditions that are safe and stimulating and meet the needs of people with MDR-TB. In strengthening community action it would encourage the health system to work together with communities to set priorities specific to their needs of enhancing health within their context and by encouraging healthcare professionals to acknowledge that they have a role to play in mobilising communities to promote health and well-being as well as advocating for the rights of people with MDR-TB. CBR and PSR are also strategies that can be used to facilitate inclusion of people with MDR-TB as active members of their communities.

Macro level: Positive policy environment

The first building block for a positive policy environment is providing leadership and advocacy. The ICCC framework (WHO, 2002) recognises the role that decision makers and political leaders play in facilitating and creating awareness around policy changes in the health system. The findings of this study showed how the lack of buy in from management impacted the implementation of the ICIP negatively, as the programme needed to be watered down to accommodate the lack of resources and support. The lack of buy in from management thus had a direct link to the second building block, which is promoting consistent financing to ensure that policies and plans translate into reality. The lack of buy in from management meant that that budgets were not allocated to support the implementation of the ICIP. The findings further showed that the lack of buy in could be due to the lack of understanding regarding the psychosocial needs of MDR-TB clients. This lack of understanding can also be linked to the absence of integrated policies for MDR-TB. This brings us to the fourth building block for a positive policy environment: the integration of policies to ensure minimal redundancies and fragmentation of policies as well as ensuring client-centred policies that cut across boundaries. Current policies and guidelines are biomedically driven, for example, the recent guidelines (Department of Health, 2019) focus on reducing the treatment length for MDR-TB clients by introducing new MDR-TB drugs without putting strategies in place for self-management for better adherence to the new drugs. Also, although attempts were made to address treatment-related factors associated with centralised management of MDR-TB clients through the implementation of decentralised care (Department of Health, 2013), support systems in the community are still fragmented and have a negative impact on treatment outcomes.

The lack of integrated policies has a direct effect on the last two building blocks for a positive policy environment, that is, to develop and allocate human resources by including broader curricula that include interventions that address behaviour as well as disease and to support legislative frameworks and strengthen partnerships with other government departments as well as other non-governmental sectors. The findings of this study suggest that a paradigm shift needs to take place that moves away from biomedically driven policies. This requires decision makers and leaders in the health sector to buy into the need for client-centred, integrated policies that address clients' behaviour and lifestyle as well as their medical needs. Furthermore, there needs to be a shift in organisational culture where the necessary links are made with other government departments as well as other sectors, including NGOs and CBOs, when clients are discharged from hospital as opposed to solely linking clients to the nearest clinics for medical care.

6.6 CONCLUSION

I began this discussion by describing the barriers to and facilitators of the ICIP as experienced by the participants. I discussed how the therapeutic milieu in the ward helped participants cope with being in hospital, as they felt supported by staff. I also discussed how the relationships participants formed with their peers gave them a sense of belonging and added meaning and purpose to their time in hospital. I then discussed the barriers of the ICIP which mainly pertained to occupational injustice as experienced by the participants owing to the lack of opportunities for meaningful occupational engagement as well as the lack of freedom on the hospital grounds.

In the next part of the discussion I deliberated how the programme outcomes were addressed in the ICIP. I discussed how physiotherapy interventions addressed health-directed activity in the programme as well as how the therapeutic milieu facilitated social integration and support, and emotional well-being. Furthermore, I drew attention to the important role the OT programme plays in addressing multiple treatment outcomes (social integration and support, self-monitoring and insight, skill acquisition and technique, emotional well-being) of MDR-TB clients who participate in the ICIP. Finally, I discussed how the doctor attempted to address health service navigation before discharging clients from the ward.

In the next part of this chapter I discussed the barriers to and facilitators related to the implementation of the ICIP. I discussed how medical dominance emerged as the main constraint to the implementation of the ICIP and how it had a ripple effect on various aspects of the programme. I also highlighted how improved interprofessional relationships, structure and commitment from team members to continue with the ICIP despite high turnover and perceived lack of commitment facilitated the implementation of the ICIP.

In the last part of the discussion I explained the findings in relation to the ICCC. I commented on the lack of continuity of care for clients who are discharged from hospital owing to medical dominance. I further argued for the inclusion of health promotion action areas and CBR strategies at community level to support clients with MDR-TB in their communities.

CHAPTER 7

PRESENTATION OF QUANTITATIVE FINDINGS

7.1 INTRODUCTION

This chapter describes the statistical analysis that intended to answer the following objectives: To determine the programme outcomes of clients who have participated in the ICIP and to determine whether a relationship exists between the participants` demographic characteristics and individual programme outcomes. Firstly, the demographics of the participants are outlined in this chapter, namely age, diagnoses, marital status, work history, education history, and living conditions. The clinical profile, diagnosis, treatment status, admission history of participants, attendance of the OT programme, and completion of the ICIP are also outlined. The results are summarised in tables where needed. Thereafter, the mean scores and standard deviations of each domain of the heiQ^{TM} are presented, followed by the results of the Kruskal–Wallis test. Finally, correlations are drawn between the demographic and clinical profiles of participants in relation to each domain.

7.2 DEMOGRAPHIC PROFILE OF PARTICIPANTS

This section presents the general information collected from all of the participants (*n* = 9 2) with regard to their demographic profile: age, marital status, work history, education history, and living arrangements. Only clients who had been admitted to the MDR ward at DP Marais hospital were asked to complete the questionnaire. As only males are admitted to this ward, no females completed the questionnaire. The option of verbal translation of the questions into Afrikaans or isiXhosa was made available to participants, however, all of the participants were comfortable with the questionnaire being administered in English. A total of 92 participants completed the questionnaire, with a mean age of 38.62 (SD = 13.00) from various community health clinics across the Cape Town Metropole area as well as inpatiennts at DP Marais Hospital who were close to completing the programme. Half of the participants (50%) were between the ages of 36 and 59, 43.5% were between the ages of 18 and 35, and only 6% of the participants were over the age of 60. A total of 59.8% of the participants were single, and 66.3% of participants' highest level of education was secondary school. When asked about their employment history, 68.5% of the participants reported that previous employment encompassed manual labour and 97.8% of all participants were currently unemployed. A total of 37.4% of all participants live in RDP housing, with 28.3% and 27.2% living in suburban homes and informal settlements respectively.

Table 6: Demographic profile of participants (n = 92)

Demographic	Frequency	Percentage
Age		
18–35	40	43.5
36–59	46	50.0
60+	6	6.5
Marital status		
Single	56	61
Married	20	21.7
Divorced	4	4.3
In a relationship	12	13.0
Education level		
None	1	1.1
Primary	26	28.3
Secondary	61	66.3
Tertiary	4	4.3
Employment History		
Manual labour	64	68.5
Driver	8	8.7
Administrative	3	3.3
Taxi guard	2	2.2
Never worked	15	17.4
Employment Status		
Employed	2	2.2
Unemployed	90	97.8
Living Arrangements		
Suburban	26	28.3
Informal	25	27.2
RDP	34	37
Complex/flat	7	7.6

7.3. CLINICAL PROFILE OF PARTICIPANTS

This section presents the clinical profile of the participants: diagnosis, admission history, and attendance and completion of the programme. A total of 93.5% of participants had an MDR diagnosis, with 97.8% of all participants still completing their treatment at the time of completing the questionnaire. At the time of reporting, 88% of participants had completed the ICIP and had been reintegrated into the community. Most of the participants (79.3%) had only been admitted to DP Marais hospital once, with 20.7 of participants having reported to have been admitted to the hospital more than once. A total 88% of the participants stated that they had participated in the OT Programme at least once.

Table 7: Clinical Profile of Participants (n = 92)

Clinical profile	Frequency	Percentage
Diagnosis MDR XDR	 86 6	 93.5 6.5
Completed ICIP Yes No	 81 11	 88.0 12.0
Treatment Status On treatment Completed treatment	 90 2	 97.8 2.2
Multiple Admissions Yes No	 18 74	 20.7 79.3
Attended OT Programme Yes No	 81 11	 88.0 12.0

7.4 PROGRAMME OUTCOMES OF THE ICIP

In this section, the results of the study relate to the following objective: *To determine the programme outcomes of clients who have participated in the ICIP*. The programme outcomes of the ICIP were to modify the clients' health-directed behaviour to the extent that they engage in health-directed physical activity; to improve their motivation to the extent that they experience positive and active engagement in life; to develop their self-monitoring insight through psychoeducation, thereby improving treatment adherence through better self-management as well as a reduction in high-risk behaviour; to ensure successful reintegration into the community by providing clients with the necessary confidence and skills to negotiate with service providers in the health system to better meet their needs; and to develop the necessary knowledge-based skills to manage their illness and to improve emotional wellbeing. The heiQ™ was utilised in order to provide a relevant and valid evaluation and data management system for health education and self-management programmes. The questionnaire is composed of eight domains and 40 questions. All respondents (*n* = 92) were asked to complete the heiQ™ Version 3 baseline questionnaire, rating each item according to the following scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. The mean scores for each of the eight domains are presented in Table 7.

Table 8: Eight domains of heiQ™

heiQ Domain	Mean (SD, Range)
Health-directed activity	2.83 (0.46, 1.50–4.00)
Positive and active engagement in life	2.86 (0.44, 1.40–3.80)
Emotional distress	2.29 (0.48, 1.00–3.5)
Self-monitoring and insight	3.83 (0.36, 1.83–3.83)
Constructive attitudes and approaches	2.92 (0.41, 2.00–4.00)
Skill and technique acquisition	2.89 (0.36, 2.00–4.00)
Social integration and support	2.87 (0.50, 1.40–4.00)
Health-service navigation	2.99 (0.34, 2.00–4.00)

7.4.1. Health-directed activity

This domain relates to lifestyle changes that are tangible and specifically related to healthy behaviours. The activities may include changes in exercise, relaxation routines and diet that are aimed at either disease prevention and/or health promotion. The questions used to measure this construct were:

1. I walk for exercise, for at least 15 minutes per day, most days of the week.
2. I do at least one type of physical activity every day for at least 30 minutes (e.g. walking, gardening, housework, golf, bowls, dancing, tai chi, swimming).
3. On most days of the week, I do at least one activity to improve my health (e.g. walking, relaxation, exercise).
4. On most days of the week, I set aside time for healthy activities (e.g. walking, relaxation, exercise).

A Kruskal–Wallis test was conducted to compare the health-directed activity of participants according to their demographic profile. As shown in Table 8 there was a statistically significant difference in the median scores for marital status (H(3), *p*= 0.05) with a mean rank of 42.01 for single participants, 47.25 for married participants, 50.50 for divorced participants and 64.88 for participants who were in a relationship. Post hoc comparisons using the Mann–Whitney *U* test were conducted. The results of the post hoc test showed that health-directed activity was significantly better in participants who were married (median = 3.00, range = 1.75– 3.50) compared with those who were in a relationship (median = 3.00, range = 2.75–3.75) U = 69.5, *p*= 0.04. Additionally, the results of the post hoc test showed that health-directed activity was significantly better in participants who were in a relationship (median = 3.00, range = 2.75–3.75) compared with those who were single (median = 2.75, range = 1.75–4.00) U = 171.50, *p* = 0.007.

Table 9: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to health-directed activity tested using Kruskal-Wallis

Demographic Profile	*N*	Health-Directed Activity		*p*-value
		Median (Range)	Mean Rank	
Age				
18–35	40	3.00 (1.75–3.75)	48.41	0.79
36–59	46	3.00 (2.00–4.00)	45.38	
60+	6	3.00 (1.50–3.25)	42.33	
Marital status				
Single	55	2.75 (1.75–4.00)	42.01	**0.05***
Married	20	3.00 (1.75–3.50)	47.25	
Divorced	4	3.00 (1.50–3.50)	50.50	
In a relationship	12	3.00 (2.75–3.75)	64.88	
Educational level				
None	1	2.75	32.50	0.25
Primary	26	2.74 (1.50–4.00)	38.90	
Secondary	61	3.00 (1.75–3.75)	49.16	
Tertiary	4	3.12 (2.50–3.25)	58.75	
Employment History				
Manual labour	64	3.00 (1.50–3.75)	47.59	0.15
Driver	8	2.75 (2.00–3.50)	42.31	
Administrative	3	3.25 (3.00–3.25)	71.67	
Taxi guard	2	3.12 (3.00–3.25)	68.00	
Never worked	15	2.75 (1.75–4.00)	36.91	
Employment Status				
Employed	2	3.00 (2.75–3.25)	55.75	0.61
Unemployed	90	3.00 (1.50–4.00)	46.29	
Living Arrangements				
Suburban	26	3.00 (1.75–3.75)	53.62	0.33
Informal	25	2.75 (1.50–4.00)	41.42	
RDP	34	3.00 (1.75–3.50)	44.03	
Complex/flat	7	3.00 (2.25–3.25)	50.21	

* Significant at 5% level
** Significant at 10% level

A Kruskall–Wallis test was conducted to compare the difference in scores for health-directed activity of participants in relation to their clinical profile. The results showed that there was a statistically significant difference between participants who were still on treatment compared with those who had completed their treatment (H(1) = 4.041, *p* = 0.04), with a mean rank of 45.69 for participants who were still on treatment and 83.00 for those who had completed their treatment. As shown is Table 9, health-directed activity was significantly better in participants who had completed their treatment (median = 3.38, range = 3.25–3.50) than clients who were still on treatment (median = 3.00, range = 1.50–4.00).

Table 10: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to health- directed activity tested using Kruskal–Wallis

Clinical profile		Health-Directed Activity		
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				0.26
MDR	86	3.00 (1.50–4.00)	45.70	
XDR	6	3.00 (2.50–3.75)	57.92	
Attended OT Programme				0.91
Yes	81	3.00 (1.50–4.00)	46.60	
No	11	2.75 (2.00–3.00)	45.73	
Completed ICIP				0.76
Yes	81	3.00 (1.50–4.00)	46.91	
No	11	2.75 (2.25–3.00)	44.23	
Treatment status				**0.04**[*]
On treatment	90	3.00 (1.50–4.00)	45.69	
Completed treatment	2	3.38 (3.25–3.50)	83.00	
Multiple Admissions				0.82
Yes	18	2.75 (1.75–3.75)	46.80	
No	74	3.00 (1.50–4.00)	45.34	

[*] Significant at 5% level
[**] Significant at 10% level

7.4.2 Positive and active engagement in life

This domain assesses the motivation to be active and whether clients who participated in the programme have engaged or re-engaged in life-fulfilling activities. The items measure the individuals' activities to convert intentions into positive outcomes, and imply a change of lifestyle and life activities. The questions used to measure this domain were:

1. I am doing interesting things in my life.
2. Most days I am doing some of the things I really enjoy.
3. I try to make the most of my life.

4. I have plans to do enjoyable things for myself during the next few days.
5. I feel like I am actively involved in life.

A Kruskal–Wallis test was conducted to compare the positive and active engagement in the lives of participants according to their demographic profile. As shown in Table 10, there was no significant difference in the median scores.

Table 11: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to positive and active engagement in life tested using Kruskal–Wallis

Demographic Profile	Positive and Active Engagement in Life			
	N	Median (Range)	Mean Rank	*p*-value
Age				
18–35	40	3.00 (1.80–3.60)	47.43	
36–59	46	3.00 (1.40–3.80)	46.71	0.75
60+	6	3.00 (1.00–3.17)	38.75	
Marital status				
Single	56	2.90 (1.40–3.80)	42.33	
Married	20	3.00 (2.20–3.80)	52.78	
Divorced	4	3.00 (2.40–3.40)	56.38	0.20
In a relationship	12	3.00 (2.20–3.40)	52.21	
Educational level				
None	1	3.00	52.50	
Primary	26	2.90 (1.80–3.40)	38.44	0.27
Secondary	61	3.00 (1.40–3.80)	49.07	
Tertiary	4	3.12(2.80–3.20)	58.25	
Employment History				
Manual labourer	64	3.00 (1.80–3.80)	43.91	
Driver	8	3.00 (1.40–3.80)	47.06	
Administrative	3	3.20 (3.00–3.60)	72.00	0.34
Taxi guard	2	3.10 (3.00–3.20)	63.25	
Never worked	15	3.00 (1.80–3.40)	49.53	
Employment Status				
Employed	2	3.30 (3.00–3.60)	71.00	0.18
Unemployed	90	3.00 (1.40–3.80)	45.96	
Living Arrangements				
Suburban	26	3.00 (2.00–3.80)	51.02	
Informal	24	3.00 (1.80–3.40)	48.82	
RDP	34	3.00 (1.40–3.60)	40.82	0.45
Complex/flat	7	3.00 (2.00–3.20)	49.00	

* Significant at 5% level
** Significant at 10% level

A Kruskal–Wallis test was conducted to compare the positive and active engagement in the lives of participants according to their clinical profile. The results show that there was a significant difference in median scores (H(1) = 5.789, p = 0.02) for treatment status with a mean rank of 90.50 for participants who had completed their treatment and 45.54 for those who were still on treatment. As shown in Table 11, participants who had completed their treatment scored significantly higher (median = 3.70, range = 3.60–3.80) than those who were still on treatment (Median = 3.00, Range = 1.40–3.80).

Table 12: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to positive and active engagement on life tested using Kruskal–Wallis

Clinical Profile	Positive and Active Engagement in Life			
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				0.32
MDR	86	3.00 (1.40–3.80)	45.78	
XDR	6	3.10 (2.60–3.40)	56.92	
Attended OT Programme				0.76
Yes	81	3.00 (1.40–3.80)	46.80	
No	11	2.80 (2.40–3.80)	44.27	
Completed ICIP				0.76
Yes	81	3.00 (1.40–3.80)	47.08	
No	11	3.00 (1.80–3.40)	42.23	
Treatment Status				**0.04***
On treatment	90	3.00 (1.40–3.80)	45.52	
Completed treatment	2	3.70 (3.60–3.80)	90.50	
Multiple Admissions				0.83
Yes	18	3.00 (1.80–3.80)	50.71	
No	74	3.00 (1.40–3.80)	45.40	

* Significant at 5% level

** Significant at 10% level

7.4.3 Emotional distress

This scale measures the overall negative affective responses to illness, including anger, depression and anxiety, which are attributed to the illness. The questions used to measure this construct were:

1. I think about my health, I get depressed.
2. I get upset when I think about my health.

3. I often feel angry when I think about my health.
4. My health problems make me very dissatisfied with my life.
5. I often worry about my health
6. I feel hopeless because of my health.

A Kruskal–Wallis test was conducted to compare the median scores for emotional distress according to participants' demographic profile. As shown in Table 12, there was no statistical significance in median scores for this domain.

Table 13: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to emotional distress using Kruskal–Wallis

Demographic Profile	Emotional Distress			
	N	Median (Range)	Mean Rank	*p*-value
Age				
18–35	40	2.17 (1.00–3.17)	46.80	0.32
36–59	46	2.33 (1.33–3.50)	48.25	
60+	6	1.92 (1.67–2.67)	31.08	
Marital status				
Single	56	2.17 (1.00–3.17)	46.09	0.95
Married	20	2.17 (1.67–3.50)	46.83	
Divorced	4	2.41 (1.83–2.67)	49.88	
In a relationship	12	2.33 (1.33–3.50)	46.75	
Educational level				
None	1	2.83	80.00	0.47
Primary	26	2.17 (1.00–3.50)	42.10	
Secondary	61	2.27 (1.33–3.00)	47.52	
Tertiary	4	2.41 (1.67–3.33)	51.13	
Employment History				
Manual labour	53	2.17 (1.00–3.50)	44.71	0.79
Driver	7	2.17 (1.00–3.00)	45.44	
Administrative	4	2.70 (2.00–3.00)	61.17	
Taxi guard	2	2.33 (2.17–2.50)	51.25	
Never worked	15	2.25 (1.83–3.17)	50.72	
Employment Status				
Employed	2	2.75 (2.50–3.00)	73.50	0.15
Unemployed	90	2.17 (1.00–3.50)	45.90	
Living Arrangements				
Suburban	26	2.50 (1.33–3.50)	52.75	0.11
Informal	25	2.17 (1.50–3.17)	47.38	
RDP	34	2.17 (1.00–2.83)	38.59	
Complex/flat	7	2.50 (2.00–3.33)	58.75	

* Significant at 5% level
** Significant at 10% level

A Kruskal–Wallis test was conducted to compare the emotional distress of participants according to their clinical profile. As shown in Table 13, there was no significant difference in the median scores.

Table 14: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to emotional distress tested using Kruskal–Wallis

Clinical Profile	Emotional Distress			
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				0.36
MDR	86	2.17 (1.00–3.50)	46.36	
XDR	6	2.33 (1.67–3.50)	48.50	
Attended OT Programme				0.61
Yes	81	2.17 (1.00–3.00)	47.25	
No	11	2.17(1.50–3.50)	41.00	
Completed ICIP				0.59
Yes	81	2.17 (1.33–3.50)	45.94	
No	11	2.50 (1.00–3.00)	50.59	
On Treatment				0.19
Yes	90	2.17 (1.00–3.50)	46.43	
No	2	2.41 (1.83–3.00)	49.75	
Multiple Admissions				0.63
Yes	18	2.51 (1.33–3.50)	48.53	
No	74	2.17 (1.00–3.50)	45.97	

* Significant at 5% level
** Significant at 10% level

7.4.4 Self-monitoring and insight

This scale examines the ability to monitor one's condition, and the physical and/or emotional responses that lead to insight and the appropriate action or actions to self-manage. There needs to be an acknowledgement of realistic disease-related limitations, and an ability and confidence to remain within these limits. The questions used to measure this construct were:

1. With my health in mind, I have realistic expectations of what I can and cannot do.
2. As well as seeing my doctor, I regularly monitor changes in my health.
3. I know what things can trigger my health problems and make them worse.
4. When I have health problems, I have a clear understanding of what I need to do to control them.

5. I have a very good understanding of when and why I am supposed to take my medication.
6. I carefully watch my health and do what is necessary to keep as healthy as possible.

A Kruskal–Wallis test was conducted to compare the self-monitoring and insight of participants based on their demographic profile. As shown in Table 14, there was no significant difference in the median scores.

