Barriers to and facilitators of male uptake of HIV testing services in Orange Farm Township, Gauteng Province: User and provider perspectives

By

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Declaration

I, Nyeleti Chauke, hereby declare that the dissertation I herewith submit for the Master of Health Systems Studies Degree, at the University of the Free State, is my independent work and that I have not previously submitted it for a qualification at another institution of higher education.

NPChauke

Nyeleti Chauke

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Dedication

To my late grandfather, Mr Abel Ntshani (1954-2018), I made it! I want to express my gratitude for your encouragement to enrol and commence my higher education journey. Your belief in me and the shift in my mind-set is deeply appreciated. Your financial assistance during the initial stages of this journey was essential; that registration fee for my first year was the foundation of where I find myself today. I am also thankful to God for the time He allowed us to share on this earth. Though you are no longer with us, your memory lives on in the dedication and determination that this work represents. I am deeply grateful for the values you instilled in me and the sacrifices you made to ensure my success. Your presence may be missed, but your influence continues to shape my journey. This dissertation is a tribute to your enduring impact on my life and academic pursuits.

Abstract

Background and Objectives: South Africa remains heavily burdened by the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic, with devastating effects among men. Unlike women, men are increasingly unlikely to access HIV testing services (HTS) at primary health care (PHC) facilities. Male uptake of HTS is very low with high rates of HIV-related deaths among men. The 2016 South Africa Demographic and Health Survey found that although 94% of men aged 15 to 49 were aware of HIV testing locations, only 29% had undergone an HIV test. The study draws on the Socio-Ecological Model (SEM) to explore, from the perspective of both users and providers, barriers to and facilitators of men's uptake of HTS at three PHC facilities in the Orange Farm township. The SEM illustrates how multiple factors influence an individual's health behaviour. The SEM comprises five levels which include the individual, interpersonal, organisational, community, and policy levels.

Method: The researcher adopted a constructivist paradigm for this study as it is believed that individuals give meaning to their experiences through interactions with their environments. A case study design was employed, and qualitative semi-structured interviews were used as a data collection tool. The semi-structured interviews were conducted among a total of 23 conveniently selected participants including, 12 male patients, six lay counsellors and five Nurse-initiated Management of Antiretroviral Therapy (NIMART) trained professional nurses. The purpose of these sample sizes was to reach saturation as opposed to the generalisability of findings. Data were analysed thematically using the SEM constructs as *a priori* themes with subsequent development of subthemes. The process involved the grouping of key barriers to and facilitators of HTS perceived by male patients, lay counsellors, and professional nurses according to the SEM constructs.

Findings:. Both users and healthcare providers perceived similar barriers to male uptake of HTS. These included, at the (1) individual level – lack of knowledge; (2) interpersonal level – negative peer and family influence; (3) organisational level – discomfort when attended by female healthcare providers; (4) community level – lack of education and awareness within the community; and (5) policy level – non-adherence to policy and privacy concerns.

Again, perceived similarly by both patients and healthcare providers, facilitators of HTS included at the (1) individual-level – overcoming fear; (2) interpersonal level – fostering supportive family and friend networks; (3) organisational level – initiation of ‘male-friendly services’ in PHC facilities; (4) community level – initiating community health education and awareness tailored for men; and (5) policy level – reinforcement of policy adherence.

Conclusions: The findings indicate that barriers to and facilitators of male HTS uptake vary across the SEM levels. Both users and providers’ views highlighted a multifactorial influence on male uptake of HTS at PHC facilities, necessitating a multifaceted intervention strategy, encompassing all five SEM levels. Such efforts can result in more men accessing HIV testing at PHC facilities, enrolling in treatment, and most importantly, adopting preventative measures to curb the spread of HIV/AIDS.