Table 15: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to self-monitoring and insight tested by Kruskal–Wallis

Demographic Profile	Self-Monitoring and Insight			
	N	Median (Range)	Mean Rank	*p*-value
Age				0.27
18-35	40	3.00 (1.83–3.67)	42.85	
36-59	46	3.00 (2.00–3.83)	50.78	
60+	6	3.00 (2.83–3.00)	38.00	
Marital status				0.58
Single	56	3.00 (1.83–3.83)	45.39	
Married	20	3.00 (2.67–3.67)	47.50	
Divorced	4	3.08 (3.00–3.33)	59.13	
In a relationship	12	3.00 (2.33–3.33)	45.79	
Educational level				0.50
None	1	3.00	45.00	
Primary	26	3.00 (1.83–3.67)	46.29	
Secondary	61	3.00 (2.00–3.83)	45.34	
Tertiary	4	3.17 (3.00–3.50)	66.00	
Employment History				0.44
Manual labour	53	3.00 (2.33- 3.83)	45.00	
Driver	7	3.17 (2.00- 3.67)	60.94	
Administrative	4	3.17 (3.00- 3.17)	60.00	
Taxi guard	2	3.00 (3.00–3.00)	45.00	
Never worked	15	3.00 (1.83–3.83)	42.84	
Employment Status				0.73
Employed	2	2.92 (2.67–3.17)	40.25	
Unemployed	90	3.00 (1.83–3.83)	46.64	
Living Arrangements				0.85
Suburban				
Informal	26	3.00 (2.33–3.83)	48.58	
RDP	25	3.00 (1.83–3.67)	48.66	
Complex/flat	34	3.00 (2.00–3.83)	43.43	
	7	3.02 (2.67- 3.50)	46.00	

* Significant at 5% level
** Significant at 10% level

Kruskal–Wallis was conducted to compare the self-monitoring and insight of participants based on their clinical profile. As shown in Table 14, there was no significant difference in median scores for this domain.

Table 16: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to self-monitoring and insight tested using Kruskal–Wallis

Clinical profile		Self-Monitoring and Insight		
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				
MDR	86	3.00 (1.83–3.83)	45.40	0.13
XDR	6	3.17 (2.67–3.33)	62.25	
Attended OT Programme				
Yes	81	3.00 (1.83–3.83)	45.74	0.45
No	11	3.17 (2.67–3.50)	52.09	
Completed ICIP				
Yes	81	3.00 (1.83–2.83)	47.41	0.36
No	11	2.83 (2.33–3.67)	39.77	
On Treatment				
Yes	90	3.00 (1.83–3.83)	45.85	0.11
No	2	3.33 (3.17–3.50)	75.75	
Multiple Admissions				0.90
Yes	18	3.00 (1.83–3.83)	47.17	
No	74	3.00 (2.00–3.83)	46.33	

* Significant at 5% level
** Significant at 10% level

7.4.5 Constructive attitudes and approaches

This scale uses the statement "I am not going to let this disease control my life" and measures if there is a shift in how individuals view the impact of their condition on their life. The questions used to measure this construct were:

1. If others can cope with problems like mine, I can too.
2. I try not to let my health problems stop me from enjoying life.
3. I do not let my health problems control my life.
4. My health problems do not ruin my life.
5. I feel I have a very good life even when I have health problems.

A Kruskal–Wallis test was conducted to compare the constructive attitudes and approaches of participants based on their demographic profile. As shown in Table 16, there was no significant difference in median scores for the demographics.

Table 17: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to constructive attitudes and approaches tested using Kruskal–Wallis

Demographic Profile	Constructive Attitudes and Approaches			
	N	Median (Range)	Mean Rank	*p*-value
Age				
18–35	40	3.00 (2.00–4.00)	49.93	0.54
36–59	46	2.80 (2.00–4.00)	43.92	
60+	6	2.90 (2.40–3.00)	43.42	
Marital status				
Single	56	2.80 (2.00–4.00)	42.35	0.43
Married	20	3.00 (2.40–3.60)	48.88	
Divorced	4	3.00 (2.80–3.00)	53.75	
In a relationship	12	3.10 (2.00–3.80)	59.50	
Educational level				
None	1	2.60	19.50	0.20
Primary	26	2.80 (2.00–3.80)	40.54	
Secondary	61	3.00 (2.00–4.00)	48.31	
Tertiary	4	3.10 (2.80–3.67)	64.38	
Employment History				
Manual labour	53	2.80 (2.00–4.00)	45.61	0.59
Driver	7	2.90 (2.20–3.40)	46.63	
Administrative	4	3.20 (3.00–3.20)	71.33	
Taxi guard	2	2.90 (2.80–3.00)	47.50	
Never worked	15	2.90 (2.00–3.40)	45.16	
Employment Status				
Employed	2	3.00 (2.80–3.20)	56.00	0.60
Unemployed	90	2.90 (2.00–4.00)	46.29	
Living Arrangements				
Suburban	26	2.90 (2.00–4.00)	48.90	0.33
Informal	25	2.80 (2.00–4.00)	38.44	
RDP	34	3.00 (2.20–3.80)	49.25	
Complex/flat	7	3.00 (2.40–3.60)	53.00	

* Significant at 5% level
** Significant at 10% level

A Kruskal–Wallis test was conducted to compare the median scores for constructive attitudes and approaches based on participants' clinical profile. There was a significant difference in scores (H(1) = 6.484, *p* = 0.01) between diagnoses with a mean rank of 44.67 for MDR and 72.75 for XDR. As shown in Table 7.13, participants with XDR-TB scored significantly higher (median = 3.70, range = 2.00–3.80) than the participants with MDR-TB (median = 2.80, range = 2.00–4.00). There was also a statistical significance in scores between participants who had completed their treatment and those who had not (H(1) = 3.264, $p = 0.07$) with a mean rank of 79.50 for participants who had completed their treatment and 45.77 for those who had for those who had not. As shown in Table 17, participants who had completed their treatment scored significantly higher (median = 3.30, range = 3.20–3.40) than those who had not (median = 2.80 (2.00–4.00).

Table 18: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to constructive attitudes and approaches tested by the Kruskal–Wallis test

Clinical Profile	Constructive Attitudes and Approaches			
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				
MDR	86	2.80 (2.00–4.00)	44.67	**0.01**[*]
XDR	6	3.70 (2.00–3.80)	72.75	
Attended OT Programme				
Yes	81	3.00 (2.00–4.00)	47.06	0.58
No	11	2.80 (2.00–3.60)	42.36	
Completed ICIP				
Yes	81	2.80 (2.00–4.00)	45.89	0.54
No	11	3.00 (2.80–3.20)	51.00	
Treatment Status				
On Treatment	90	2.80 (2.00–4.00)	45.77	**0.07**[**]
Completed treatment	2	3.30 (3.20–3.40)	79.50	
Multiple Admissions				
Yes				
No	18	3.00 (2.00–4.00)	51.18	0.38
	74	3.00 (2.00–4.00)	45.28	

[*] Significant at 5% level
[**] Significant at 10% level

7.4.6 Skills and techniques acquisition

This scale captures the knowledge-based skills and techniques that assist participants to manage disease-related symptoms and health problems more effectively. The questions used to measure this construct were:

1. When I have symptoms, I have skills that help me cope.
2. I have a good understanding of equipment that could make my life easier.
3. I have a very good idea of how to manage my health problems.
4. I have effective ways to prevent my symptoms (e.g. discomfort, pain and stress) from limiting what I can do in my life.

A Kruskal–Wallis test was conducted to compare the mean scores related to skills and techniques acquisition of participants based on their demographic profile. As shown in Table 18, there was no significant difference in median scores based on participants' demographics.

Table 19: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to skills and techniques acquisition tested using Kruskal–Wallis

Demographic Profile	*N*	Skill and Technique Acquisition Median (Range)	Mean Rank	*p*-value
Age				0.18
18–35	34	3.00 (2.00–3.25)	41.13	
36–59	41	3.00 (2.25–4.00)	50.76	
60+	6	3.00 (2.50–3.00)	49.67	
Marital status				0.81
Single	56	3.00 (2.00–4.00)	46.33	
Married	20	3.00 (2.00–3.50)	50.48	
Divorced	4	3.00 (2.50–300)	46.00	
In a relationship	8	2.75 (2.25–3.50)	40.83	
Educational level				0.44
None	1	2.75	25.00	
Primary	25	3.00 (2.00–3.75)	46.31	
Secondary	51	3.00 (2.00–4.00)	45.81	
Tertiary	4	3.00 (3.00–3.25)	63.63	
Employment History				0.53
Manual labourer	53	3.00 (2.00–4.00)	44.89	
Driver	7	3.00 (2.25–3.75)	58.25	
Administrative	4	3.00 (3.00–3.00)	57.00	
Taxi guard	2	3.00 (3.00–3.00)	57.00	
Never worked	15	3.00 (2.75–3.00)	43.69	
Employment Status				0.75
Employed	2	2.87 (2.75–3.00)	41.00	
Unemployed	90	3.00 (2.00–4.00)	46.62	
Living Arrangements				0.43
Suburban	23	3.00 (2.25–4.00)	50.69	
Informal	25	3.00 (3.75–1.75)	42.56	
RDP	28	3.00 (2.00–3.50)	44.19	
Complex/flat	6	3.00 (2.75–3.25)	56.21	

[*] Significant at 5% level
[**] Significant at 10% level

A Kruskal–Wallis test was conducted to compare the skills and techniques acquisition of participants based on their clinical profile. As shown in Table 19, there was no significant difference in median scores based on participants' clinical profile.

Table 20: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to skills and techniques acquisition tested by Kruskal–Wallis

Clinical Profile	*N*	Skill and Technique Acquisition		*p*-value
		Median (Range)	Mean Rank	
Diagnosis				0.45
MDR	86	3.00 (2.00–4.00)	45.98	
XDR	6	3.00 (2.50–3.50)	53.92	
Attended OT Programme				0.99
Yes	81	3.00 (2.00–4.00)	46.49	
No	11	3.00 (2.50–3.50)	46.59	
Completed ICIP				0.13
Yes	81	3.00 (2.00–4.00)	47.91	
No	11	2.75 (2.00–3.25)	36.09	
On Treatment				0.17
Yes	90	3.00 (2.00–4.00)	45.77	
No	2	3.13 (3.00–3.25)	70.25	
Multiple Admissions				0.31
Yes	18	3.00 (2.00–4.00)	51.61	
No	74	3.00 (2.00–3.75)	45.17	

[*] Significant at 5% level

[**] Significant at 10% level

7.4.7 Social integration and support

This domain attempts to capture the positive impact of social engagement and support that occurs through interaction with others and the impact that may arise from associating with others who share similar health-related life experiences. This also involves the confidence to seek support from interpersonal relationships as well as community-based organisations on a continuing basis. The questions used to measure this construct were:

1. I have enough friends who help me cope with my health problems.
2. I get enough chances to talk about my health problems with people who understand.
3. If I need help, I have plenty of people I can rely on.
4. Overall, I feel well looked after by friends or family.
5. When I feel ill, my family and carers really understand what I am going through.

A Kruskal–Wallis test was conducted to compare the social integration and support of participants based on their demographic profile. As shown in Table 20, there was a significant difference in median scores (H(2) = 7.739, *p* = 0.02) between participants' marital status, with a mean rank of 39.88 for single participants, 57.68 for married participants, 49.75 for divorced participants and 57.67 for participants who were in a relationship . A post hoc comparison using the Mann–Whitney *U*-test was carried out. The results of the post hoc test showed that social integration and support was significantly better for those who are married (median = 3.00, range = 2.40–3.60) when compared with participants who are single (median = 2.80, range = 2.00–4.00) *U* = 328.50, *p* = 0.005).

Table 21: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to social integration and support tested by Kruskal–Wallis

Demographic Profile	**Social Integration and Support** *N*	 **Median (Range)**	 **Mean Rank**	***p*-value**
Age				0.25
18–35	40	2.80 (2.80–3.80)	41.96	
36–59	46	3.00 (1.80–4.00)	48.97	
60+	6	3.10 (1.40–3.60)	57.83	
Marital status				**0.02***
Single	55	2.80 (2.00–4.00)	39.88	
Married	20	3.00 (2.40–3.60)	57.68	
Divorced	4	3.00 (1.40–3.60)	49.75	
In a relationship	12	3.20 (1.80–4.00)	57.67	
Educational level				0.83
None	1	2.80	35.00	
Primary	26	3.00 (1.40–4.00)	49.69	
Secondary	61	3.00 (1.80–4.00)	45.76	
Tertiary	4	2.80 (2.00–3.60)	39.88	
Employment History				0.98
Manual labourer	53	3.00 (1.40–4.00)	48.03	
Driver	7	2.90 (2.20–3.00)	41.56	
Administrative	4	3.00 (2.80–3.00)	49.67	
Taxi guard	2	3.00 (3.00–3.00)	57.00	
Never worked	15	2.80 (2.00–3.80)	43.69	
Employment Status				0.81
Employed	2	2.90 (2.80–3.00)	46.00	
Unemployed	90	3.00 (1.40–4.00)	46.51	
Living Arrangements				0.66
Suburban	26	3.00 (2.00–4.00)	50.88	
Informal	25	2.80 (1.40–3.80)	41.72	
RDP	34	3.00 (2.00–3.60)	47.04	
Complex/flat	7	3.00 (2.00–3.60)	44.64	

* Significant at 5% level

** Significant at 10% level

A Kruskal–Wallis test was conducted to compare the social integration and support of participants based on their clinical profile. There was a significant difference in median scores (H(1)= 6.260, *p* = 0.01) between diagnoses with a mean rank of 44.69 for MDR and 72.42 for XDR. As shown in Table 21, participants with an XDR-TB diagnosis scored significantly higher (median = 3.50, range = 2.40–4.00) than those diagnosed with MDR-TB (median = 3.00, range = 1.40–4.00).

Table 22: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to social integration and support tested using Kruskal–Wallis

Clinical Profile		Social Integration and Support		
	N	Median (Range)	Mean Rank	*p*-value
Diagnosis				
MDR	86	3.00 (1.40–4.00)	44.69	**0.01***
XDR	6	3.50 (2.40–4.00)	72.42	
Attended OT Programme				
Yes	81	3.00 (1.40–4.00)	45.31	0.24
No	11	3.00 (2.40–3.80)	55.23	
Completed ICIP				
Yes	81	3.00 (1.40–4.00)	46.55	0.96
No	11	3.00 (2.00–3.60)	46.14	
On Treatment				
Yes	90	3.00 (1.40–4.00)	46.51	0.98
No	2	2.90 (2.80–3.00)	46.00	
Multiple Admissions				
Yes	18	3.00 (2.00–4.00)	52.18	0.29
No	74	3.00 (1.40–3.80)	45.02	

[*] Significant at 5% level

[**] Significant at 10% level

7.4.8 Health service navigation

This domain examines the understanding of and ability to interact with a range of health organisations and health professionals. It also measures the ability and confidence to communicate and negotiate with healthcare providers to get needs met. The questions used to measure this construct were:

1. I communicate very confidently with my doctor about my healthcare needs.
2. I have very positive relationships with my healthcare professionals.
3. I confidently give healthcare professionals the information they need to help me.
4. I get my needs met from available healthcare resources (e.g., doctors, hospitals and community services).
5. I work in a team with my doctors and other healthcare professionals.

A Kruskal–Wallis test was conducted to compare the health-directed activity of participants based on their demographic profile. There was a significant difference in mean scores (H(2) = 7.736, *p* = 0.02) between marital status with a mean rank of 38.43 for participants in the 18–35 age range, 53.3 for participants in the 36–59 age range and 48.17 for participants aged 60 and over. Post hoc comparisons using the Mann–Whitney *U* test were carried out. The results of the post hoc test indicated that health service navigation was significantly better in those in the 36–59 age range (median = 3.00, range = 2.00-–4.00) compared with those in the 18–15 age range (median = 3.00, range = 2.00-–3.40) *U* = 623.59, *p* = 0.007.

Table 23: Difference in median scores for participants' age, marital status, educational level, employment history, employment status and living in relation to health service navigation tested using Kruskal–Wallis

Demographic profile	*N*	Health Service Navigation Median (Range)	Mean Rank	*p*-value
Age				
18–35	40	3.00 (2.00–3.40)	38.43	**0.02***
36–59	46	3.00 (2.00–4.00)	53.30	
60+	6	3.00 (2.80–3.40)	48.17	
Marital status				
Single	56	3.00 (2.00- 4.00)	43.88	0.41
Married	20	3.00 (2.80- 3.80)	52.08	
Divorced	4	3.00 (2.80- 3.40)	49.13	
In a relationship	12	3.00 (2.60-3.80)	48.58	
Educational level				
None	1	3.00	47.00	0.71
Primary	26	3.00 (2.00–4.00)	51.37	
Secondary	61	3.00 (2.00–3.80)	44.60	
Tertiary	4	2.90 (2.80–3.80)	43.75	
Employment History				
Manual labourer	53	3.00 (2.20–4.00)	49.29	0.48
Driver	7	3.00 (2.40–3.20)	45.00	
Administrative	4	2.80 (2.80–3.00)	28.33	
Taxi guard	2	3.00 (3.00–3.00)	47.00	
Never worked	15	3.00 (2.00–3.60)	39.63	
Employment Status				
Employed	2	3.00 (3.00–3.00)	47.00	0.98
Unemployed	90	3.00 (2.00–4.00)	46.49	
Living Arrangements				
Suburban	26	3.00 (2.40–3.80)	47.98	0.69
Informal	25	3.00 (2.00–3.40)	41.88	
RDP	34	3.00 (2.00–4.00)	47.40	
Complex/flat	7	3.00(3.00–3.80)	53.14	

* Significant at 5% level
** Significant at 10% level

A Kruskal–Wallis test was conducted to compare the health service navigation of participants based on their clinical profile. There was a significant difference in scores (H(1) = 3.117, *p* = 0.077) between those who had attended the OT programme and those who had not attended the OT programme, with a mean rank of 44.78 for those who had attended the programme and 59.18 for those who had not. As shown in Table 23, health-service navigation was significantly better in participants who had attended the OT programme (median = 3.20, Range = 2.60–3.40) than those who had not (median = 3.00, range = 2.00–4.00). There was also a significant difference in scores (H(1) = 3.275, p = 0.07) between those who had completed the ICIP and those who had not, with a mean rank of 48.27 for participants who had completed the ICIP and a mean rank of 33.50 for those who had not .

Table 24: Difference in median scores for participants' diagnosis, attendance of the in-client programme, completion of the ICIP, and admission history in relation to health service navigation tested using Kruskal–Wallis

Clinical Profile		**Health service navigation**		
	N	**Median (Range)**	**Mean Rank**	***p*-value**
Diagnosis				
MDR	86	3.00 (2.00–4.00)	45.44	0.13
XDR	6	3.20 (2.80–3.80)	61.67	
Attended OT Programme				
Yes	81	3.20 (2.60–3.40)	44.78	**0.08****
No	11	3.00 (2.00–4.00)	59.18	
Completed ICIP				
Yes	81	3.00 (2.00–4.00)	48.27	**0.07****
No	11	3.00 (2.40–3.20)	33.50	
On Treatment				
Yes	90	3.00 (2.00–4.00)	46.19	0.44
No	2	3.10 (3.00–3.20)	60.25	
Multiple Admissions				
Yes	18	3.00 (2.00–3.80)	53.40	0.18
No	74	3.00 (2.00–4.00)	44.68	

* Significant at 5% level
** Significant at 10% level

7.5 CORRELATION BETWEEN DEMOGRAPHIC DATA AND INDIVIDUAL PROGRAMME OUTCOMES

This section aims to answer the following research objective: *To determine whether a relationship exists between the participants' demographic characteristics and individual programme outcomes.* Spearman's correlation test was used to indicate the strength and direction of relationships between two variables. The closer r_s is to zero, the weaker the relationship. A detailed interpretation of correlation coefficient results is presented below: 0.19 = very low, 0.2 – 0.39 = low, 0.4 – 0.69 = moderate, 0.7 – 0.89 = high and 0.9 – 1 = very high (Bryman & Cramer, 1999).

7.5.1 Health-directed activity

Spearman's correlation was used to determine whether there was a statistically significant association between the demographic profile of participants and health-directed activity. As shown in Table 43, a low correlation was found between marital status and health-directed activity, which is statistically significant ($r_s(92) = 0.26$, $p = 0.01$). A low correlation was also found between the participants' educational levels and health-directed activity, which is statistically significant ($r_s(92) = 0.21$, $p = 0.04$). No significant associations were found for the remaining demographics in relation to health-directed activity.

Table 25: Health-directed activity in relation to age, marital status, race, educational level, employment history, employment status and living conditions

Demographics	N	Health-Directed Activity Correlation Coefficient	p-value
Age	92	-0.07	0.50
Marital status	92	0.26	**0.01***
Educational level	92	0.21	**0.04***
Employment history	92	-0.83	0.43
Employment status	92	0.05	0.61
Living arrangements	92	-0.09	0.35

* Significant at 5% level
** Significant at 10% level

Table 25 shows the results for health-directed behaviour in relation to number of hospitalisations, attendance and completion of the programme. Spearman's correlation was used to determine whether there was a statistically significant relationship between participants' clinical profile and their health-directed activity. As shown in Table 25, a low inverse correlation was found between participants' treatment status in relation to their health-directed activity $r_s(92) = -0.21$, $p = 0.04$, which is statistically significant.

Table 26: Health-directed activity in relation to participants' diagnosis, attendance of the inclient programme, completion of the ICIP, and admission history

Clinical profile	Health-Directed Activity N	Correlation Coefficient	p-value
Diagnosis	92	0.11	0.26
Attended OT programme	92	0.01	0.91
Completed ICIP	92	0.03	0.75
Treatment status	92	-0.21	**0.04***
Multiple admissions	92	-0.02	0.82

* Significant at 5% level
** Significant at 10% level

7.5.2 Positive and active engagement in life

Spearman's correlation was used to test whether there was a statistically significant association between the demographic profile of participants and positive and active engagement in life. As shown in Table 25, the results suggest a very low correlation was found between participants' educational level and positive and active engagement in life, which is statistically significant $r_s(92) = 0.19$, $p = 0.06$. A very low correlation was also evident for marital status and positive and active engagement in life, which is statistically significant $r_s (92) = 0.19$, $p = 0.6$. No significant associations were found for the remaining demographics in relation to health-directed activity.

Table 27: Positive and active engagement in life in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	Positive and Active Engagement in Life		
	N	Correlation Coefficient	p-value
Age	92	-0.05	0.63
Marital status	92	0.19	**0.06****
Educational level	92	0.19	**0.06****
Employment history	92	0.14	0.18
Employment status	92	0.14	0.18
Living arrangements	92	-0.13	0.22

* Significant at 5% level
** Significant at 10% level

Table 27 shows the results for positive and active engagement in life in relation to number of hospitalisations, attendance and completion of the programme. Spearman's correlation was used to determine whether there was a statistically significant relationship between participants' clinical profile and positive and active engagement in life. As shown in Table 26, there was a statistical significant association between the treatment status of participants and positive and active engagement in life, $r_s(92) = -0.25$, $p = 0.01$.

Table 28: Positive and active engagement in life in relation number or hospitalisations, attendance and completion of the programme

Clinical Profile	Positive and Active Engagement in Life		
	N	Correlation Coefficient	p-value
Diagnosis	92	-0.05	0.32
Attended OT programme		0.03	0.91
Completed ICIP	92	0.06	0.81
Treatment status	92	-0.25	**0.01***
Multiple admissions	92	0.08	0.43

* Significant at 5% level
** Significant at 10% level

7.5.3 Emotional distress

Spearman's correlation was used to test whether there was a statistically significant relationship between participant demographics and emotional distress. As shown in Table 28, no statistically significant associations were evident between participants' demographics and emotional distress.

Table 29: Emotional distress in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	N	Emotional Distress Correlation Coefficient	p-value
Age	92	-0.05	0.63
Marital status	92	0.20	0.85
Educational level	92	0.07	0.50
Employment history	92	0.10	0.14
Employment status	92	0.15	0.73
Living Arrangements	92	-0.13	0.22

* Significant at 5% level
** Significant at 10% level

Table 29 shows the mean scores for emotional distress in relation number of hospitalisations, attendance and completion of the programme. Spearman's correlation was used to determine whether there was a statistically significant relationship between participants' clinical profile and emotional distress. As shown in Table 29, there was no statistical significance evident between participants' clinical profile in relation to emotional distress.

Table 30: Emotional distress in relation number of hospitalisations, attendance and completion of the programme

Clinical Profile	Emotional Distress		
	N	Correlation Coefficient	p-value
Diagnosis	92	0.02	0.85
Attended OT programme	92	0.07	0.46
Completed ICIP	92	-0.06	0.36
On treatment	92	-0.01	0.86
Multiple admissions	18 74	0.04	0.71

* Significant at 5% level
** Significant at 10% level

7.5.4 Self-monitoring and insight

Spearman's correlations were used to test whether there was a statistically significant association between the demographic profile of participants in relation to their self- monitoring and insight. As shown in Table 30, there was no statistical between the participants' demographics in relation to self-monitoring and insight.

Table 31: Self-monitoring and insight in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	Self-Monitoring and Insight		
	N	Correlation Coefficient	p-value
Age	92	0.08	0.40
Marital status	92	0.05	0.63
Educational level	92	0.05	0.60
Employment history	92	0.05	0.97
Employment status	92	-0.36	0.73
Living arrangements	92	-0.08	0.47

* Significant at 5% level
** Significant at 10% level

Spearman’s correlation was used to determine whether there was a statistically significant connection between the participants’ clinical profile and self-monitoring and insight. As shown in Table 31, there was no statistically significant relationship between the participants’ clinical profile in relation to self-monitoring and insight.

Table 32: Self-monitoring and insight in relation number or hospitalisations, attendance and completion of the programme

Clinical profile		Self-Monitoring and Insight	
	N	Correlation Coefficient	p-value
Diagnosis	92	0.16	0.12
Attended OT programme	92	-0.79	0.45
Completed ICIP	92	0.09	0.87
On treatment	92	-0.17	0.11
Multiple admissions	92	0.01	0.90

* Significant at 5% level
** Significant at 10% level

7.5.5 Constructive attitudes and approaches

Spearman’s correlation was used to determine if there was a statistically significant correlation between the demographic profile of participants in relation to their constructive attitudes and approaches. As shown in Table 32, the results suggest a low correlation between participants’ marital status and constructive attitudes and approaches, which is statistically significant $r_s(92) = 0.22$, $p = 0.03$. A low correlation was also found between participants’ educational level and constructive attitudes, which is statistically significant $r_s(92) = 0.20$, $p = 0.05$. No significant associations were found for the remaining demographics in relation to health-directed activity.

Table 33: Constructive attitudes and approaches in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	**Constructive Attitudes and Approaches**		
	N	**Correlation Coefficient**	**p-value**
Age	92	-0.01	0.28
Marital status	92	0.22	**0.03***
Educational level	92	0.20	**0.05***
Employment history	92	0.04	0.32
Employment status	92	0.05	0.60
Living arrangements	92	0.06	0.59

* Significant at 5% level
** Significant at 10% level

Table 33 shows the mean scores for constructive attitudes and approaches in relation to number of hospitalisations, attendance and completion of the programme. Spearman's correlation was used to determine whether there was a statistically significant relationship between the participants' clinical profile and constructive attitudes and approaches. As shown in Table 33, there was a low correlation between diagnosis and constructive attitudes and approaches, which is statistically significant $r_s(92) = 0.30$, $p = 0.01$. A very low inverse correlation was also shown between participants' treatment status and constructive attitudes and approaches, which is statistically significant $r_s(92)$ -0.19, $p = 0.07$).

Table 34: Constructive attitudes and approaches in relation to number of hospitalisations, attendance and completion of the programme

Clinical Profile	Constructive Attitudes and Approaches		
	N	Correlation Coefficient	p-value
Diagnosis	92	0.30	**0.01**[*]
Attended OT programme	92	0.05	0.57
Completed ICIP	92	0.15	0.56
Treatment status	92	-0.19	**0.07**[**]
Multiple admissions	92	0.09	0.38

[*] Significant at 5% level
[**] Significant at 10% level

7.5.6 Skills and techniques acquisition

Spearman's correlation was used to test whether there was a statistically significant relationship between the demographic profile of participants in relation to their health-directed activity. As shown in Table 34, a low correlation was found between participants' age and skills and techniques acquisition. No significant relationships were found for the remaining demographics in relation to skills and techniques acquisition $r_s(92) = 0.20$, $p = 0.08$.

Table 35: Skills and techniques acquisition in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	Skills and Techniques Acquisition		
	N	Correlation Coefficient	p-value
Age	92	0.20	**0.08**[**]
Marital status	92	-0.02	0.85
Educational level	92	0.07	0.48
Employment history	92	0.06	0.65
Employment status	92	-0.03	0.75
Living arrangements	92	-0.03	0.78

[*] Significant at 5% level
[**] Significant at 10% level

Spearman's correlation was used to determine whether there was a statistically significant relationship between the participants' clinical profile and skills and techniques acquisition. As shown in Table 35, no statistical significance was evident.

Table 36: Skills and technique acquisition in relation to number of hospitalisations, attendance and completion of the programme

Clinical Profile	**N**	**Skill and Technique Acquisition Correlation Coefficient**	**p-value**
Diagnosis	92	0.08	0.45
Attended OT programme	92	-0.001	0.99
Completed ICIP	92	0.16	0.81
On treatment	92	-0.14	0.71
Multiple admissions	92	0.10	0.31

* Significant at 5% level
** Significant at 10% level

7.5.7 Social integration and support

Spearman's correlations were performed to test whether there was a statistically significant relationship between the demographic profile of participants and social integration and support. As shown in Table 36 a low correlation was evident between age and social integration and support, which is statistically significant $r_s(92) = 0.20$, $p = 0.10$. A low correlation was also evident between participants' marital status and social integration and support, which is statistically significant $r_s(92) = 0.30$, $p = 0.003$. No significant associations were found for the remaining demographics in relation to health-directed activity.

Table 37: Social integration and support in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic Profile	N	Social Integration and Support Correlation Coefficient	p-value
Age	92	0.20	**0.10****
Marital status	92	0.30	**0.003***
Educational level	92	-0.07	0.49
Employment history	92	-0.09	0.39
Employment status	92	-0.003	0.97
Living arrangements	92	-0.05	0.64

* Significant at 5% level
** Significant at 10% level

Spearman's correlation was used to determine whether there was a statistically significant relationship between the participants' clinical profile and social integration and support. As shown in Table 37, a low correlation between diagnosis and social integration and support was evident, which is statistically significant $r_s(92) = 0.29$, $p = 0.01$.

Table 38: Social integration and support in relation number of hospitalisations, attendance and completion of the programme

Clinical Profile	N	Social Integration and Support Mean (SD)	p-value
Diagnosis	92	0.26	**0.01***
Attended OT programme	92	-0.12	0.24
Completed ICIP	92	0.005	0.18
Treatment status	92	0.003	0.97
Multiple admissions	92	0.11	0.29

* Significant at 5% level
** Significant at 10% level

7.5.8. Health-service navigation

Spearman’s correlation was used to test the statistical significance in the relationship between the demographic profile of participants in relation to health-service navigation. As shown in Table 38, a low correlation was found between participants’ age and health-service navigation, which is statistically significant $r_s(92) = 0.25$, $p = 0.01$. No significant associations were found for the remaining demographics in relation to health-service navigation.

Table 39: Health service navigation in relation to age, marital status, educational level, employment history, employment status and living arrangements

Demographic profile	Health Service Navigation		
	N	Correlation Coefficient	p-value
Age	92	0.25	**0.01***
Marital status	92	0.11	0.27
Educational level	92	-0.11	0.27
Employment history	92	-0.16	0.11
Employment status	92	-0.003	0.97
Living arrangements	92	0.04	0.72

* Significant at 5% level
** Significant at 10% level

Spearman’s correlation was used to determine the statistical significance between the participants’ clinical profile and health-service navigation. As shown in Table 39, a very low inverse correlation was found between attendance of the programme and health-service navigation, which is statistically significant $r_s(92) = -0.19$, $p = 0.07$. In addition, a low correlation was found between the completion of the ICIP and health-service navigation, which is statistically significant $r_s(92) = 0.20$, $p = 0.07$.

Table 40: Health-service navigation in relation to number of hospitalisations, attendance and completion of the programme

Clinical Profile	N	Health service navigation Correlation Coefficient	p-*value*
Diagnosis	92	0.15	0.13
Attended OT programme	92	-0.19	**0.07****
Completed ICIP	92	0.20	**0.07****
On treatment	92	-0.08	0.44
Multiple admissions	92	0.14	0.29

* Significant at 5% level
** Significant at 10% level

7.6 CONCLUSION

In this chapter the quantitative findings of the study were presented. Both the demographic and clinical profiles of the participants were outlined. Thereafter, the difference in median scores was presented for each domain. The results suggest that demographic factors impact on quality of life of MDR-TB clients who have undergone hospitalisation, with age and marital status being the most significant factors. The results showed that the age of participants had the biggest impact on health-service navigation, while marital status impacted health-directed activity and social integration and support. Furthermore, the results highlighted the impact of participants' clinical profiles on their quality of life, with diagnosis, treatment status and completion of the ICIP being the most significant factors affecting the programme outcomes. The results further showed that participants' diagnosis had the biggest impact on social integration and support, as well as constructive attitudes and approaches. Treatment status impacted mostly on health-directed activity, positive and active engagement in life, and constructive attitudes and approaches; and the completion of the ICIP had the biggest impact on health-service navigation.

Finally, correlations between the participants' demographic and clinical profiles and the eight domains were presented. The results showed a statistically significant correlation for the following demographic factors across most domains, except emotional distress and self-monitoring and insight: age, marital status, and educational level. The following clinical factors – diagnosis, attendance of the programme, completion of the ICIP, and treatment status displayed the most significant correlation across most domains, except emotional distress and self-monitoring and insight. The next chapter discusses the conclusions drawn from the findings by bringing together aspects of the study context and the literature review.

CHAPTER 8

DISCUSSION OF QUANTITATIVE FINDINGS

8.1 INTRODUCTION

In the previous chapter I presented the quantitative findings of the study. This chapter discusses the findings. The aim of this study was to explore how adults with MDR-TB experience occupational adaptation while undergoing long-term hospitalisation. In this chapter I discuss the findings of the study as they relate to the following objectives: the programme outcomes of the ICIP and the correlation between the participant demographics, and the programme outcomes of the ICIP in relation to relevant literature. Finally, I discuss the findings in relation to the PEOP model.

8.2 PROGRAMME OUTCOMES OF CLIENTS WHO HAVE PARTICIPATED IN THE ICIP

8.2.1 Health-directed activity

The first programme outcome related to the clients' health-directed behaviour was correlated with their engagement in health-directed physical activity.

The quantitative results showed that the outcome for health-directed activity in this study was quite good (mean = 2.83, SD0.46, range 1.50–4.00) which is quite high considering that the qualitative findings revealed a negative impact of MDR-TB on the participants' endurance levels and thus their ability and motivation to engage in physical activity. Participants in this study revealed that they were unable to engage in physical activity because of the side effects of their treatment. These results are consistent with those of Kastien-Hilka et al. (2017) and Bauer et al. (2015), which showed a substantial negative impact of TB on health-related quality of life physically, mentally and psychosocially. Likewise, Mohammed et al. (2015) also noted that the physical aspects of the illness manifested in physical weakness, limited endurance and side effects of the treatment such as nausea, vomiting, hearing loss and general anxiety.

The quantitative findings of the study showed that health-directed activity was significantly better in participants who had completed their treatment (median = 3.38, range = 3.25–3.50) than clients who were still on treatment (median = 3.00, range = 1.50–4.00). This result can be explained by the fact that the side effects of the TB treatment could be preventing clients still on treatment from engaging in health-directed activity. This accords with the study by Louw et al. (2012) which indicated a significant weakening of clients' physical functioning due to the effects of TB treatment as well as that by Mohammed et al. (2015) who reported physical weakness as a result of TB.

In addition to poverty, unemployment and physical weakness, Mohamed et al. (2015) highlight social aspects such as isolation and loneliness due to stigma and the fear or guilt of infecting family members. Supportive factors included support from family and friends and support from welfare as having a tremendous impact on treatment adherence and treatment outcomes of TB clients. It is therefore not surprising that the quantitative results also showed that health-directed activity was significantly better in participants who were married (median = 3.00, range = 1.75–3.50) compared with those who were in a relationship (median = 3.00, range = 2.75–3.75) u = 69.5, p = 0.04. Additionally, health-directed activity was significantly better in participants who were in a relationship (median = 3.00, range = 2.75–3.75) compared with those who were single (median = 2.75, range = 1.75–4.00) u = 171.50, p = 0.007. A possible explanation for this might be that participants with more support in their home environment were more motivated to engage in health-directed activity than those who did not have similar support.

8.2.2 Positive and active engagement in life

The second programme outcome was to improve client motivation to the extent that they experience positive and active engagement in life. Positive and active engagement in life requires motivation to be active and assesses whether clients who participated in the programme have engaged or re-engaged in life-fulfilling activities. The quantitative findings showed quite a high score for positive and active engagement in life (mean = 2.86, SD = 0.44, range = 3.80). Additionally, the current study highlights two main factors that affected their motivation to experience positive and active engagement in life. The first was related to the impact of their illness on their ability to engage in meaningful activities, and the second factor was related to occupational injustice.

This study's findings corroborate those of Morris et al. (2013), who found that being diagnosed with MDR-TB and undergoing treatment had significant psychological, social and economic stress on clients. In their study, Morris et al. (2013) found that while some clients were able to maintain their 'pre MDR-TB' lives to an extent, most clients reported that they experienced a loss of identity owing to their inability to work, social isolation and stigmatisation from family and friends. The qualitative findings of the current study lend support to those of Morris et al. (2013) that the side effects of the medication have an impact on positive and active engagement in life. Participants in this study expressed that the side effects of the medication made them feel ill on some days. Factors included the number of medications they needed to take and the duration of their treatment, as well as side effects of the medication. Although several participants expressed the need for meaningful occupation, they also acknowledged that because of the effects of their illness, they had limited endurance and were therefore not able to engage in those occupations as they tired easily. As a result, their needs were not being met by engagement in meaningful occupation, which led to feelings of frustration and isolation. These findings are consistent with the occupational injustice of occupational alienation, which Townsend and Wilcock (2004, p. 80) define as “prolonged disconnectedness, isolation, emptiness, lack of a sense of identity, a limited or confined sense of spirit or a sense of meaninglessness”.

In addition, the quantitative results indicate, once again, participants who had completed their treatment scored significantly higher (median = 3.70, range = 3.60–3.80) than those who were still on treatment (median = 3.00, range = 1.40–3.80) which indicates the possible impact of side effects of the MDR-TB treatment on the participants’ motivation to engage in meaningful activity. Morris et al. (2013) recommended peer support groups to empower clients undergoing treatment and those reintegrating into their communities. Likewise, participants in the current study expressed the need for additional psychosocial support in the community to help motivate them to complete their medical treatment. This support could be achieved by strengthening family relationships or getting members of the community to offer support and encouragement. They indicated that they would be more than willing to attend psychosocial interventions if such support were available in their communities.

Despite this expressed need for meaningful occupation, participants highlighted various barriers to meaningful occupation, and the findings of this study are consistent with examples of occupational injustice. Occupational injustice is a direct violation of one’s occupational rights: the right to experience occupation as meaningful and enriching; the right to develop through participation in occupations for health and social inclusion; the right to exert individual and population autonomy through choice in occupations; and the right to benefit from privileges for diverse participation in occupations (Townsend & Wilcock, 2004).

In accordance with the present findings, previous literature on the occupational experiences of people with life-threatening illnesses presented their findings in terms of doing, being and becoming. Lyons et al. (2002) concluded that as a result of life-threatening illness, people cease doing several of the occupations they previously found meaningful as they struggle to maintain occupational functioning because of reduced physical or mental functioning. Through 'doing' they were able to maintain a sense of well-being despite the effects of their illness. In terms of being, their social relationships and self-exploration, and as a result self-worth, were enhanced through occupational engagement which promoted the experience of becoming, in that engaging in occupation provided them with fresh learning opportunities (Lyons et al., 2002). The current study seems to be consistent with the findings of Lyons et al. (2002). Participants in this study all expressed the need to engage in meaningful occupation as an important component of their health and well-being. Mohamed et al. (2015) identified socio-economic factors such as the financial strain of unemployment, specifically in males. Likewise, Senthilingum et el. (2015), cited in Cole et al. (2018), draw attention to the great need for income support as expressed by the participants in their study. They proposed vocational facilities to improve economic opportunities and provide income. Of the 92 participants who completed the questionnaire, 68.5% reported that their previous employment encompassed manual labour, while 97.8% of participants were currently unemployed. Given the physical weakness they experience as a result of MDR-TB, as well as the side effects of their medication, it can be assumed that returning to manual labour will pose a challenge to the participants in this study.

The qualitative findings also highlighted challenges related to employment. One participant expressed his willingness to give back to his community in the form of volunteer work; however the opportunity to do so was not available. Other participants highlighted other skills such as fixing cupboards, gardening, and art as meaningful occupations in which they would be willing to engage; however, engaging in such occupations was difficult owing to the lack of resources in the community. In addition to the lack of resources, their depleted physical endurance did not allow them to engage in work activities. Their inability to work and lack of income made reaching their occupational potential in the community particularly trying. As a result, participants in this study had to rely heavily on their disability grants; however, despite receiving grants, they were still unable to meet all their needs. These findings describe occupational deprivation, which is defined as people's inability to engage in occupations owing to some external restriction such as technology, division of labour, lack of employment opportunities, poverty, affluence, illiteracy, prejudice, cultural values, local regulations, limitations imposed by social systems, and ill-health or disability beyond the control of the individual (Whiteford, 2005; Wilcock, 1998a). In previous studies that focused on the financial constraints that come with TB, clients would stop taking their treatment so that they could go to work in order to provide for their families (Kendall et al., 2013; Mohammed et al., 2015). This however was not reported in the current study.

The findings of this study revealed that although several participants expressed the need for meaningful occupation, they also acknowledged that because of the effects of the illness they had limited endurance and were therefore not able to engage in such occupations as they tired easily. There were, however, no alternatives available to accommodate their endurance levels, and as a result they found little meaning in their occupational engagement as it did not meet their unique social, mental and rest needs. Wilcock (1998a) refers to this state as occupational imbalance, and asserts that balancing one's physical, social and mental capacities with rest is important if one wants to achieve health and well-being. Thus in terms of occupation, individuals should be able to maintain a balance between work, rest and play. Subsequent definitions state that occupational imbalance occurs when individuals either have too much or too little to do, or lack a variety of meaningful occupations in which to engage (Stadnyk et al., 2010; Townsend & Wilcock, 2004). Occupational imbalance will therefore differ from person to person in relation to their capacities, interests and responsibilities, and could result in either burnout or boredom. The findings of this study suggest that participants experienced a sense of boredom as a result of their physical limitations due to their diagnosis, and this further resulted in low motivation to engage in occupation.

The findings of this study suggest that MDR-TB clients would benefit from a Clubhouse model of psychosocial rehabilitation in their communities. According to Fountain House (1999), the Clubhouse model focuses on the strengths of its members and not on their illness, and all participation is voluntary. The core principles of this model are that programme members are provided with a supportive environment where they are accepted, and there is commitment to helping them meet their full potential. They have a place where they can belong as adults who have something to contribute as opposed to adopting the role of a client. They are encouraged to work at the clubhouse or to explore employment opportunities in the community, and are allowed to choose the activities they engage in based on their interests and skills. Coniglio et al. (2010) assert that the Clubhouse model provides peer support to its members and encourages a sense of social inclusion, belonging, interdependence and a shared sense of accomplishment through engaging in activities together.