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Abbreviations and Acronyms

ANC	Antenatal care
APNS	Assisted partner notification services
ART	Antiretroviral treatment
CHC	Community health centre
CICT	Client-initiated counselling and testing
CoJ	City of Johannesburg
DoH	Department of Health
ELISA	Enzyme-linked immunosorbent assay
FBO	Faith-based organisation
FDA	Food and Drug Administration
FDC	Fixed dose combination
GBV	Gender-based violence
GDoH	Gauteng Department of Health
HATCS	HIV/AIDS treatment and care services
HCT	HIV counselling and testing
HIV	Human immunodeficiency virus
HIVSS	HIV self-screening
HIVST	HIV self-testing
HSREC	Health Sciences Research Ethics Committee
HTS	HIV testing services
IgG	Immunoglobulin G
IgM	Immunoglobulin M
LC	Lay counsellor
LGBTQ	Lesbian, gay, bisexual, transgender, and queer
LTF	Lost to follow-up
MMC	Medical male circumcision
MSEM	Modified Social Ecological Model
MSM	Men who have sex with men
NCD	Non-communicable diseases
NGO	Non-government organisation
NIMART	Nurse-initiated and managed antiretroviral treatment

OFHRAC	Orange Farm Human Rights Advice Centre
OI	Opportunistic infection
PAHO	Pan African Health Organization
PEP	Post exposure prophylaxis
PHC	Primary health care
PICT	Provider-initiated counselling and testing
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs
QA	Quality assurance
RCTs	Randomised controlled trials
RTCQI	Rapid test continuous quality improvement
SADC	Southern African Development Community
SEM	Socio Ecological Model
SOP	Standard operating procedure
STD	Sexually transmitted disease
STI	Sexually transmitted infection
TB	Tuberculosis
UFS	University of the Free State
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
VCT	Voluntary counselling and testing
VMMC	Voluntary medical male circumcision
WHO	World Health Organization

Definitions of Key Concepts

Barriers

Applying the *Cambridge Dictionary*'s (2020) definition, a 'barrier' in this context refers to the difficulties or obstacles faced by patients regarding their access to HTS in Orange Farm, Johannesburg.

Facilitators

'Facilitators' are elements that support, enable, or assist individuals in participating in a specific behaviour (Garcia et al., 2022). In this context, facilitators refer to factors that enable or assist male patients to access HTS in Orange Farm PHC facilities.

Patient

'Patients' are referred to as 'users' in the National Health Act No. 61 of 2013 (RSA, 2016). A 'user' is a person receiving treatment in a health establishment, including receiving blood or blood products, or using a health service. A 'user' includes persons who are authorised to give consent in terms of the National Health Act where the patient is incompetent to give consent. In this context, a 'patient' is someone who receives healthcare services at PHC facilities.

Access

'Access' refers to the "possibility to identify healthcare needs, to seek healthcare services, to reach the healthcare resources, to obtain or use healthcare services, and to be offered services appropriate to the needs for care" (Levesque et al., 2013, p. 4). Patel (2015) observes that access to basic services is influenced by income security, healthcare, education, and housing on an ongoing basis.

HIV testing services

According to the NDoH (2016), HIV testing services (HTS) include the full range of services that should be provided along with HIV testing, which include counselling (pre-test information and post-test counselling); linkage to appropriate HIV prevention, treatment and care services; and other clinical and support services.

Perspective

Perspective refers to a particular way of viewing, understanding, or interpreting something (*Cambridge Dictionary,* 2024). In the context of this study, perspective pertains to how participants perceive and comprehend the barriers to and facilitators of male uptake of HTS.

Provider-initiated counselling and testing

Provider-initiated counselling and testing (PICT) refers to counselling and testing that is initiated or offered in a healthcare facility. It includes providing pre-test information and obtaining consent, with the option for individuals to decline testing (NDoH, 2016, p. 9). PICT may include both the opt-in and the opt-out approaches. In an opt-out approach, individuals can decline an HIV test after receiving pre-test counselling information and they realise they do not want to test which is more common compared to an opt-in approach in which individuals themselves can choose HIV testing (NDoH, 2016, p. 9).

Client-initiated counselling and testing

According to the NDoH (2016), client-initiated counselling and testing (CICT) refers to HTS provided in healthcare facilities for clients who present specifically for these services. Clients may voluntarily decide to learn their HIV status as individuals, couples, or families (NDoH, 2016, p. 10).

HIV self-testing

HIV self-testing also known as HIV self-screening is a process in which an “individual collects a specimen, performs a test and interprets the result by him or herself, often in private” (NDoH, 2016, p. 11). Importantly, after the individual tests reactive these results need to be confirmed through rapid HIV testing by a lay counsellor.

Healthcare provider

A ‘healthcare provider’ is an individual who assists in the identification, prevention, or treatment of illness or disability (Vocabulary.com, 2023). In this context, the healthcare providers are the lay counsellors and the professional nurses. The lay counsellor is the individual who assists in the identification or diagnosis of HIV. After the identification process, the nurse is the individual who treats the people diagnosed with HIV by enrolling them on treatment known as antiretroviral treatment (ART).

Nurse-initiated and managed antiretroviral treatment

Nurse-initiated and managed antiretroviral treatment (NIMART) is a term used in the HIV/AIDS context which refers to ART being initiated and managed by trained nurses (Georgeu et al., 2012). NIMART involves nurse initiation of ART for patients who test positive for HIV, which is an initiative to scale up HTS uptake and increase accessibility of HTS in healthcare facilities. The strain on the South African health system caused by a shortage of physicians, particularly in the HIV programme, prompted this initiative. NIMART's primary objectives include alleviating the burden on physicians and improving access to HTS at public health facilities. As part of the initiative, professional nurses are being trained to initiate patients on ART (Georgeu et al., 2012).

Lay counsellor

In the HTS context, a 'lay counsellor' is a person who has been trained to provide HIV testing and counselling. However, the lay counsellor position is not part of the formal employment structure of the Department of Health (DoH); they provide HTS under the supervision of their facility manager (Mwisongo et al., 2015, p. 2). According to Schneider et al. (2018), lay counsellors comprise facility-based and community-based healthcare providers where the former are responsible for supporting facility-based HIV testing, counselling, and ART preparation.

Chapter 1: Introduction

1.1 Introduction

This chapter provides the background and rationale for the study, including a brief exposition of the human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) burden globally, regionally, and nationally; high-risk sexual behaviour among men; and the necessity for HIV testing and treatment. An articulation of the problem statement, research question, aim, and objectives follows. Subsequently, an overview of the study setting, Orange Farm, the theoretical framework, the research methodology, and the significance of the study are provided. The chapter ends with an orientation to the structure of the dissertation.

1.2 Background and Rationale

1.2.1 HIV burden globally, regionally, and nationally

The HIV/AIDS epidemic continues to cause significant global morbidity and mortality. According to a Joint United Nations Programme on HIV/AIDS (UNAIDS) report (2021a, p. 86), despite the decrease in the number of new HIV infections between 2010 and 2020, from 420,000 to 230,000, the annual rate of decline is insufficient to achieve the target of fewer than 370,000 new infections by 2025. The report continues that mortality rates declined from 160,000 in 2010 to 83,000 in 2020. Regardless, in 2021, 650,000 AIDS-related deaths were registered globally, despite the availability of effective antiretroviral therapy (ART) (UNAIDS, 2022a).

The 16 Southern African Development Community (SADC) countries remain the epicentre of the HIV/AIDS epidemic, with the most significant number of people living with HIV (PLHIV). Although ART has improved prevention and survival, the epidemic remains an important cause of mortality in the SADC region. Moreover, a study conducted by Gona et al. (2020, p. 4) showed that in 2016 almost all HIV infections in the world occurred in just 12 countries, of which four were the SADC countries of Mozambique, Zimbabwe, Zambia, and Tanzania. The authors state that in 2017, the top five countries with deaths attributable to HIV/AIDS were all in Southern Africa, viz., Botswana at 28.7%, South Africa at 28.5%, Lesotho at 25.1%, Eswatini at 24.8%, and Mozambique at 24.2%.