8.2.3 Emotional distress

Another intended programme outcome was to improve emotional well-being of clients, which refers to the overall negative affective responses to illness, including the anger, depression and anxiety attributed to the illness and resulting in psychological and emotional distress. The outcomes of the questionnaire showed that participants in this study scored quite low in terms of emotional distress (mean = 2.29, SD = 0.48, range = 1.00–3.5), which indicates that they experience low levels of emotional distress. Although there were no statistically significant results in terms of emotional distress and participants' demographic profile, the qualitative findings in the current study provided a more in-depth view of the participants' experiences of the lack of support in the community. This lack of support had impacted their emotional well-being negatively. Another example is that of one participant who felt the weight of his responsibility to his family as a man and provider, and how his diagnosis militated against his fulfilling those responsibilities. He turned to alcohol use as a coping mechanism to overcome these negative emotions. The findings of this study concur with findings related to the effect of MDR-TB on emotional well-being. The most significant impact of TB, according to Kastien-Hilka et al. (2017) and Bauer et al. (2015), is on the clients' mental health. Similarly, Louw et al. (2012) state that impaired physical functioning impacts clients' quality of life negatively and as a result, causes mental distress and poor treatment outcomes, while Khan et al. (2017) reported behaviour changes, including anxiety and depression as a result of MDR-TB.

In addressing emotional and psychological stress in TB clients, Peltzer et al. (2012) recommended improved screening of psychological distress in clients with TB in order to provide more comprehensive treatment with the aim of improving treatment outcomes. Moreover, Kastien-Hilka et al. (2017) and Bauer et al. (2015) concur with Peltzer et al. (2012)

by highlighting the need for culturally relevant psychosocial support interventions for clients being treated for TB. A way in which psychosocial support can be offered is in the form of psychosocial rehabilitation. Firfirey and Hess-April (2014) recommended psychosocial rehabilitation as part of the ICIP, but the findings of this study support the need for psychosocial rehabilitation in the community. The Southern Development Group (2003), cited in Duncan (2004b, p. 213), states that psychosocial rehabilitation focuses on "individualized, client-centred care, which instils hope, and focuses on the strengths and abilities of the client while building a partnership within a secure environment". Farnworth and Muñoz (2009) suggest that a psychosocial rehabilitation programme should include topics such as adult literacy, vocational skills training, religious groups, and groups focusing on community reintegration and support groups. They further state that intervention should aim at improving or maintaining daily living skills, as well as developing and redefining roles that will support successful community integration. These findings once again highlight the need for psychosocial interventions in the community, such as the Clubhouse model, to help clients feel supported in their community reintegration process, and such interventions should contribute to their emotional well-being.

8.2.4 Self-monitoring and insight

Self-monitoring and insight refer to the ability to monitor one's condition, the physical and/or emotional responses that lead to insight, and the appropriate action or actions to self-manage. There needs to be an acknowledgement of realistic disease-related limitations, and an ability and confidence to remain within these limits. In this study, the outcome of self-monitoring insight through psychoeducation aimed at improving treatment adherence through better self-management, as well as a reduction in high-risk behaviour, was explored.

The findings of this study showed that participants were extremely confident in their ability to monitor their condition (mean = 3.83, SD = 0.36, range = 1.83–3.83). Correspondingly, the qualitative findings showed that participants believed the ICIP had helped them develop insight into their illness and how to manage it. However, the qualitative findings drew attention to several socio-economic factors such as poverty, limited resources, side effects of medication, proximity to the nearest clinic, poor living conditions, substance abuse, the number of medications they needed to take, and the duration of treatment as barriers to treatment adherence. Participants stated that even though the ICIP equipped them with the knowledge and skills to make better choices about their health and well-being, the environments in which they resided made it difficult to implement those skills. In this study the participants' demographics revealed that majority of the participants lived in poor living conditions: 37.4% of all participants live in RDP housing and 27.2% live in informal settlements. Similarly, the qualitative findings revealed that one participant had no fixed abode in the community and was living on the street. He stated that his chances of engaging in high-risk behaviour in the community were also greater because of the environments in which many clients reside. Additionally, the findings of this study revealed that 97.8% of participants were unemployed. The socio-economic factors presented in the findings of this study are not surprising and are in line with several authors' views of the consequences of these factors: loss of employment, malnutrition and overcrowded living conditions also impacted treatment adherence negatively (Cole et al., 2018; Cremers et al., 2018; Holtz et al., 2006; Khan et al., 2017; Leinhardt et al., 2012; Morris et al., 2013; Peltzer et al., 2012; Tola et al., 2015). While current policies make provision for MDR-TB clients to access medical care closer to their homes, thereby addressing the effects of institutionalisation (Department of Health, 2011), the findings of this study highlight a gap in the policies which appear to focus primarily on biomedical needs, not taking into consideration the psychosocial needs the clients may have. The findings of this study therefore suggest that if we want to address treatment adherence at community level, an integrated, client-centred approach needs to be adopted that focuses on the strengthening of psychosocial support for MDR-TB clients that embraces inclusion, equality and socio-economic development. The findings also highlight the need for strengthening of the ICIP with regard to discharge planning and referrals to existing resources in the community that are able to support clients in their transition from the hospital into their communities.

In addition, participants in this study expressed that they preferred the hospital setting as it was more conducive to recovery, stating that the environments in which they live are rife with gangsterism and substance use, and thus have a negative effect on their well-being. These findings support the view of Kendall et al. (2013), that while hospitalisation resulted in abstinence from alcohol use and thus improved retention in care, once discharged, clients were at higher risk of defaulting. Kendall et al. (2013) suggest that clients who use alcohol need more support once discharged from hospital as they regress, and propose integrating medical and behavioural interventions in the community. These findings once again draw attention to the need for additional psychosocial support to facilitate better reintegration into the community, such as a step-up/step-down approach. Such an approach could be adopted where clients are clinically well enough to be discharged from the hospital but still require self-management support in the community. The intermediate care facility would offer a supportive environment that includes psychosocial interventions that promote adherence, self-management and health-directed activity in a setting that is closer to their homes. Additionally, it would allow more freedom of movement within the community as opposed to the hospital environment. Alternatively, strengthening of existing community-based organisations to support the psychosocial needs of MDR-TB clients as outclients should be made a priority, as well as strengthening referral pathways to such organisations.

8.2.5 Skills and techniques acquisition

The next programme outcome links closely with the objective of self-monitoring and insight. Self-monitoring and insight refer to the ability to monitor one's condition, and skills and techniques acquisition refers to the physical and/or emotional responses that lead to insight and the appropriate action or actions to self-manage. Meeting this outcome requires an acknowledgement of realistic disease-related limitations, and an ability and confidence to remain within these limits, while skills and techniques acquisition refers to the specific knowledge-based skills required to manage their illness.

The results showed quite a high score for skills and techniques acquisition (mean = 2.89, SD = 0.36, range = 2.00–4.00). The quantitative findings for skills and techniques acquisition are consistent with the qualitative results for self-monitoring and insight, in that although the participants valued the information they received as part of the ICIP to prepare them for reintegration into the community, issues such as the lack of community-based resources, access to alcohol and other drugs, peer pressure, isolation from effective support systems, poverty, and unemployment prevented them from implementing the knowledge-based skills they acquired while in hospital. These findings also match those observed by Holtz et al. (2006) and Mohammed et al. (2015) on the risk factors associated with defaulting from MDR-TB treatment in South Africa. Several reasons for defaulting treatment were highlighted by Holtz et al. (2006), namely personal stresses, unemployment, homelessness, alcoholism, pessimism, and previous poor experience with TB treatment. Likewise, in Mohammed et al. (2015), social aspects included isolation and loneliness due to stigma and the fear or guilt of infecting family members; socio-economic factors involved poverty, poor living conditions and financial strain due to unemployment, specifically in males; supportive factors included support from family and friends and from welfare organisations, which motivated clients to continue with treatment. As mentioned in the previous section, the participants in this study highlighted several socio-economic and contextual barriers that militated against their implementing the skills they acquired through their participation in the ICIP. The findings of this study support the findings of Cox et al. (2017) that the MDR-TB treatment regimen exposes clients to significant adverse effects and the drugs are poorly tolerated. As a result, low completion rates are common. For this reason, maintaining treatment adherence on even a shortened regimen will be a challenge without adequate psychological support from healthcare workers (Cox et al., 2017). This once again highlights the need for improved community-based interventions to ensure a smooth transition from the hospital setting to the community. An example of how community-based interventions can be strengthened is the End TB Strategy (WHO, 2011).

As part of the End TB Strategy, WHO (2011) recommends a more decentralised approach that formally recognises the critical role of NGOs and other CSOs as partners in addressing gaps through support to community-based actions which will expand TB prevention, diagnosis, treatment and care activities. Examples of community-based TB activities would include awareness raising; behaviour change strategies; community mobilisation; reducing stigma and discrimination; screening and testing for TB and TB-related morbidity (e.g. HIV counselling and testing, diabetes screening); home visits; treatment adherence support through peer support and education and individual follow-up; social and livelihood support (e.g. food supplementation, income-generation activities); home-based palliative care for TB and related diseases; and community-led local advocacy activities (WHO, 2011). While the END TB strategy presents a holistic approach that focuses on strengthening community support, the findings revealed the need for the incorporation of CBR programmes as well to facilitate transition from the hospital into the community. Community-Based Rehabilitation (CBR) is a strategy within community development for the rehabilitation, equalisation of opportunities and social inclusion of all adults and children with disabilities. CBR is implemented through the combined efforts of disabled people themselves, their families and communities and the appropriate health, education, vocational and social services (WHO, 2004). In addition, CBR practice has changed from a medical orientated, often single sector (e.g. health or education), service delivery approach, to a comprehensive, multi-sectoral, rights-based one to ensure that people with disabilities have the same rights and opportunities such as education, skills training, employment, family life, social mobility and political empowerment as all other community members (WHO, 2010a).

While CBR speaks primarily to the rights of people with disabilities, it can be applied to the context of people with MDR-TB who also constitute a marginalised population. Unlike other conventional rehabilitation programmes, which tend to be simply medical and institutional, CBR is categorically based within a community development framework. The strategy of CBR places equal emphasis on inclusion, equality and socio-economic development as well as rehabilitation of all people with disabilities. The CBR framework comprises five components (health, education, livelihoods, social, and empowerment (see Figure 2). Each component has five key elements which inform the implementation of CBR. Both the components and their elements are underpinned by the principles of participation, inclusion, sustainability and self-advocacy. According to the WHO (2010a), these principles should inform and affect the activities within each of the topic areas.

The findings of this study draw attention to the physical impairments and emotional/psychological ill-health the participants experienced as a result of MDR-TB and the medication they were on. Moreover, the findings revealed the impact of their physical impairment on their ability to work and provide for their families. In using the CBR matrix, CBR programmes will be able to address many of the needs expressed by participants upon reintegration into their communities. Elements of CBR can be interrelated and there is a chance that specific sectors or organisations do not implement all of the CBR elements. A key component of successful CBR programmes relies on partnerships with other organisations for support. The findings of the current study revealed that the ICIP focused mainly on health as an element when discharging clients and ensuring appropriate medical care in the community; however, health promotion and prevention interventions were lacking in the community, which was detrimental to the well-being of the participants and their programme outcomes. Other elements of the CBR matrix were also highlighted as crucial to assisting participants in implementing the skills they learned in the ICIP. For example, the findings of this study showed that the livelihood, social and empowerment elements would also need to be addressed in conjunction with health and education to ensure reintegration into the community as well as successful programme outcomes. In terms of livelihood, interventions should include facilitation of vocational skills training in the community, collaboration with organisations that could assist MDR-TB clients to seek appropriate employment, and also advocate for policy development to include the needs of people with MDR-TB. Interventions related to the social component could focus on counselling for families on how to support family members with MDR-TB both physically and emotionally, and encourage the inclusion of people with MDR-TB in cultural, sport and recreational activities in their communities. Additionally, empowerment of people with MDR-TB would include advocating for their rights to be included in their communities, reducing stigma related to MDR-TB and also linking up with the relevant stakeholders in the community that will be able to support people with MDR-TB in terms of advocacy activities.

8.2.6 Constructive attitudes and approaches

This scale uses the statement, “I am not going to let this disease control my life” and measures if there is a shift in how individuals view the impact of their condition on their lives. During the focus group, one of the doctors also highlighted the lengthy treatment regimen as a challenge. He acknowledged that competent self-management requires commitment from the client. The findings in this study once again corroborate the findings of Morris et al. (2013), who found that being diagnosed with MDR-TB and undergoing treatment had significant psychological, social and economic stress on clients. In the Morris et al. (2013) study, while some clients were able to maintain their ‘pre MDR-TB’ lives to an extent, most clients reported that they experienced a loss of identity due to their inability to work, and social isolation and stigmatisation from family and friends. Similarly, the current study, despite the issues related to poor socio-economic conditions such as poor living conditions, unemployment, lack of support, and stigma, highlighted as challenges for the research participants, showed that some participants acknowledged the need to take responsibility for their own behaviour and make better choices around their well-being. One participant explained that while drug use is rife in his community, he needs to take ownership of his choices and not blame his environment for his choices. In concurrence with the qualitative findings, the quantitative results showed quite a high score for this outcome (mean = 2.92,SD = 0.41, range = 2.00–4.00), suggesting that participants in this study were not prepared to let their diagnosis control their lives. To maintain these positive attitudes required a degree of resilience. Cremers et al. (2018) conducted a study on the resilience of TB clients in Cape Town, and while their study also highlighted the familiar social determinants of TB, their findings were able to illustrate how their participants displayed resilience as they tried to overcome urgent problems in their lives. For example, some participants in their study made the decision to stop their treatment because of the negative side effects, so they felt physically well enough to go out and seek employment in order to provide for their families. Thus, Cremers et al. (2018) concluded that even those participants who appeared to be failing to achieve positive treatment outcomes were making conscious decisions on ways to cope with their lived reality. They recommended that healthcare providers need to be more aware of these forms of resilience and the vulnerability clients are experiencing so that they offer better support to these individuals. An example of resilience in this study was the experience of one participant who felt that even though he still had friends in the community, he could not really rely on them as they were still engaging in high-risk behaviour not conducive to his well-being. He felt that he was at risk of engaging in harmful substance use by associating with them and as a result made the conscious decision of not associating with them for the sake of his health and well-being; however, it can be assumed that without the necessary support from the structures in place he could be influenced to engage in high-risk behaviour in future. Galvaan (2015) however, argues that occupational choice is influenced by structural, contextual and personal factors. She suggested that creating opportunities through introducing a wider range of opportunities for participation in occupations is insufficient for promoting occupational justice and social inclusion. Therefore, the existence of opportunities to participate in occupations may not translate into changes in actual occupational performance (Galvaan, 2015). It is with such challenges in mind that Ramugondo (2012) developed the concept of occupational consciousness which refers to the "ongoing awareness about the dynamics of hegemony and the recognition that dominant practices are sustained through what people do every day, with implications for personal and collective health" (Ramugondo, 2015, p. 488). She asserts that occupational consciousness is therefore advanced as a critical notion that frames everyday doing as a potentially liberating response to oppressive social structures.

Ramugundo concluded that occupational consciousness is a readily available response to individuals and communities that are on the periphery of dominant worlds to disrupt the cycle of oppression and inequality through everyday doing by elucidating the critical perspective of the oppressed. The findings of this study suggest that therapists need to question whether there are specific expressions of occupational consciousness in individuals or communities and how communities engage in acts of resistance such as, in the current study, consciously choosing to not engage in risky substance use in their everyday occupations. Accordingly, therapists should draw links between occupational consciousness and occupational injustices. Therapists need to be aware of how socio-political factors influence clients' contexts and shape the participants' occupational engagement, and find ways to empower communities to facilitate changes in their own communities (Ramugondo, 2015; Richards & Galvaan, 2018). Occupational therapists thus have an important role of facilitating clients' agency and occupational consciousness by helping them reflect on actions they could take to empower themselves.

Interestingly, the findings in this study showed that, in terms of constructive attitudes and approaches, clients with XDR-TB scored significantly higher (median = 3.70, range = 2.00–3.80) than the participants with MDR-TB (mean = 2.80, range = 2.00–4.00). This rather intriguing finding could be due to the fact that all of the participants with XDR-TB were in hospital at the time of completing the questionnaire. This would mean that they were in a therapeutic and helpful environment with staff and peers offering the necessary support required to have a positive outlook on their treatment adherence.

Also, participants who had completed their treatment scored once again significantly higher (median = 3.30, range = 3.20–3.40) than those who had not (median = 2.80, range = 2.00–4.00) which could be explained by the fact that they were no longer enduring the side effects of the medication and therefore had a more positive outlook on life. This finding is in line with the findings of Mohammed et al. (2015), who stated that the transition to recovery was another motivating factor to people suffering from TB.

8.2.7 Social integration and support

This domain attempts to capture the positive impact of social engagement and support that others who share similar health-related life experience have in common. This also involves the confidence to seek support from interpersonal relationships as well as community-based organisations on a continuing basis. The quantitative results showed that the participants were quite confident to seek support from interpersonal and community-based organisations (mean = 2.87, SD = 0.50, range = 1.40–4.00). Not surprising was the finding that participants who were married scored significantly higher (median = 3.00, range = 2.40–3.60) than those who were single (median = 2.80, range = 2.00–4.00), which seems to be a consistent finding for several programme outcome and once again draws attention to the importance of support for MDR-TB clients in their communities. Stigma, lack of support and isolation are well-known challenges experienced by MDR-TB clients. In this study, the findings were no different. For instance, the qualitative findings of this study highlighted the level of support they received in hospital in terms of encouragement to take their medication particularly helpful compared with the type of support in the community. One participant went as far as to say that he would prefer completing his treatment in hospital as opposed to in the community because of the support he received in hospital, while another stated he lacked sufficient support at home and therefore found treatment adherence particularly challenging. Another participant expressed that he had to rely heavily on his family for physical help and did not want to be a burden on his family; he therefore preferred being in hospital. In addition, participants highlighted stigma around DR-

TB as a hindrance to their relationships with their friends owing to the stigma they faced, resulting in their feeling isolated from their community and contributing to their feeling unsupported, which also supports previous literature (Department of Health, 2009; Mohammed et al., 2015). According to Mohammed et al. (2015), social aspects included isolation and loneliness due to stigma and the fear or guilt of infecting family members. Likewise, the Department of Health (2009) states that client-related factors for poor treatment adherence are linked to stigmatisation of the disease, depression, disempowerment, and poor knowledge about TB and the efficacy of treatment.

In an attempt to address some of the psychosocial factors related to poor treatment outcomes and the effects of long-term hospitalisation, the Department of Health (2011) implemented decentralised management of MDR-TB as a way of accommodating clients' personal responsibilities and needs as they will be closer to their homes. In addition, decentralised care aims to reduce the transmission of MDR-TB, as clients will be initiated on treatment sooner. Also there will be an improvement in treatment adherence in community-based programmes; this has been evident in other countries and in some parts of South Africa. Decentralised care will also improve cost effectiveness by reducing lengthy stays in specialised hospitals. Brust et al. (2012), however, argue that although decentralised care addresses several of the challenges linked to centralised care, such as allowing clients to remain at home and accessing their treatment at a local outclient facility, maintaining high levels of treatment adherence is the key to improved treatment outcomes. In order to achieve this, they advocate the involvement of family members and close monitoring of clients at home, as well as empowering clients through intensive treatment literacy education, stating that these strategies are critical in improving treatment outcomes.

The findings of this study concur with those of Brust et al. (2012), as they highlight the fact that despite the intended benefits of decentralised care, there is a need for additional psychosocial support in the community to help clients cope with the aforementioned challenges. The current findings suggest that participants would attend psychosocial interventions if such support were available in their communities. Additionally, the participants in the current study expressed the need for more support in the community to help motivate them to complete their medical treatment. This support could be achieved by strengthening family relationships or getting members of the community to offer support and encouragement.

Interestingly, participants with an XDR-TB diagnosis scored significantly higher than those diagnosed with MDR-TB. A possible explanation for this would be that the XDR-TB clients were in hospital at the time of completing the questionnaire. As shown in the qualitative findings of this study, participants valued the support they received in the hospital and indicated that they did not receive the same level of support in the community. These findings are in contrast to the study by MSF (2009) that reported that specialised hospitals are situated far from the homes of clients, therefore hospitalisation leads to feelings of isolation and neglect among clients. This ultimately affects adherence negatively and results in a very high default rate, with some clients simply refusing to remain in hospital.

8.2.8 Health-service navigation

Health-service navigation requires the understanding of and ability to interact with a range of health organisations and health professionals as well as the ability and confidence to communicate and negotiate with healthcare providers to get needs met. An important programme outcome of the ICIP was to ensure successful reintegration into the community by providing clients with the necessary confidence and skills to negotiate with service providers in the health system to better meet their needs.

Previous studies highlighted poor relationships between clients and their healthcare providers have a negative effect on health-service navigation. For instance, Holtz et al. (2006) stated that participants in their study were particularly dissatisfied with the attitudes of healthcare providers. Likewise, Zachariah et al. (2012) highlighted strained relationships between healthcare providers and clients, bringing to the fore the language used in TB services, for example, words like ‘defaulter’, ‘suspect’ and ‘control’, which they argue are inappropriate and disempowering to TB clients who are already poor and vulnerable, excluded and stigmatised. Moreover, such terminology is perceived as judgemental and criminalising. The findings of this study differed from the findings of Zachariah et al. (2012) and Holtz et al. (2006), as none of the participants in this study reported poor relationships with healthcare providers both in the hospital and in the community. Also, the quantitative results indicated high levels of confidence in their ability to communicate with healthcare providers (mean = 2.99, SD = 0.34, range = 2.00–4.00).

Additionally, this current study showed those in the 36–59-year age range (median = 3.00, range 2.00–4.00) scored significantly higher than those in the 18–35-year age range (median = 3.00, range = 2.00–3.40). These findings lend support to Kendall et al. (2013), who found that younger clients are at higher risk of poor treatment adherence.

Despite challenges experienced with regard to the side effects of their medication and proximity to health facilities, when given the option, some participants still preferred going to the clinic daily instead of getting their tablets on a weekly basis and taking the responsibility for completing their course without extrinsic motivation, as they lacked support at home. Others said that they did not have the motivation to attend the clinic because of poverty, lack of support, and substance use. This once again brings attention to the need for community-based support programmes for MDR-TB clients. During the focus-group discussion, team members also drew attention to the need to strengthen community-based support, with members of the team expressing that in order to address this need, intermediate care facilities could be looked at as an option so that clients who no longer need to be hospitalised could still receive the necessary transitional support before going back to their homes. This view concurs with that of Cox et al. (2014), that adopting a more client-centred approach that respects human rights as well as allows clients to access appropriate care and support in their communities will strengthen current community-based services.

The results further showed that health-service navigation was significantly better in participants who had attended the OT programme (median = 3.20, range = 2.60–3.40) than in those who had not (median = 3.00, range = 2.00–4.00). There was also a significant difference in scores between those who had completed the ICIP (median = 3.00, range = 2.00–4.00) and those who had not (median = 3.00, range = 2.40–3.20). These findings correspond with the recommendations made by Firfirey and Hess-April (2014), who suggest that an integrated, client-centred programme that is not bio-medically driven and provides psychosocial support is beneficial to clients who re-enter their communities after being hospitalised for TB.

8.3 THE RELATIONSHIP BETWEEN PARTICIPANTS` DEMOGRAPHIC CHARACTERISTICS AND INDIVIDUAL PROGRAMME OUTCOMES

For the purpose of this study, I separated the demographic characteristics into two parts: demographic profile and clinical profile. The demographic profile comprised factors such as age, marital status, educational level, living conditions, employment history, and employment status, whereas the clinical profile looked at factors such as diagnosis, treatment status, attendance of the OT programme and completion of the ICIP. In terms of the participants' demographic profile, the results showed a statistically significant correlation for the following demographic factors namely age, marital status and educational level across most domains.

In the previous section of this discussion, I indicated how socio-demographics such as poverty, unemployment, and substance abuse affect programme outcomes. It therefore comes as no surprise that the findings of this study reveal a significant relationship between marital status, age and educational level on programme outcomes. Kendall et al. (2013) in their study found that clients who were younger, single, unemployed, had poor living conditions, and who used drugs or alcohol were more vulnerable to poor treatment outcomes. The current study showed a low correlation in the relationship between participants' marital status and health-directed activity ($p = 0.01$), positive and active engagement in life ($p = 0.6$), constructive attitudes and approaches ($p = 0.03$), and social integration and support ($p = 0.003$). These findings suggest that participants who were in supportive relationships had better programme outcomes. Both Ali et al. (2017) and Kendall et al. (2013) found marital status to have a positive effect on treatment outcomes in their respective studies, thereby supporting the findings of this study, with people who were married displaying better treatment outcomes.

Additionally, the findings of this study revealed a statistical significance among participants' age ranges in the following programme outcomes: skills acquisition and techniques ($p = 0.08$), social integration and support ($p = 0.10$) and health-service navigation ($p = 0.01$). (Kendall et al., 2013) also made the association between age and treatment outcomes, stating that younger clients are at a higher risk of poor treatment outcomes. Finally, participants' educational level had a statistically significant relationship, with health-directed activity, $p = 0.04$ and constructive attitudes and approaches, $p = 0.05$. The latter results concur with a study conducted by Ali et al. (2017), where they state that an individual's educational level has an impact on treatment outcomes. According to Ali et al. (2017), clients with a higher level of education are more likely to have better treatment outcomes.

In terms of clinical factor diagnosis, attendance of the programme, completion of the ICIP and treatment status displayed the most significant correlation across most domains except emotional distress, self-monitoring and insight, and constructive attitudes and approaches. The findings of this study revealed that the participants' diagnosis had statistical significance in relation to constructive attitudes and approaches ($p = 0.01$). Treatment status also had a statistically significant association with health-directed activity ($p = 0.04$) as well as positive and active engagement in life ($p = 0.01$). The side effects of treatment and impact they have on treatment adherence and treatment outcomes have been widely reported in the literature (Cremers et al., 2018; Department of Health, 2011; Mohammed et al., 2015; Portwig & Couper, 2006). The results therefore support the results of the current study which indicates that clients who have completed treatment are more likely to have the physical and mental capacity to engage actively in daily occupations. The study also revealed a statistically significant relationship ($p = 0.07$) between attendance of the OT programme and health-service navigation.

In addition, the relationship between the completion of the ICIP and health-service navigation was also statistically significant ($p = 0.07$).

8.4 TO WHAT EXTENT WERE THE PROGRAMME OUTCOMES OF THE ICIP MET?

8.4.1 Participants' experiences according to the PEOP model

The programme outcomes of the ICIP were to modify the clients' health-directed behaviour to effect improvement in treatment adherence and a reduction in high-risk behaviour; to improve their motivation to effect positive and active engagement in life; to develop their insight through psychoeducation, thereby improving self-management and navigation through the health system; and to ensure successful reintegration into the community and improve emotional wellbeing through the facilitation of occupational adaptation. In this section I discuss the participants' experience of the programme outcomes of the ICIP according to the PEOP model.

The PEOP model was developed by Baum and Christiansen (2005) as a guide to occupational therapy intervention and can be applied to individuals, groups (or organisations) and populations. The PEOP model is an interactive systems model that focuses on the client as well as on relevant intrinsic and extrinsic influences on the performance of everyday occupations. Central to the PEOP model is occupational performance, which involves three components: (1) characteristics of the person (including physiological, psychological, motor, sensory/perceptual, cognitive, or spiritual), (2) features of the environment (including cultural, social support, social determinants, social capital, physical and natural environments, health education, public policy, and assistive technology), and (3) characteristics of the activity, task, or role. Moreover, occupational performance comprises complex interactions between the person and the environments in which they carry out activities, tasks and roles that are meaningful or required of them. Occupational performance is determined not only by the nature of the activity, task or role to be performed, but also by the characteristics of the person or client (depicted as intrinsic factors) and the environment (depicted as extrinsic factors). Performance and participation always occur in context, and ultimately determine well-being and quality of life. It should be noted that for a given situation or context, the applicability or importance of given intrinsic and extrinsic factors will vary. The interaction between the person and environmental components can therefore influence occupational performance positively or negatively. According to Baum and Christiansen (2005), when there is a person–environment fit in supporting the valued occupation, success in occupational performance eventually leads to participation and well-being.

The PEOP model is client-centred, that is, the client must actively set goals and participate in determining a plan that promotes occupational performance. The model can be applied to a variety of settings, focusing first on the situation of clients. The model also allows practitioners to organise current knowledge of the intrinsic and extrinsic factors to tailor their interventions to best suit the needs of the client.

Intrinsic factors in the PEOP model central to occupational performance are the following:

• Physiological, including strength, endurance, flexibility, inactivity, stress, sleep, nutrition and health.

• Cognitive, including organisation, reasoning, attention, awareness, executive function and memory, all necessary for task performance.

- Neurobehavioural, including somatosensory, olfactory, gustatory, visual, auditory, proprioceptive and tactile, as well as motor control, motor planning (praxis) and postural control.
- Psychological and emotional, including emotional state (affect), self-concept, self-esteem and sense of identity, self-efficacy and theory of mind (social awareness).
- Spiritual, which brings meaning and purpose to occupational engagement.

Extrinsic factors in the PEOP model that are central to occupational performance are the following:

- Social support, practical or instrumental support and informational support.
- Societal, including interpersonal relationships (groups), social and economic systems and their receptivity (policies and practices) to supporting participation, laws.
- Cultural, including values, beliefs, customs, use of time.
- The built environment, including physical properties, tools, assistive technology, design and the natural environment, covering geography, terrain, climate and air quality.

The PEOP model uses a systems perspective, recognising that the interaction of the person, environment and occupational performance elements is dynamic and reciprocal, and that the client must be central to the care-planning or intervention process. Only the client (whether person, family, organisation or community) can determine what outcomes are most important and necessary. Furthermore, this model values collaboration with the client, with important others within the client’s social circle, and with other professionals concerned about the client’s well-being, and works to achieve a match between the client’s goals and the goals of occupational therapy intervention. Finally, the intended outcomes of the intervention must be related to well-being and quality of life (Baum & Christiansen, 2005).

Figure 6 is a graphic representation of the PEOP interaction that emerged in the findings of this study. In green are all the facilitators of the ICIP that contributed positively to programme outcomes, while the barriers of the ICIP that negatively impacted programme outcomes are in red. The arrows represent the fluid and constant interaction between the person, environment, occupational engagement, and occupational performance.

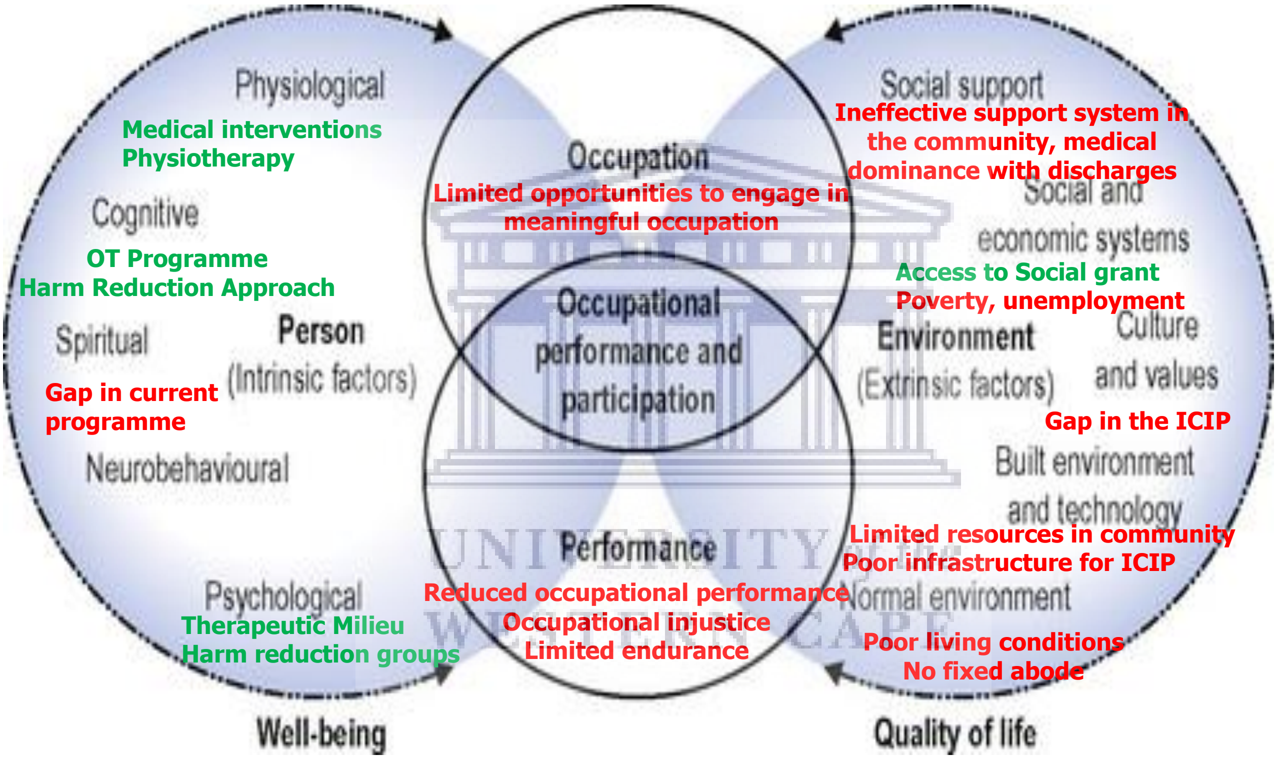


Figure 6: Graphic representation of the PEOP interaction in relation to the findings of this study

The findings of this study revealed that although the ICIP addresses intrinsic factors of the clients to improve their wellness, there is an insufficient focus on the extrinsic factors that are important to prepare clients for successful re-entry into their communities. For example, physiological factors were addressed in the ICIP through medical care, physiotherapy interventions to improve endurance and strength, and having clients' basic health and nutritional needs met while in hospital. Cognitive factors were addressed in the OT programme, where the task-centred activities would have addressed issues such as organisation, reasoning, attention, and awareness. Psychological and emotional factors were addressed in the therapeutic milieu at the hospital. Harm-reduction groups also addressed psychological and emotional factors by addressing clients' self-concept, self-esteem and sense of identity, and self-efficacy. Spiritual factors were highlighted as a need by participants; although the ICIP didn't address this need directly, the therapeutic milieu at the hospital allowed the clients to explore their own spirituality independently which was beneficial to their ability to cope with being hospitalised. Neurobehavioural factors were not applicable in this study.

In terms of the extrinsic factors, the findings revealed a disparity in the hospital environment when compared with the community environment. For instance, with regard to social support, the hospital environment provided a support system (orientation groups, therapeutic milieu, therapeutic relationships, relationships with peers) to the clients that they found invaluable. The participants in this study, both staff and clients, expressed the value of improved interactive relationships with one another. In addition, participants valued the support they received in terms of informational support through the attendance of OT group sessions. In contrast, the findings exposed a lack of effective support to DR-TB clients in their communities within the current health system.

In terms of societal factors, the findings revealed positive experiences in terms of interpersonal relationships in the hospital environment; however participants felt stigmatised, isolated and lonely in the community. In addition, some interpersonal relationships in the community were potentially destructive as they promoted high-risk behaviour which was not beneficial to the participants. In terms of social and economic systems, participants valued the support they received in acquiring social grants; however poverty, unemployment, and physical inability to work hampered effective participation in their environment. Furthermore, poor living conditions and proximity to healthcare facilities were also highlighted in the findings of the study as barriers to positive programme outcomes. Cultural factors, including values, beliefs, and customs, were not directly addressed in the ICIP; however these factors are imperative to consider when facilitating productive and constructive use of time.

In highlighting the interaction between person–environment and occupation, the person–occupation transaction showed that even though participants expressed the need for occupational engagement, physiological factors such as limited endurance hindered their ability to engage in certain meaningful occupations such as work or physical activity. Psychological factors related to coping with their diagnosis and side effects of their medication as well as coping with hospitalisation affected their motivation to engage in meaningful occupation, spiritually.

The person–environment interaction showed that despite the ICIP addressing cognitive and psychological factors in hospital, clients' natural environment in the community as well as societal factors affected their ability to implement the skills they were taught when participating in the ICIP. The occupation–environment interaction showed that while the ICIP initially aimed at adapting the environment and stimulating more opportunities for meaningful occupational engagement through the occupational enrichment programme, the occupational enrichment programme nonetheless needed to be adapted and facilitated in the ward owing to the closing down of the separate therapeutic venue (Ward 7), resulting in limited opportunities for occupational engagement. The community setting also posed several barriers to occupational engagement, such as the lack of resources, lack of support, poverty, unemployment, and poor social support due to stigmatisation of MDR-TB. These interactions are significant as they highlight the reduced role performance experienced by participants in this study owing to their experiences of occupational injustices resulting from a combination of intrinsic and extrinsic factors.

8.5 CONCLUSION

I began this discussion by describing the programme outcomes of the ICIP. I considered how social determinants such as stigma, poverty, substance use and unemployment impact treatment outcomes. I also argued that the current discharge process at the hospital does not facilitate effective transition between the hospital and the community, as participants were unable to reintegrate into their communities successfully once discharged from hospital. Occupational injustices in the community were also highlighted, which strengthened my argument that community interventions for MDR-TB need to include PSR and CBR strategies if healthcare providers want to support people with MDR-TB optimally. In the next part of the discussion I drew correlations between participants' demographics and programme outcomes, which once again drew attention to the link between the social determinants of health and treatment outcomes of people with MDR-TB.

In the last part of the discussion, I explained the findings of the study in relation to the PEOP model. I highlighted how the ICIP was appropriate in addressing the intrinsic factors relating to optimal occupational performance; however, was unable to address all of the extrinsic or environmental factors associated with facilitating positive programme outcomes.

CHAPTER 9

CONCLUSION AND RECOMMENDATIONS

9.1 INTRODUCTION

In this chapter of the thesis, I provide a summary of the study as well as the main conclusions drawn from the findings. Furthermore, I formulate recommendations for the revision of the ICIP, as well as for community-based interventions and the overall health system. Finally, I provide considerations for future research and discuss the limitations of the study.

9.2 SUMMARY OF THE STUDY

This study set out to evaluate the ICIP at DP Marais Hospital. The rationale for the study as set out in Chapter 1 (Section 1.2) emphasised that a client-centred approach is imperative in the treatment of MDR-TB, where the hospital programme should move away from a purely biomedical approach and adopt a more integrated approach. This would imply that clients' thoughts, feelings and needs are considered and that decisions are made in collaboration with clients. This understanding was crucial to the development of the ICIP for clients hospitalised for MDR-TB. Furthermore, the ICIP (see Chapter 2) was described as encompassing four phases that should commence as soon as the client is admitted to hospital and continued until he she is discharged. ***Phase 1*** is the assessment phase which takes place within the first two weeks of admission to the hospital. It is required for each team member to do an assessment based on their scope of practice. ***Phase 2*** is the orientation and preparation phase where each team member orientates the client to specific services available within their scope of practice. The duration of Phase 2 is 2 weeks to allow the client to adjust to the hospital environment. ***Phase 3*** is the intervention phase. Compulsory interventions such as taking medication and interventions specific to the biological progression of the disease and physical well-being of the client, for example, chest physiotherapy, mobilisation and endurance training are performed. All psychosocial interventions aimed at deinstitutionalisation are provided to clients on a voluntary bases. The duration of Phase 3 depends on the period for which the client is hospitalised. ***Phase 4*** is the final phase of hospitalisation and is geared towards preparing the client for discharge with the aim of reintegration into the community by making appropriate referrals to ensure overall wellness of clients who re-enter their communities.

With regard to the evaluation framework adopted in this study, I utilised the six steps in the evaluation process proposed by the CDC Framework for Program Evaluation in Public Health (CDC, 1999): engage with stakeholders, describe the programme, focus the evaluation design in terms of purpose, users, uses, questions, methods, and feasibility, gather credible evidence, justify conclusions, and ensure use by sharing lessons learned. In this study the CDC framework helped to organise the overall programme evaluation and guide the identification of appropriate data-collection and analysis methods as described below.

Step 1 Describe the programme. The ICIP was developed with the staff at the hospital, taking into consideration all resources available and how they could be used more effectively to provide a comprehensive service for the MDR-TB clients at DP Marais Hospital through improved interdisciplinary collaboration. *The process outcomes* of the ICIP were: to improve the team members' insight into client-centred interventions based on psychosocial rehabilitation (PSR) principles; to improve the quality of care at the hospital by integrating services based on existing skills within the multidisciplinary team; to improve inter-disciplinary collaboration; to streamline the referral of clients with non-medical issues within the hospital through strengthening communication and relationships among team members; to improve continuity of care upon discharge by strengthening communication and relationships across all levels of care; and to improve record keeping and access to medical records, and efficient transfer of medical information between team members. *The programme outcomes* of the ICIP were: to modify the clients' health-directed behaviour to the extent that there is an improvement in treatment adherence and a reduction in high-risk behaviour; to improve their motivation to the extent that they experience positive and active engagement in life; to develop their insight through psychoeducation, thereby improving self-management and navigation through the health system; and to ensure successful reintegration into the community and improve emotional well-being through the facilitation of occupational adaptation.

Step 2 Focus the evaluation design in terms of purpose, users, uses, questions, methods, and feasibility. The purpose of the evaluation design in this study was to gain greater insight into the barriers to and facilitators of effectively implementing the ICIP and to gain an understanding to what extent the programme outcomes of the ICIP were achieved. The aim of the study was thus to evaluate the process outcomes and programme outcomes of the ICIP at a hospital in the Western Cape. The objectives of the study were to: (i) explore the participants' perceptions and experiences regarding barriers to and facilitators of the ICIP; (ii) explore the participants' perceptions and experiences of how the outcomes of the ICIP were addressed; (iii) explore the perceptions and experiences of service providers regarding the barriers and facilitators related to the implementation of the ICIP programme; (iv) determine the programme outcomes of clients who have participated in the ICIP; (v) determine whether a relationship exists between the participants` demographic characteristics and individual programme outcomes; and (vi) develop strategies to enhance the implementation of the ICIP programme.

Step 3 Engage stakeholders (those persons involved in or affected by the programme and primary users of the programme). In this study, the stakeholders included both hospital staff who implemented the ICIP (service providers) and clients who participated in the ICIP. I engaged with staff and clients separately so that each group felt comfortable in expressing their viewpoints openly. Participants were selected according to specific selection criteria as described in Chapter 4.

Step 4 Gather credible evidence (consider indicators and sources of evidence/methods of data collection, issues of quality and quantity, and logistics). The study employed a convergent parallel mixed-methods design using both qualitative and quantitative research methodology. Credible evidence was gathered using questionnaires (quantitative) as well as focus groups, interviews and document reviews (qualitative).

Step 5. Justify conclusions according to standards. (Conduct data analysis/synthesis, interpret data, and make judgements.) Data were then analysed using thematic content analysis for qualitative data and SPSS for quantitative data. Key aspects from both the quantitative and qualitative findings of the study were discussed within the context of the literature review before conclusions were drawn.

Step 6. Ensure use and share lessons learned. (Provide feedback and draft recommendations. Support stakeholder preparation for receiving and utilising results. Disseminate findings and follow-up with stakeholders (CDC, 1999).)

Lastly, recommendations were formulated with the intention of distributing the information to the relevant stakeholders.