Of all the PLHIV worldwide, South Africa contributes 18% to the burden (Probst et al., 2016). As stated in the UNAIDS report, the number of PLHIV in South Africa increased from 5.8 to 7.8 million between 2010 and 2020, profoundly impacting people aged 15 years and older. Again, UNAIDS reported that the proportion of women newly infected with HIV in the 15+ age group was nearly twice that of men. However, more AIDS-related deaths were recorded among men than women in this age group between 2015 and 2020 (2021a, p. 86). These gender-based variations highlight the need to promote HIV testing and treatment services (HTS) among men.

Mhango et al. (2020) ascribes these variations to the fact that men and youth are not as forthcoming regarding HIV testing, disproportionately contributing to testing gaps. Sub-Saharan Africa is known to be heavily hit by HIV, wherein men have proved hard to reach in HIV testing and ART initiation. According to the UNAIDS (2021a, p. 44), in Eastern and Southern Africa, “testing and treatment coverage for men continues to be significantly lower than for women, a trend that jeopardises the health and lives of men and their partners”. Furthermore, the South Africa Demographic and Health Survey of 2016 established that despite 94% of men between the ages of 15 and 49 years knowing where they could be tested, only 29% had been tested for HIV (NDoH, Stats SA, SAMRC & ICF, 2016).

Several scholars concur that the COVID-19 outbreak affected the HIV/AIDS programme worldwide and in South Africa (Jewell et al., 2020; Pillay et al., 2021; Uwishema et al., 2022). The pandemic was discovered in Wuhan, China in December 2019; by the 30th of May 2020, the world had recorded 5.96 million cases across 188 countries (Doungmo Goufo et al., 2020). Lockdown measures in many parts of the world prevented people from accessing essential healthcare services such as HIV care and management. Consequently, there was a significant impact on HIV/AIDS services, specifically on HIV testing and treatment initiations. They further contend that as the most HIV-affected country in Africa, South Africa also had the highest COVID-19 prevalence on the African continent. According to Pillay et al. (2021, p. 714), the COVID-19 pandemic had far-reaching effects on the South African health system, particularly public health services such as HTS provision.

Research by Jiang et al. (2020), Ponticiello et al. (2020), and Majam et al. (2021) identified new barriers to facility-based HTS due to the implementation of quarantine, social distancing, and other restrictions as governments across the world strategised to prevent the spread of COVID-19. These restrictions affected people's access to HTS at PHC facilities. A systematic review established an overall decrease in HIV testing, positive HIV tests, and initiation of ART, particularly between 2018 and 2021 among public health facilities in all nine provinces (refer to Figure 1.1) in South Africa before and during COVID-19 (Jardim et al., 2022).