9.3 MAIN CONCLUSIONS

The findings of the study presented in Chapter 5 and discussed in Chapter 6 underscored several barriers to and facilitators of the ICIP. The findings highlighted the perspectives of service providers as well as service users. In terms of the implementation of the ICIP, medical dominance emerged as the main constraint to the implementation of the ICIP and the consequent ripple effect it had on various aspects of the programme. For example, one of the most significant findings was the lack of continuity of care for clients who were discharged from hospital as a direct result of medical dominance during discharge planning. The findings of this study revealed that weak discharge planning and a lack of emphasis on community integration, partnered with challenges experienced by participants to put skills into practice in their communities owing to the lack of effective support at community level, emerged as matters that need to be addressed in future interventions geared towards people with MDR-TB. The lack of buy-in from management was another significant finding in terms of barriers to effective implementation of the ICIP. While the ICIP was initially aimed at adapting to the environment and stimulating increased opportunities for meaningful occupational engagement through the occupational enrichment programme, the closing down of an exclusive therapeutic venue (Ward 7) meant that the occupational enrichment programme needed to be adapted and facilitated in the clients' ward, resulting in limited opportunities for occupational engagement.

The findings, however, also highlighted how improved interprofessional relationships, structure and commitment from team members to continue with the ICIP, despite high turnover and perceived lack of commitment of certain team members, facilitated the implementation of the ICIP.

The findings of the study further provided insight into how the programme outcomes were addressed through the various interventions provided in the ICIP. For instance, the study found that physiotherapy interventions addressed health-directed activity in the hospital, while the therapeutic milieu facilitated social integration and support as well as emotional well-being for the participants. Furthermore, the OT programme emerged as a key role player in addressing multiple treatment outcomes (social integration and support, self-monitoring and insight, skills acquisition and techniques, emotional well-being) for the participants in this study. Interventions geared towards addressing spirituality were highlighted as a need by participants. Although the ICIP didn't directly address this need, the therapeutic milieu at the hospital allowed the clients to explore their own spirituality independently, which was beneficial to the participants' ability to cope with being hospitalised.

When further reflecting on the perspectives of service users, the findings of this study identified how the therapeutic milieu in the ward helped participants cope with being in hospital, as they felt supported by staff. This research has also shown how the relationships participants formed with their peers gave them a sense of belonging and added meaning and purpose to their time in hospital. Service users also identified several barriers to ICIP implementation pertaining to occupational injustice as experienced by the participants owing to the lack of opportunities for meaningful occupational engagement as well as the lack of freedom on the hospital grounds. The findings of this study revealed that although the ICIP addressed intrinsic needs of the clients to improve their wellness, there was an insufficient focus on the extrinsic factors that are important to prepare clients for successful re-entry into their communities.

In Chapter 7 and Chapter 8 of this study, the findings that revealed how social determinants such as stigma, poverty, substance use and unemployment impacted treatment and programme outcomes were presented and discussed. In addition, the findings also further highlighted shortcomings in the current discharge process at the hospital which negatively influences the effective facilitation of transitioning between the hospital and the community. This was illustrated in the participants' inability to reintegrate successfully into their communities once discharged from hospital. Occupational injustices in the community were also highlighted, and suggests that community interventions for MDR-TB need to include PSR and CBR strategies if healthcare providers are to support people with MDR-TB optimally and ultimately address health and wellness. The findings of this study also drew correlations between participants' demographics and programme outcomes, which once again drew attention to the link between the social determinants of health and programme outcomes of people with MDR-TB. The results of this study suggest that demographic factors impact on quality of life of MDR-TB clients who have undergone hospitalisation. The findings also revealed a disparity in the hospital environment when compared with the community environment. For instance, with regard to social support, the hospital environment provided a support system (orientation groups, therapeutic milieu, therapeutic relationships, relationships with peers) to the clients that they found invaluable. The participants in this study, both staff and clients, emphasised the value of improved interactive relationships with one another. In addition, participants valued the support they received in terms of informational support through their attendance at OT group sessions. In contrast, the findings exposed a lack of effective support to DR-TB clients in their communities within the current health system. In addition, the findings revealed positive experiences in terms of interpersonal relationships in the hospital environment; however, participants felt stigmatised, isolated and lonely in the community. A significant finding was the view of participants that some interpersonal relationships in the community were potentially destructive as they promoted high-risk behaviour which was not beneficial to the participants. In terms of social and economic systems, participants valued the support they received in respect of acquiring social grants; however, poverty, unemployment, and physical inability to work hampered effective participation in their environment. Furthermore, poor living conditions and proximity to healthcare facilities were also highlighted in the findings of the study as barriers to positive programme outcomes.

The findings of this study showed that even though participants expressed the need for occupational engagement, physiological factors such as limited endurance hindered their ability to engage in certain meaningful occupations such as work or physical activity. Moreover, psychological factors related to coping with their diagnosis and side effects of their medication, as well as coping with hospitalisation, affected their motivation to engage in meaningful occupation including spirituality. The community setting also posed several barriers to occupational engagement, such as lack of resources, lack of support, poverty, unemployment, and poor social support due to stigmatisation of MDR-TB. These interactions highlight the reduced role performance experienced by participants in this study because of their experiences of occupational injustices resulting from a combination of intrinsic and extrinsic factors. The findings of this study suggest that a paradigm shift needs to take place that moves away from biomedically driven policies and which requires decision makers and leaders in the health sector to buy into the need for client-centred, integrated policies that address clients’ behaviour and lifestyle as well as their medical needs. Furthermore, there needs to be a shift in organisational culture where the necessary links are made with other government departments as well as other sectors, including NGOs and CBOs, when clients are discharged from hospital as opposed to solely linking clients to the nearest clinics for medical care.

Based on the findings, the significance of this study lies in its contribution to the development of comprehensive, integrated, multisectoral policies for people with MDR-TB, and interdisciplinary intervention programmes to address the complexities of treatment adherence and treatment outcomes in clients who undergo long-term treatment for MDR-TB at both facility and community level.

9.4. RECOMMENDATIONS

It is recommended that an Innovative Care Framework be adopted for clients with MDR-TB that is adapted from the ICCC framework. Figure 7 is a graphic representation of the Innovative Care Framework for adults with MDR-TB. The diagram overleaf clearly shows how the individual recommendations made in this study can be integrated into this framework across the macro, meso and micro levels. The Innovative Care Framework would thus require buy-in from leaders and decision makers for the development of integrated policies as well as the strengthening of intersectoral partnerships. It would also entail the rollout of the revised ICIP to all TB hospitals as well as the upskilling of existing healthcare teams. Community-level interventions would also include a community-based model that will feed into and enhance the final phase of the ICIP and focus on interrelated components such as providing healthcare, building community, and building resilience.

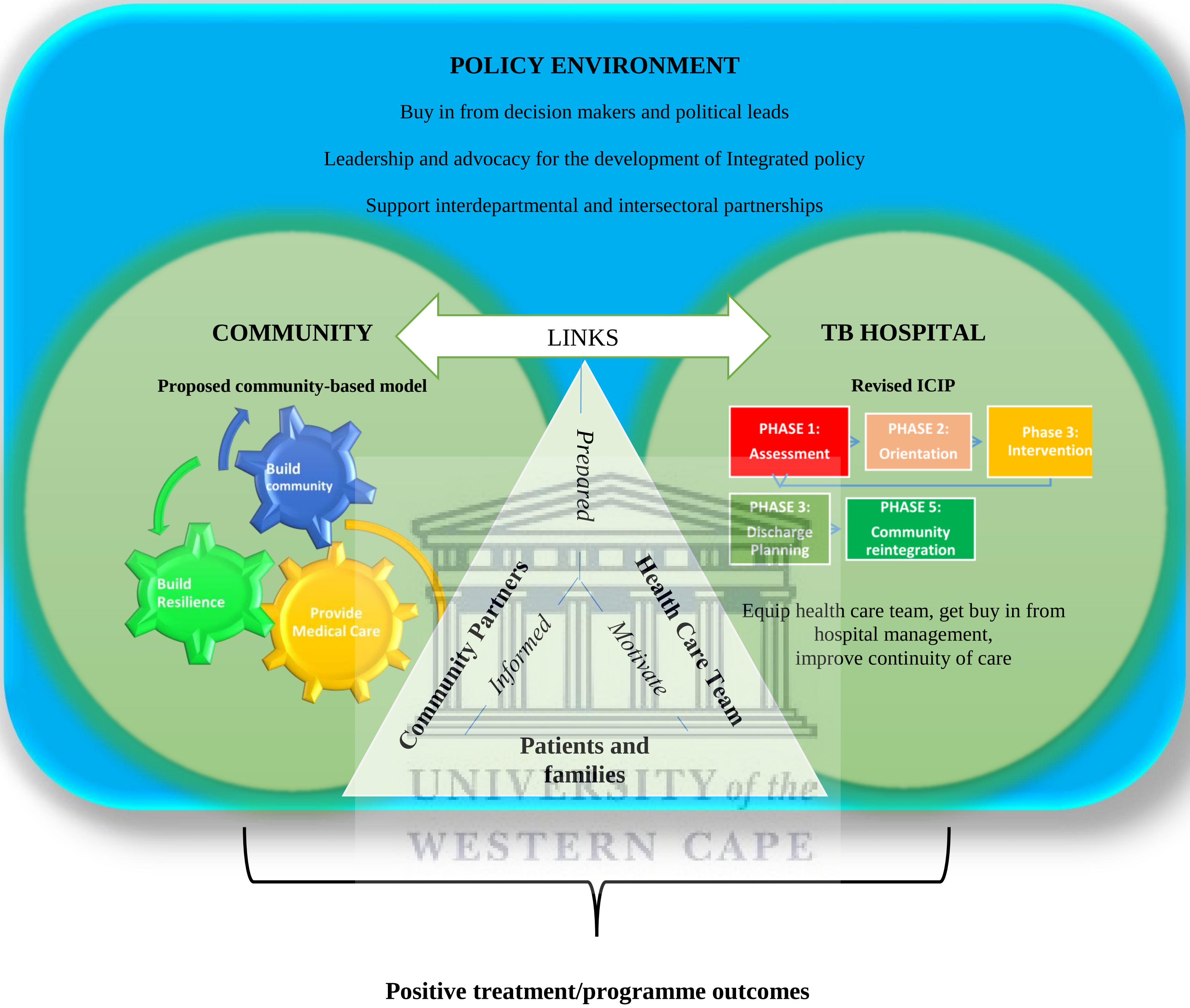


Figure 7: Innovative Care Framework for MDR-TB

Based on the findings of the study, the following recommendations are made in terms of client-level interactions, the healthcare organisation, the community, policy development, and research.

9.4.1 Macro level: Recommendations for policy development

Attention must be given to the support of paradigm shifts at policy level. In addition, policy makers and decision makers need to provide leadership and advocacy for the development of integrated policies that, in conjunction with medical treatment guidelines, emphasise prevention as well as support and strengthen inter-departmental and inter-sectoral partnerships. Examples of partnerships that could be facilitated are partnering with government departments such as the Department of Labour in terms of employment opportunities and skills development for adults with MDR-TB. Partnerships with community-based organisations and NPOs on how they can assist in addressing the psychosocial and occupational needs of people with MDR-TB are also vital. Sensitisation of policy makers and health authorities on the psychosocial needs of MDR-TB clients as well as the shortcomings in the current service is imperative for getting their buy-in, ensuring advocacy and building dialogue between leaders, decision makers, healthcare organisations and community resources. Moreover, all stakeholders should be included in the policy development process.

9.4.2 Meso level: Recommendations for TB hospitals

9.4.2.1 The hospital programme: Revised ICIP

The ICIP in essence focused on building integrated healthcare for MDR-TB clients. It is therefore recommended that Phase 1 to 4 remains the same with minor amendments, but that an addition be made in the form of ***Phase 5, which will focus specifically on strengthening community integration*** and linking clients with appropriate resources in their communities. It is further recommended that an appropriate venue within the hospital be allocated for the implementation of psychosocial interventions within the ICIP as this would help address occupational injustices associated with long-term hospitalisation. Figure 8 provides a diagrammatical representation of the revised ICIP which includes the additional fifth phase of the ICIP.

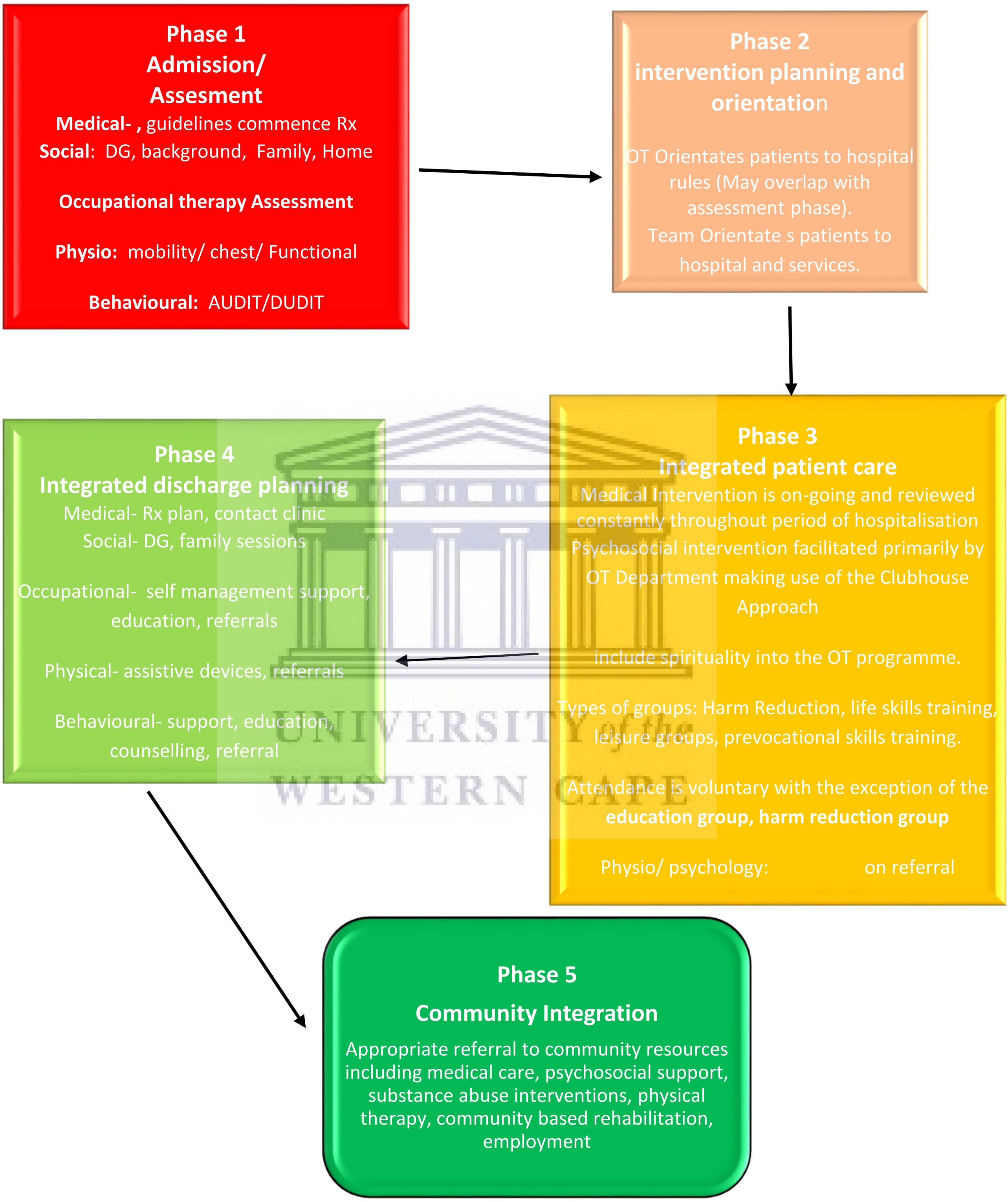


Figure 8: Revised ICIP

The phases of the revised ICIP are outlined below.

Phase 1 is the assessment phase which takes place within the first two weeks of admission to the hospital. It is required for each team member to do an assessment based on their scope of practice. The only change to Phase 1 is the use of the Alcohol/Drug use disorder identification test (AUDIT/DUDI)T instead of the ASSIST to screened for substance abuse.

Phase 2 is the orientation and preparation phase where each team member orientates the client to specific services available within their scope of practice. The duration of Phase 2 is two weeks, to allow the client to adjust to the hospital environment.

Phase 3 is the intervention phase. Compulsory interventions such as taking medication and interventions specific to the biological progression of the disease and physical well-being of the client, for example, chest physiotherapy, mobilisation and endurance training are performed. All psychosocial interventions aimed at deinstitutionalisation are provided to clients on a voluntary basis. The duration of Phase 3 depends on the period for which the client is hospitalised. It is recommended that Phase 3 include spirituality as part of the psychosocial intervention programme facilitated by the OT department.

Phase 4 is geared towards integrated discharge planning as well as preparing the client for reintegration into the community and reinforcing self-management skills.

Phase 5 encompasses appropriate referral to community resources, including medical care, psychosocial support, substance abuse interventions, physical therapy, community-based rehabilitation, and employment**.** This phase could also serve as an opportunity to conduct intermediate care in the form of step-up/step-down facilities to smooth the transition between the community and the healthcare facility.

Phases 1 and 2 would still require a more supportive hospital environment with a gradual increase in autonomy around decision making, depending on clinical and behavioural progress.

9.4.2.2 Multidisciplinary team

It is recommended that the team exercise their powerful and credible voices to advocate for the need for the ICIP more effectively. In doing so it would assist in ensuring buy-in from management to better support the ICIP. New and existing team members need to be better equipped to manage the holistic needs of their clients through upskilling in behavioural interventions. Healthcare providers also need to be upskilled in providing self-management support interventions for clients and families in hospital as well as providing them with access to self-management support in their communities. Furthermore, healthcare providers need to be provided with information and basic skills to help clients manage their behavioural concerns more effectively in their communities. It is also recommended that the healthcare organisation use healthcare personnel more effectively through encouraging task sharing, specifically with regard to psychosocial interventions. Further recommendations include addressing the role of medical dominance in the team and how it impacts client care. The team should also consider the benefits of interprofessional training as a means of reducing medical dominance

9.4.2.3 Occupational therapy programme

It is recommended that an appropriate venue be designated for the facilitation of the OT programme at the hospital so that clients are able to access the full benefits of a PSR programme within the hospital setting. The OT programme should include all aspects of occupation that are meaningful and purposeful to clients and that meet the needs, interests and skills of clients. Additionally, groups aimed at harm reduction, treatment adherence and preparation for community reintegration will be extremely beneficial to clients who participate in the programme. The OT programme needs to simulate ‘normal’ community living as far as possible and include aspects of spirituality as well as activities that foster a sense of belonging while in hospital. OT group sessions should thus include life skills, pre- vocational skills, psychosocial support groups, harm-reduction groups, socials, and events. Moreover, group sessions should be voluntary, thereby allowing the clients to have more autonomy over their occupational engagement.

9.4.3 Meso level: Recommendations for community-based services

It is recommended that a Community-Based Model be developed to support clients with MDR-TB and families, in their communities, to reach their full potential, thereby improving their quality of life and overall health and well-being. The proposed model should offer an integrated approach geared towards providing healthcare, building resilience, and building the community. This approach would rely on a paradigm shift towards integrated policies across all levels of care which would require buy-in from leaders and decision makers across various government department and sectors. Interventions offered in the community-based model should centre on providing care and support for clients and families in their communities.

Figure 9 provides a diagrammatic representation of the recommendations for a community-based model that offers an integrated approach to managing MDR-TB clients in their communities. The proposed model represents an interlocking of the three components mentioned above, namely, providing healthcare, building community, and building resilience, and captures essential elements of community-based services needed to expand Phase 5 of the ICIP.

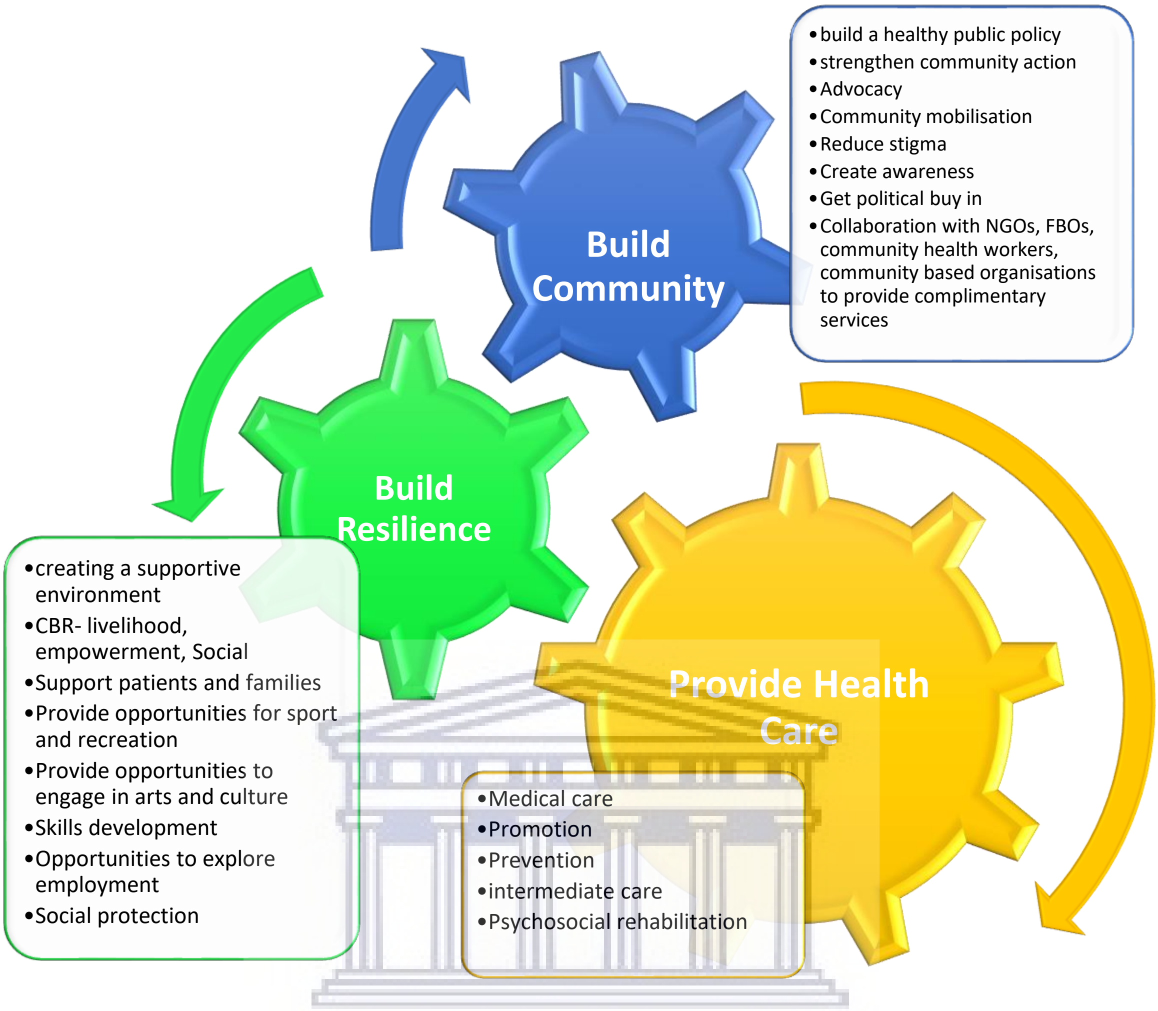


Figure 9: Proposed Community-Based Model

9.4.3.1 Providing healthcare

It is recommended that integrated policies encourage healthcare providers at all levels of the health system to consider more than just the clinical or biomedical needs of people with MDR-TB. Also, it is recommended that using the health promotion action areas of building a healthy public policy, policy makers need to work towards policies and legislation that focus on greater equity in society in order to facilitate healthier environments. Secondly, in creating supportive environments, the health system would need to include opportunities that generate better living and employment conditions that are safe and stimulating, and meet the needs of people with

MDR-TB. Also, in strengthening community action, it would encourage the health system to work together with communities to set priorities specific to their needs. This can be achieved by encouraging healthcare professionals to acknowledge that they have a role to play in mobilising communities to promote health and well-being as well as advocating for the rights of people with MDR-TB within their context.