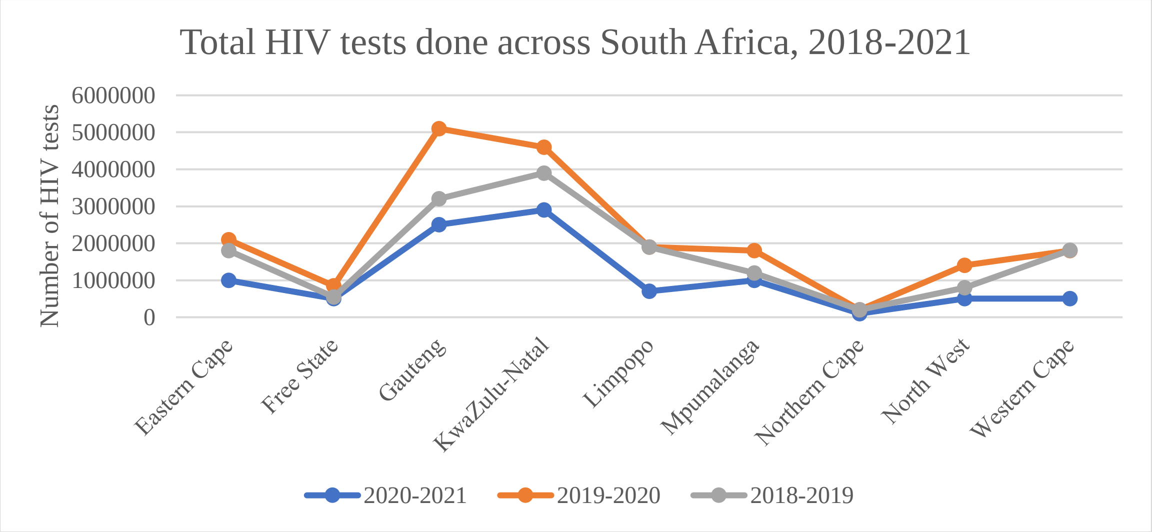

Figure 1.1 HIV trends before and during COVID-19

Source: Jardim et al., 2022, p. 14

In the KwaZulu-Natal province of South Africa, due to COVID-19, HIV testing decreased by 47.6% in the first month of the lockdown. However, by July 2020, the testing rate had risen to 82.7% of pre-lockdown levels. Likewise, ART initiations decreased by 46.2% in the first week of lockdown and recovered to 75.3% of pre-lockdown levels by mid-June 2020. The recovery in ART initiation occurred mainly in women (Dorward et al., 2021). Nonetheless, the decline in HIV testing and ART initiation resulted in many immunocompromised people being at a greater risk of prolonged infection and more vulnerable to COVID-19 (Freer & Mudaly, 2022). As a result of the COVID-19 pandemic, most countries could not meet the UN's 90-90-90/95-95-95 targets (Uwishema et al., 2022, p. 27; Van Staden et al., 2022, p. 1).

In Africa, poverty has been recognised as a critical factor in HIV/AIDS transmission (Tladi, 2006; Probst et al., 2016). As a result, some theorists consider HIV/AIDS a disease of poverty at a macro level (Mafune, 2015). Tladi (2006, pp. 369-370) argues that the different levels of poverty (individual, household, and community), as well as their associated characteristics (low education levels, low marketable skills, a lack of knowledge or information regarding infection risks and the inability to act upon this knowledge, an inability to negotiate sexual relations, and high population mobility), create fertile soils for HIV/AIDS to flourish. Unfortunately, several African countries have failed to implement the combination of structural, behavioural, and biomedical approaches that have shown to be effective in preventing HIV (UNAIDS, 2021b, p. 7).

1.2.2 High-risk sexual behaviour among men

Unprotected sex is one of the major routes of transmitting HIV from one person to another. For men, condom use, pre-exposure prophylaxis (PrEP), and voluntary medical male circumcision (VMMC) are a combination of elements used to curtail the spread of HIV. In keeping with population-based surveys between 2008 and 2016 in sub-Saharan Africa, 36% of men aged 20-24 did not use condoms during their last sexual encounter with a non-marital or non-cohabiting partner. Non-use of condoms was higher among men aged 30-34 and those aged 55-59, at 47% and 90%, respectively (UNAIDS, 2021a, p. 19). According to UNAIDS (2017a), men who feel manhood comes from dominating women, those who have multiple sex partners, those who do not want to use condoms, and those who abuse alcohol and drugs are at higher risk of HIV infection.

Studies by Aho et al. (2014) and Ramesh et al., 2014) have shown that men who have sex with men (MSM) have an increased risk of HIV infection due to biological and behavioural factors. Other studies also indicated that MSM are much more likely to contract HIV with up to 18 times as high as unprotected vaginal sex (Boily et al., 2009; Baggaley et al., 2010; Jin et al., 2010).