It is further recommended that additional psychosocial support be offered at community level to facilitate better reintegration into the community, such as a step-up/step-down approach. Such an approach could be adopted where clients who are clinically well enough to be discharged from hospital but still require self-management support in the community, first enter an intermediate care facility. The intermediate care facility would offer a supportive environment that includes psychosocial interventions that promote adherence, self-management and health-directed activity in a setting that is closer to their homes. Additionally, it would allow more freedom of movement within the community as opposed to the hospital environment. Alternatively, strengthening of existing community-based organisations to support the psychosocial needs of MDR-TB clients as outclients should be made a priority as well as strengthening referral pathways to such organisations.

Moreover, in addition to providing biomedical healthcare and focusing on prevention and promotion, it is recommended that a psychosocial rehabilitation programme be developed at community level. Issues that could be addressed should include adult literacy and vocational skills training, as well as support groups that focus on spirituality, redefining roles that will support successful community reintegration and improving or maintaining daily living skills. In addition, it is recommended that a Clubhouse model of psychosocial rehabilitation for support groups be adopted. This will allow group members to reconnect with friends, family, work, employment, and education. The focus is on a work-ordered day as well as evening, weekend and holiday programmes which were all needs expressed by the participants in this study. Moreover, programme members are provided with a supportive environment where they are accepted and there is commitment to helping them meet their full potential; they have a place where they can belong as adults who have something to contribute as opposed to adopting the role of a client; they are encouraged to work at the clubhouse or to explore employment opportunities in the community; and they are allowed to choose the activities they engage in based on their interests and skills. Lastly, the Clubhouse model provides peer support to its members and encourages a sense of social inclusion, belonging, interdependence and a shared sense of accomplishment through engaging in activities together.

9.4.3.1 Building community

It is recommended that efforts be made to enhance collaboration with NGOs, FBOs, community health workers, and community-based organisations to provide complementary services within the health system, raise awareness regarding MDR-TB and in doing so reduce the stigma associated with having MDR-TB, as well as advocate for the rights of people with MDR-TB to be included as active members of society.

9.4.3.2 Building resilience

It is recommended that in conjunction with the Clubhouse model, CBR be used as a tool to build resilience in MDR-TB clients in their communities. The findings of this study showed that the livelihood, social and empowerment elements would also need to be addressed in conjunction with health and education to ensure reintegration into the community as well as successful programme outcomes. It is therefore recommended that in terms of livelihood, interventions should include facilitation of vocational skills training in the community, collaboration with organisations that could assist MDR-TB clients to seek appropriate employment, and also advocate for policy development to include the needs of people with MDR-TB. It is further recommended that interventions related to the social component could focus on counselling for families on how to support family members with MDR-TB, both physically and emotionally, and encourage the inclusion of people with MDR-TB in cultural, sporting and recreational activities in their communities. Additionally, empowerment of people with MDR-TB would include advocating for their rights to be included in their communities, reducing stigma related to MDR-TB and also linking with the relevant stakeholders in the community that will be able to support people with MDR-TB in terms of advocacy activities.

9.4.4 Micro level: Recommendations for client-level interaction

It is recommended that at the client interaction level, healthcare personnel be used more effectively in implementing client and family-centred care. Additionally, healthcare personnel need to be upskilled in client-centred behavioural interventions at PHC and community level. It is envisaged if the recommendations are implemented at macro, meso and micro level, that it would result in informed, prepared and motivated clients, families, communities and healthcare teams as well as positive programme and treatment outcomes for MDR-TB clients.

9.4.5 Recommendations for future research

In consideration of future research, it is recommended that a participatory action research study be conducted to develop, pilot and evaluate community-based interventions for MDR-TB clients. It is further recommended that existing policies be reviewed to determine the gaps in current policies and make recommendations for improved integrated policies for MDR-TB. Finally, it is recommended that action research be conducted to develop, pilot and evaluate the efficacy of intermediate care (step-up/step-down facilities) in supporting self-management for people with MDR-TB.

9.5 LIMITATIONS OF THE STUDY

The ICIP was implemented at only one TB hospital in the Western Cape; therefore the findings of this study are specific to these participants in this setting and thus cannot be generalised to other hospital settings.

The questionnaires were intended to be administered to clients that had been discharged from hospital, were residing in their communities, and attending their local clinic; however, four clients had died, 23 were lost to follow up, two clients were in prison, and 12 had been discharged from the clinic as they had completed their treatment. Thus only 35 questionnaires were administered at the clinic. As a result, I administered the remainder of the questionnaires (57) to clients who were still inpatients at DP Marais Hospital but had participated in the ICIP and had been home on a weekend pass. They therefore would have experienced a form of community reintegration during their hospitalisation.

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APPENDICES

Appendix 1: Revised Integrated Assessment Form

Revised (2014) Integrated Assessment Form

NAME OF CLIENT:	
DATE OF BIRTH/ID:	
FOLDER NUMBER:	
DATE OF ADMISSION:	DATE OF PLANNING:

Medical Officer

1.Correct TB diagnosis
2.Date started treatment/Correct regimen
3.Sputum booked
4. HIV status
5.CD4 Count
6.Co-morbidities
Recommendations:

HIV Counsellors

Status	
Insight	
Recommendations:	
1.HIV education and ongoing counselling	
2.Referrals, support group, options and adherence	

Occupational Therapist

1. Assessment of Occupational Functioning	
Level of Participation	
Comments/Recommendations	

Physiotherapist

Mobility: Dependant/Independent	
Function	
Assistive Devices	
Wheelchair mobility	
Chest assessment	
Comments/Recommendations:	

Nurse Practitioner

Observations **Function** ADLs Comments/Recommendations

Dietician

BMI:	Special needs e.g. Diabetic

Psychologist

Psychological assessment completed: **Comments/Recommendations**:	

Social History **Triage Sheet**	**Name**			
Admission date		Progress and ongoing intervention		
		Date	Date	Date
Address				
Treatment support				
Marital status/relationship				
Employed				
Substance abuse				
Eligibility for social support (grant/OAP/Child support)				
ID Book status – has ID Never had ID Lost ID, knows ID number Lost ID and no ID number				
Other				

Appendix 2: Revised Individual Support Plan

Individual Support Plan

Name of client:
Admission date:
Date of assessment:
Highest grade passed:
Work experience:

PATIENT STICKER

Client Goals	Intervention needed	In process	Client not ready		
MEDICAL					
PHYSIO					
OT					
SUBSTANCE ABUSE					
SOCIAL WORK					

Appendix 3: Interview Guide

1. What was your experience like with the staff at the hospital?
2. How well did the staff explain procedures and instructions to you that you could understand?
3. Were you involved in your own treatment and rehabilitation planning?
4. In what way did the support offered at the hospital prepare you for life after discharge?
5. Do you believe that the programme offered at the hospital provided you with the skills and support to successfully make positive changes in your life back home? Explain why?
6. Did the programme content help you understand the importance of treatment adherence and how your behaviour impacts on treatment outcomes?
7. What are your recommendations to improve the current programme at the hospital?

Appendix 4: Focus Group Guide

1. What is your understanding of Psychosocial Rehabilitation (PSR) and do you feel that this knowledge is sufficient to implement the ICIP effectively?
2. What was your experience of the implementation of the ICIP?
3. What were some of the facilitators of the implementation of the ICIP?
4. What were some of the barriers to the implementation of the ICIP?
5. Do you think the ICIP can be rolled out to other TB hospitals?
6. What are your recommendations for the roll out of the ICIP?

Appendix 5: Client Demographics, and Information Sheet

Personal Information	
Name:	
Gender:	
Marital status:	
DOB:	
Age:	
Home address:	
Contact number:	
Home language:	
Employment Information	
Employer:	
Occupation:	
Date last worked:	

<table>
<tr><td colspan="2"><i>Social Circumstances</i></td></tr>
<tr><td>Spouse or Partner:</td><td></td></tr>
<tr><td>Children/Dependants:</td><td>
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<tr><td>🚹 / 🚺</td><td>Age</td><td></td><td>Work</td></tr>
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<tr><td>Mother:</td><td></td></tr>
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Siblings:	

🚹 / 🚺	Age		Work

Living Arrangements

Type of Home:	☐ RDP	☐ Suburban
	☐ Informal	☐ Complex/Flat

Medical Information

Medical condition

Hospitalisation:	
Injuries sustained / Diagnoses:	
Treatment / Surgery:	
Rehabilitation: (inclient / outclient)	

Current Treatment

Medication	**Indication**	**Side Effects**

Response to treatment:	
Rehabilitation measures:	

Assistive Devices

Education & Training			
Level of education:			
Training:			
Previous Work Experience			
Period	***Employer***	***Position***	

Appendix 6: heiQ^{TM} Questionnaire

ID No.

heiQ
health education impact questionnaire

Version 3.0

FOLLOWUP

Instructions

Thank you for taking the time to participate in this survey.

There are no right or wrong answers but please make sure that you answer every question the best you can.

If you have any questions about the survey, or you would like to check if you understand what to do, please contact your course leader.

		Date	Initials
OFFICE USE ONLY	Received	________	____
	Entered	________	____

Further information: heiq@deakin.edu.au

Updated June 2015

Page 1

Instructions

Please indicate how strongly you disagree or agree with the following statements by checking the response that best describes you now.

Example

Ms Jane Citizen has answered these questions in the following way:

Check a box by crossing it:

☐ ☐ ☐ ☒

Questions:

		Right now			
		Strongly disagree	Disagree	Agree	Strongly agree
1	I am doing some of my hobbies	☐	☐	☒	☐
2	I have a plan to do physical activity	☐	☒	☐	☐

For Question 1, Jane's answer shows that right now she agrees that she has been doing some of her hobbies lately.

For Question 2, Jane disagrees with the statement that right now she has a plan to do physical activity.

Please answer the following questions:

Check a box by crossing it:

☐ ☐ ☐ ☒

		Right now			
		Strongly disagree	Disagree	Agree	Strongly agree
1	On most days of the week, I do at least one activity to improve my health (e.g., walking, relaxation, exercise)	☐	☐	☐	☐
2	Most days I am doing some of the things I really enjoy	☐	☐	☐	☐
3	As well as seeing my doctor, I regularly monitor changes in my health	☐	☐	☐	☐
4	I often worry about my health	☐	☐	☐	☐
5	I try to make the most of my life	☐	☐	☐	☐
6	I know what things can trigger my health problems and make them worse	☐	☐	☐	☐
7	My health problems make me very dissatisfied with my life	☐	☐	☐	☐
8	I am doing interesting things in my life	☐	☐	☐	☐

Check a box by crossing it:

☐ ☐ ☐ ☒

Right nov

		Strongly disagree	Disagree	Agree	Strongly agre
9	I do at least one type of physical activity every day for at least 30 minutes (e.g., walking, gardening, housework, golf, bowls, dancing, Tai Chi, swimming)	☐	☐	☐	☐
10	I have plans to do enjoyable things for myself during the next few days	☐	☐	☐	☐
11	I have a very good understanding of when and why I am supposed to take my medication	☐	☐	☐	☐
12	I often feel angry when I think about my health	☐	☐	☐	☐
13	On most days of the week, I set aside time for healthy activities (e.g., walking, relaxation, exercise)	☐	☐	☐	☐
14	I feel hopeless because of my health problems	☐	☐	☐	☐
15	I feel like I am actively involved in life	☐	☐	☐	☐
16	When I have health problems, I have a clear understanding of what I need to do to control them	☐	☐	☐	☐
17	I carefully watch my health and do what is necessary to keep as healthy as possible	☐	☐	☐	☐
18	I get upset when I think about my health	☐	☐	☐	☐
19	I walk for exercise, for at least 15 minutes per day, most days of the week	☐	☐	☐	☐
20	With my health in mind, I have realistic expectations of what I can and cannot do	☐	☐	☐	☐
21	If I think about my health, I get depressed	☐	☐	☐	☐
22	If I need help, I have plenty of people I can rely on	☐	☐	☐	☐
23	I have effective ways to prevent my symptoms (e.g., discomfort, pain and stress) from limiting what I can do in my life	☐	☐	☐	☐
24	I have very positive relationships with my healthcare professionals	☐	☐	☐	☐
25	I have a very good idea of how to manage my health problems	☐	☐	☐	☐
26	When I have symptoms, I have skills that help me cope	☐	☐	☐	☐
27	I try not to let my health problems stop me from enjoying life	☐	☐	☐	☐

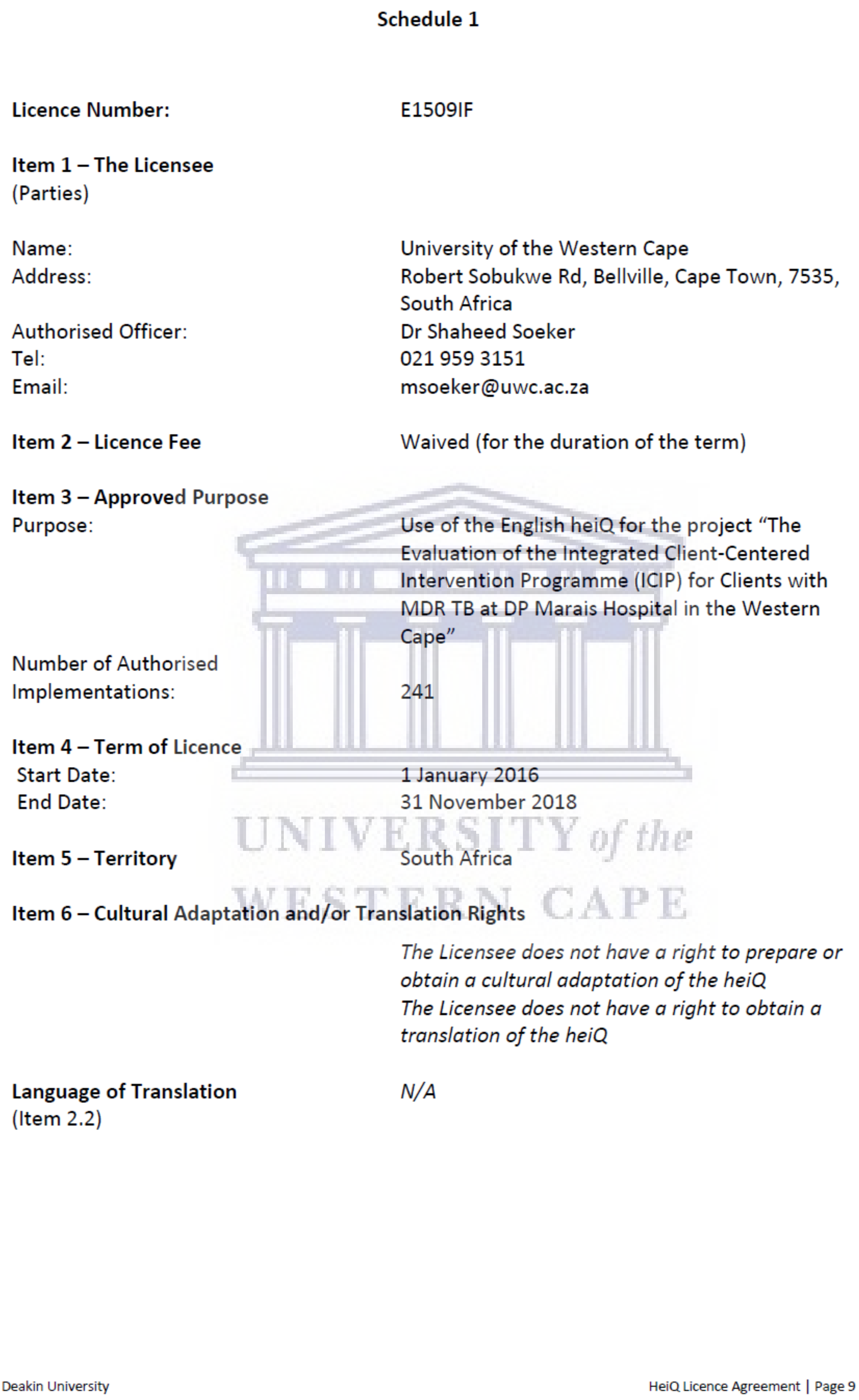
Right now

Check a box by crossing it:

☐ ☐ ☐ ☒

		Strongly disagree	Disagree	Agree	Strongly agree
28	I have enough friends who help me cope with my health problems	☐	☐	☐	☐
29	I communicate very confidently with my doctor about my healthcare needs	☐	☐	☐	☐
30	I have a good understanding of equipment that could make my life easier	☐	☐	☐	☐
31	When I feel ill, my family and carers really understand what I am going through	☐	☐	☐	☐
32	I confidently give healthcare professionals the information they need to help me	☐	☐	☐	☐
33	I get my needs met from available healthcare resources (e.g., doctors, hospitals and community services)	☐	☐	☐	☐
34	My health problems do not ruin my life	☐	☐	☐	☐
35	Overall, I feel well looked after by friends or family	☐	☐	☐	☐
36	I feel I have a very good life even when I have health problems	☐	☐	☐	☐
37	I get enough chances to talk about my health problems with people who understand me	☐	☐	☐	☐
38	I work in a team with my doctors and other healthcare professionals	☐	☐	☐	☐
39	I do not let my health problems control my life	☐	☐	☐	☐
40	If others can cope with problems like mine, I can too	☐	☐	☐	☐

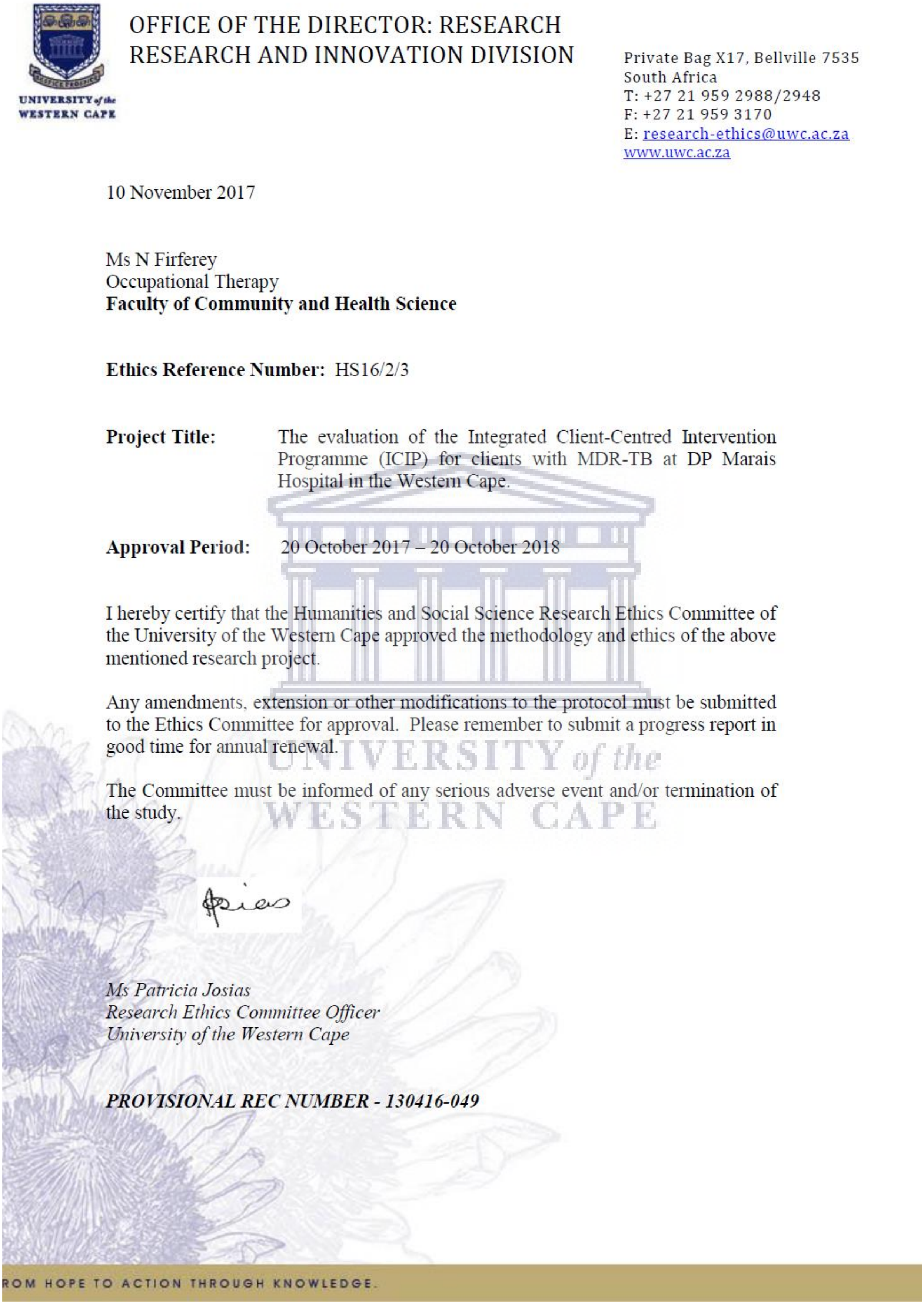
Appendix 7: License to use the heiQTM Questionnnaire



Schedule 1

Licence Number:	E1509IF
Item 1 – The Licensee (Parties)	
Name:	University of the Western Cape
Address:	Robert Sobukwe Rd, Bellville, Cape Town, 7535, South Africa
Authorised Officer:	Dr Shaheed Soeker
Tel:	021 959 3151
Email:	msoeker@uwc.ac.za
Item 2 – Licence Fee	Waived (for the duration of the term)
Item 3 – Approved Purpose	
Purpose:	Use of the English heiQ for the project "The Evaluation of the Integrated Client-Centered Intervention Programme (ICIP) for Clients with MDR TB at DP Marais Hospital in the Western Cape"
Number of Authorised Implementations:	241
Item 4 – Term of Licence	
Start Date:	1 January 2016
End Date:	31 November 2018
Item 5 – Territory	South Africa
Item 6 – Cultural Adaptation and/or Translation Rights	
	The Licensee does not have a right to prepare or obtain a cultural adaptation of the heiQ *The Licensee does not have a right to obtain a translation of the heiQ*
Language of Translation (Item 2.2)	*N/A*

Appendix 8: Ethics Approval -University of the Western Cape



UNIVERSITY of the
WESTERN CAPE

OFFICE OF THE DIRECTOR: RESEARCH
RESEARCH AND INNOVATION DIVISION

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T: +27 21 959 2988/2948
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E: research-ethics@uwc.ac.za
www.uwc.ac.za

10 November 2017

Ms N Firferey
Occupational Therapy
Faculty of Community and Health Science

Ethics Reference Number: HS16/2/3

Project Title: The evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for clients with MDR-TB at DP Marais Hospital in the Western Cape.

Approval Period: 20 October 2017 – 20 October 2018

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval. Please remember to submit a progress report in good time for annual renewal.

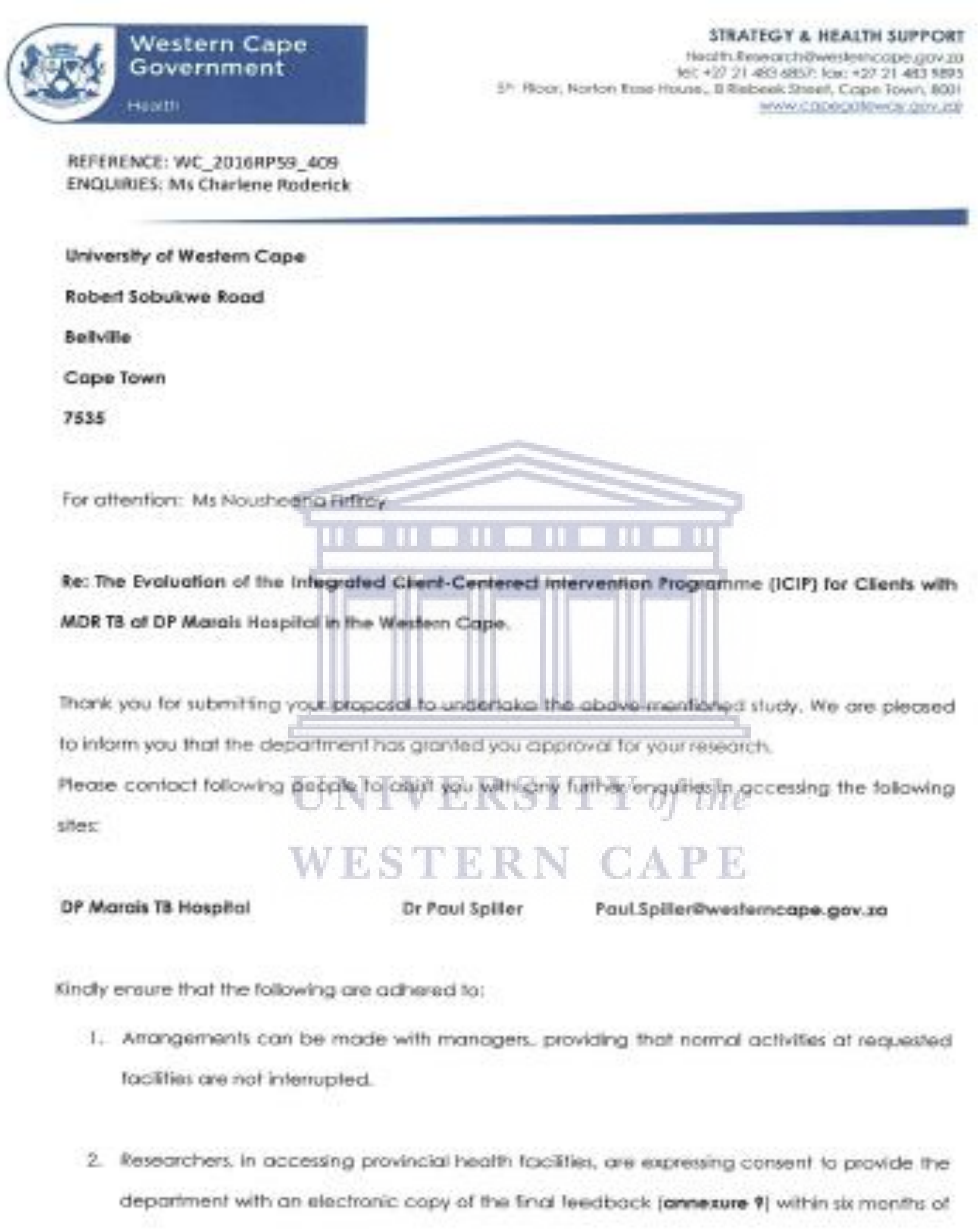
The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

PROVISIONAL REC NUMBER - 130416-049

ROM HOPE TO ACTION THROUGH KNOWLEDGE.

Appendix 9: Ethics Approval- Western Cape Department of Health



Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health.Research@westerncape.gov.za
tel: +27 21 483 6857; fax: +27 21 483 9895
5th Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE: WC_2016RP59_409
ENQUIRIES: Ms Charlene Roderick

University of Western Cape

Robert Sobukwe Road

Bellville

Cape Town

7535

For attention: Ms Nousheena Fiffroy

Re: The Evaluation of the Integrated Client-Centered Intervention Programme (ICIP) for Clients with MDR TB at DP Marais Hospital in the Western Cape.

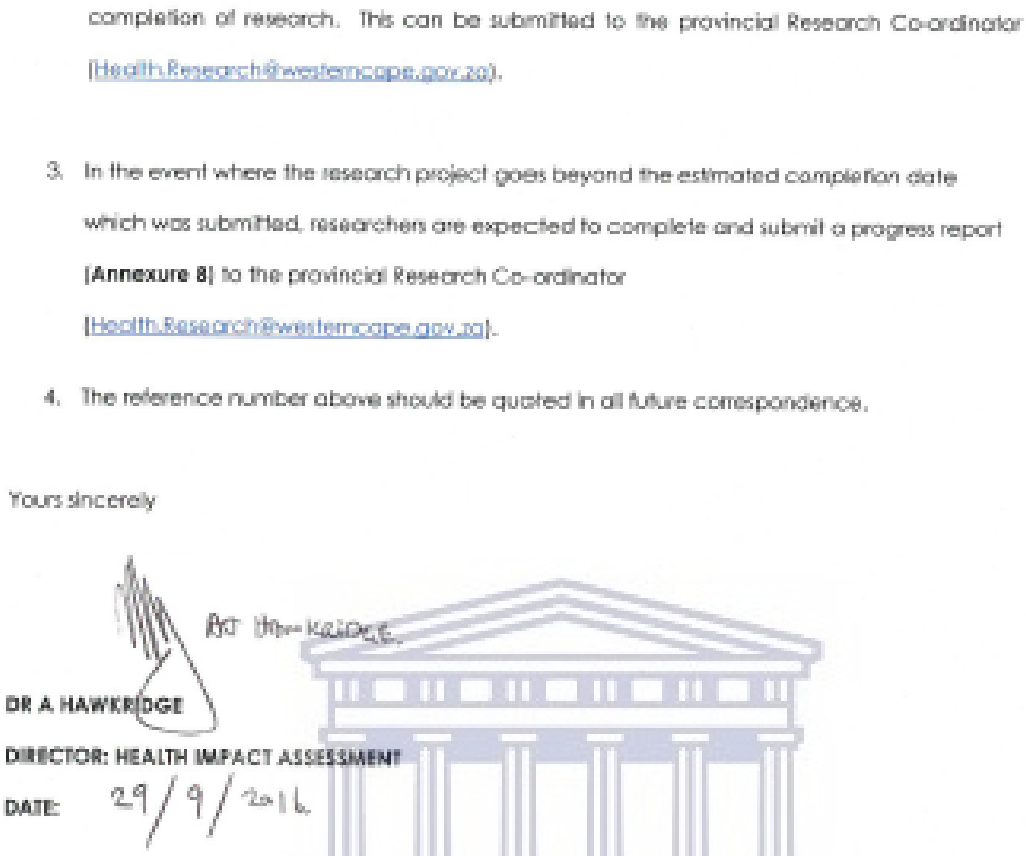
Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.
Please contact following people to assist you with any further enquiries in accessing the following sites:

DP Marais TB Hospital	**Dr Paul Spiller**	**Paul.Spiller@westerncape.gov.za**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.

2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of



completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

3. In the event where the research project goes beyond the estimated completion date which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
4. The reference number above should be quoted in all future correspondence.

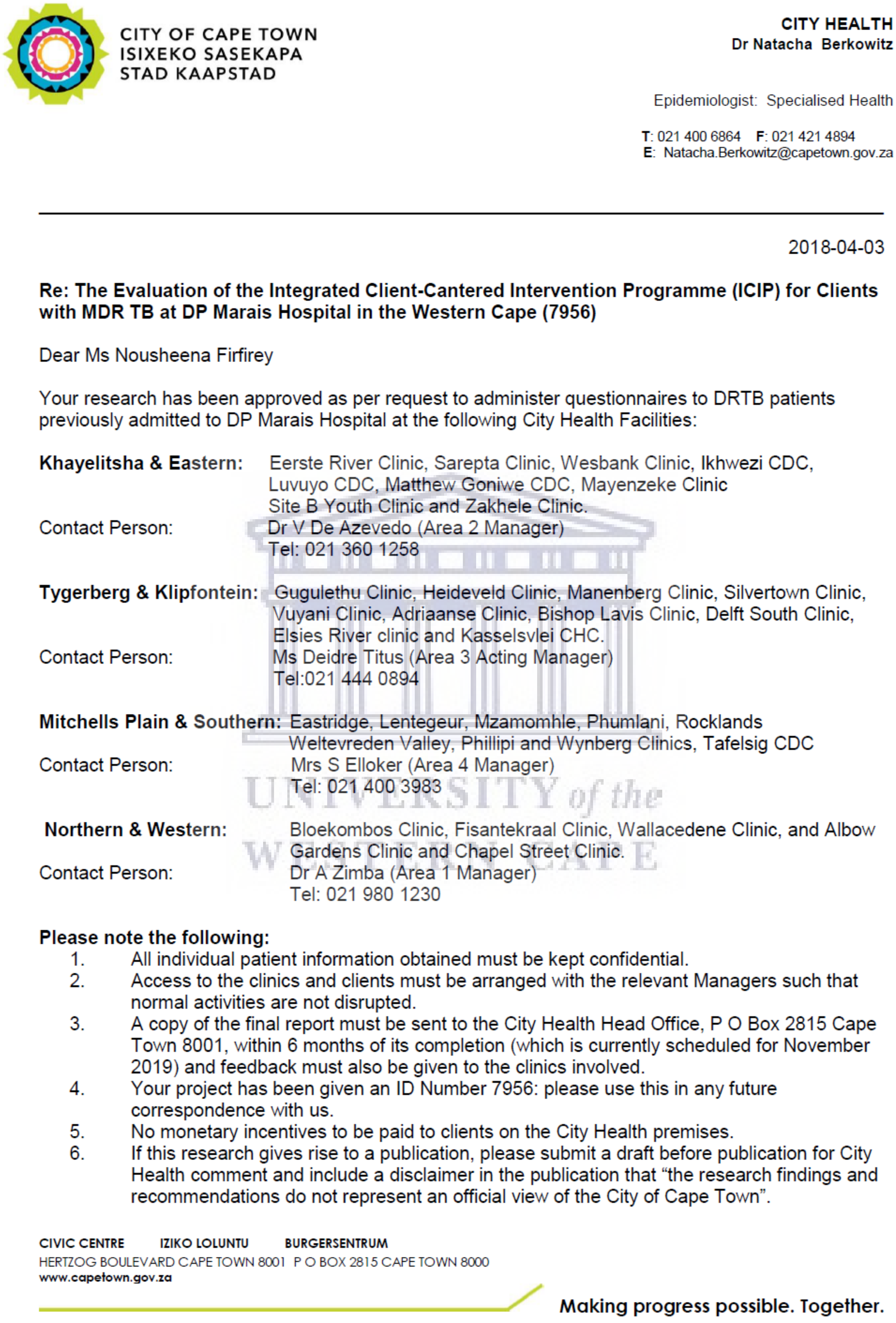
Yours sincerely

DR A HAWKRIDGE

DIRECTOR: HEALTH IMPACT ASSESSMENT

DATE: 29/9/2016

Appendix 10: Ethics Approval- City of Cape Town



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CITY HEALTH
Dr Natacha Berkowitz

Epidemiologist: Specialised Health

T: 021 400 6864 **F**: 021 421 4894
E: Natacha.Berkowitz@capetown.gov.za

2018-04-03

Re: The Evaluation of the Integrated Client-Cantered Intervention Programme (ICIP) for Clients with MDR TB at DP Marais Hospital in the Western Cape (7956)

Dear Ms Nousheena Firfirey

Your research has been approved as per request to administer questionnaires to DRTB patients previously admitted to DP Marais Hospital at the following City Health Facilities:

Khayelitsha & Eastern: Eerste River Clinic, Sarepta Clinic, Wesbank Clinic, Ikhwezi CDC, Luvuyo CDC, Matthew Goniwe CDC, Mayenzeke Clinic Site B Youth Clinic and Zakhele Clinic.
Contact Person: Dr V De Azevedo (Area 2 Manager)
Tel: 021 360 1258

Tygerberg & Klipfontein: Gugulethu Clinic, Heideveld Clinic, Manenberg Clinic, Silvertown Clinic, Vuyani Clinic, Adriaanse Clinic, Bishop Lavis Clinic, Delft South Clinic, Elsies River clinic and Kasselsvlei CHC.
Contact Person: Ms Deidre Titus (Area 3 Acting Manager)
Tel:021 444 0894

Mitchells Plain & Southern: Eastridge, Lentegeur, Mzamomhle, Phumlani, Rocklands Weltevreden Valley, Phillipi and Wynberg Clinics, Tafelsig CDC
Contact Person: Mrs S Elloker (Area 4 Manager)
Tel: 021 400 3983

Northern & Western: Bloekombos Clinic, Fisantekraal Clinic, Wallacedene Clinic, and Albow Gardens Clinic and Chapel Street Clinic.
Contact Person: Dr A Zimba (Area 1 Manager)
Tel: 021 980 1230

Please note the following:

1. All individual patient information obtained must be kept confidential.
2. Access to the clinics and clients must be arranged with the relevant Managers such that normal activities are not disrupted.
3. A copy of the final report must be sent to the City Health Head Office, P O Box 2815 Cape Town 8001, within 6 months of its completion (which is currently scheduled for November 2019) and feedback must also be given to the clinics involved.
4. Your project has been given an ID Number 7956: please use this in any future correspondence with us.
5. No monetary incentives to be paid to clients on the City Health premises.
6. If this research gives rise to a publication, please submit a draft before publication for City Health comment and include a disclaimer in the publication that “the research findings and recommendations do not represent an official view of the City of Cape Town”.

CIVIC CENTRE **IZIKO LOLUNTU** **BURGERSENTRUM**
HERTZOG BOULEVARD CAPE TOWN 8001 P O BOX 2815 CAPE TOWN 8000
www.capetown.gov.za

Making progress possible. Together.

Appendix 11: Permission Letter

UNIVERSITY OF THE WESTERN CAPE
Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 3151 Fax: 27 21-959 3959
E-mail: 2029509@myuwc.ac.za

The CEO

Dear Dr Spiller

Re: Permission to conduct a research study at DP Marais Hospital

I, Nousheena Firfirey, am currently pursuing my PhD degree in occupational therapy at the University of the Western Cape. I hereby wish to request permission to access client folders and facilitate focus groups and interviews with a sample of the clients and staff.

I am conducting an evaluation of the integrated client-centred intervention programme (ICIP) for clients with MDR-TB. In conducting this study I aim to determine to what extent the ICIP is being implemented as planned and meeting its intended process outcomes and to determine whether the intended programme outcomes have been met.

All data collected will be kept confidential. All tape recordings will be kept in a locked cupboard and will be destroyed at the end of the study. Conclusions of the findings will be made available to the hospital.

I hereby ask permission to administer the interviews with the adult MDR-TB clients who attend the occupational therapy programme as well as focus groups with the staff who have implemented the programme.

I am available to discuss any part of the study with you prior to your consent. My contact details are as follows:

Work: 021 483 4270
Mobile: 072 268 8589
Email: Nousheena.Firfirey@westerncape.gov.za

Kind regards

Nousheena Firfirey

Appendix 12: Information sheet

UNIVERSITY OF THE WESTERN CAPE
Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 3151 Fax: 27 21-959 3959
E-mail: 2029509@myuwc.ac.za

INFORMATION SHEET

Project Title: The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape

What is this study about?

This is a research project being conducted by Nousheena Firfirey at the University of the Western Cape. We are inviting you to participate in this research project because you either participated in developing the ICIP or were a participant in the implementation of the ICIP. The purpose of this research project is to evaluate the ICIP as a suitable intervention programme for ensuring interdisciplinary collaboration as well as treatment adherence and successful treatment outcomes for MDR-TB clients, in order to revise/develop, and evaluate the feasibility of roll out of the programme to additional sites.

What will I be asked to do if I agree to participate?

You will be asked to participate in any one of the following: an interview/a focus group/ complete a questionnaire. The interviews and focus groups will be approximately 1 hour and 30 minutes long and will take place at a venue and time that suits you. Questions asked during the interview will pertain to your experience of having gone through the ICIP. The questions asked in the focus groups will pertain to your experience with the implementation of the ICIP. The surveys will pose questions related to programme outcomes of the ICIP.

Would my participation in this study be kept confidential?

The researchers undertake to protect your identity and the nature of your contribution. You will also be required not to discuss any information shared by other members of the group.

To ensure your anonymity, the surveys are anonymous and will not contain information that may personally identify you. For coded identifiable information, state the following, if applicable: (1) Your name will not be included on the surveys and other collected data. (2) **A** code will be placed on the survey and other collected data. (3) Through the use of an identification key, the researcher will be able to link your survey to your identity. (4) Only the researcher will have access to the identification key.

To ensure your confidentiality, all information you share will be kept confidential and you will not be identified by name in any part of the study or publication thereof. All data gathered for this study will be kept in a locked filing cabinet using identification codes only on data forms, and using password-protected computer files.

If we write a report or article about this research project, your identity will be protected.

What are the risks of this research?

All human interactions and talking about self or others carry some degree of risk. We will nevertheless minimise such risk and act promptly to assist you if you experience any discomfort, psychological or otherwise, during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about the implementation of a client-centred programme in a TB hospital. We hope that, in the future, other people might benefit from this study through improved understanding of the need for client-centred interventions.

Do I have to be in this research and may I stop at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits for which you otherwise qualify.

What if I have questions?

This research is being conducted by Nousheena Firfirey of the Department of Occupational Therapy at the University of the Western Cape. If you have any questions about the research study itself, please contact her at any time at (021) 483 4270 or 072 268 8589 or her supervisor Dr Lucia Hess-April at the University of the Western Cape.

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof Lisa Wegner
Head of Department of Occupational Therapy
University of the Western Cape
Private Bag X17
Bellville 7535
lwegner@uwc.ac.za

Prof José Frantz
Dean of the Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Senate Research Committee. (REFERENCE NUMBER: *to be inserted on receipt thereof from SR*)

Appendix 13: Consent Form

UNIVERSITY OF THE WESTERN CA
Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 3151 Fax: 27 21-959 3959
E-mail: 2029509@myuwc.ac.za

CONSENT FORM

Title of Research Project: The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name………………………..

Participant's signature……………………………….

Date………………………

Appendix 14: Focus Group Confidentiality Binding Form

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 3151 Fax: 27 21-959 3959
E-mail: 2029509@myuwc.ac.za

FOCUS GROUP CONFIDENTIALITY BINDING FORM

Title of Research Project: The Evaluation of the Integrated Client-Centred Intervention Programme (ICIP) for Clients with MDR-TB at DP Marais Hospital in the Western Cape

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone by the researchers. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits. I understand that confidentiality is dependent on participants in the Focus Group maintaining confidentiality.

I hereby agree to uphold the confidentiality of the discussions in the focus group by not disclosing the identity of other participants or any aspects of their contributions to members outside of the group.

Participant’s name………………………………………..

Participant’s signature…………………………………..

Date…………………