In a study conducted among MSM in Cote d’Ivoire, Aho et al. (2014, pp. 3-5) examined the sexual behaviours and the risk of transmitting HIV among MSM. They established that the participants knew about the risks associated with anal sex. Nevertheless, most MSM perceived themselves as at low risk of HIV infection. Almost all MSM in this study had experienced anal and oral sex. Some had bought and sold sex. Multiple sexual partnerships were also common, with most of the MSM having had more than three male anal sex partners, and at least three female partners in the year preceding the study. The study further found that despite a surge in HIV testing uptake, risky behaviour was also rife and men who were HIV-positive and those at risk of transmission had multiple sexual partners. The same study identified that 3% of men who perceived themselves as HIV-negative were HIV-positive, not all diagnosed MSM were on treatment, and not all men on therapy had undetectable viral loads, making them more likely to transmit HIV. In India, sexual risk behaviour was associated with mobility by Ramesh et al., (2014). They discovered that compared to the general population, MSM were at a higher risk of HIV infection. Moreover, HIV prevalence among MSM was high because they often engaged in unprotected sexual relationships with women as well, making them a key population for acquiring or transmitting HIV. Half of the MSM who participated in the study reported sex work as their primary source of income and were mobile, of which the majority of these mobilities were across the state.

In sub-Saharan Africa, Mbilizi Chimwaza et al.'s (2022) research on risk perception indicated that both men and transgender women frequently engage in risky sexual behaviour despite knowing the potential dangers. In addition, risk perception and risk-taking were found contradictory in this study due to various factors including the perceived benefits of the act (gratification over condom protection); promised reward (anticipated payment for unprotected sex); risk-taking (MSM often engage in group sex); sense of invincibility (indifference after partner discloses HIV status); social context (same-sex sexuality discrimination, stigma, and criminalisation); and impulsive behaviour (casual and unplanned sex with strangers).

In the South African context, HIV is predominantly transmitted through heterosexual sex, which suggests that effective HIV prevention methods should also focus on the heterosexual population in addition to key populations like female sex workers and MSM (Cheng et al., 2019, p. 1). According to Huerga et al. (2017, p. 4) from their research study involving secondary data analysis of a population survey in KwaZulu-Natal, South Africa, high viral load and multiple sexual partnerships were strongly associated with not being aware of HIV-positive status.

1.2.3 The importance of HIV testing and treatment

HIV testing and knowledge of HIV status are 'essential gateways' to treatment, care, and support services for individuals and couples to prevent transmission of the epidemic (NDoH, 2016; Sharma et al., 2015; Suthar et al., 2013). HTS are freely available to everyone who needs them at public healthcare facilities in South Africa (Mabuto et al., 2019). Sharma et al. (2015)

and the NDoH (2016) affirm that those who are already HIV-infected can access much-needed treatment to prevent further transmission of HIV to their partners. Furthermore, pregnant women can access prevention of mother-to-child transmission (PMTCT) treatment to prevent the transmission of HIV to their unborn babies (Hensen et al., 2012; NDoH, 2016). In addition, Mohlabane et al. (2016) and the NDoH (2016) encourage individuals who test HIV-negative to access information on how to protect themselves and maintain their negative status by practising safe behaviours such as using a condom during sexual intercourse

In 2016, the NDoH endorsed the HIV testing services (HTS) cascade – based on the UNAIDS 90-90-90 Strategy to speed up universal access to HIV prevention, treatment, care, and support for PLHIV. The UNAIDS' 90-90-90 approach has transitioned to its second phase, known as the 95-95-95 Strategy, which posits that 95% of people who visit healthcare facilities must be tested for HIV, 95% of who test positive for HIV must be initiated on treatment, and 95% of those who are started on treatment must be virally suppressed. Heath et al. (2021) state that the 95-95-95 strategy is expected to be accomplished by 2025. Accordingly, health workers must offer appropriate HIV testing, counselling, treatment, and support to patients who need the services without discrimination or ill-treatment. Studies show that successful service delivery depends on both patients' demand for HTS and the quality of service provision at primary health care (PHC) facilities (Mabuto et al., 2019; Mohlabane et al., 2016).

Despite commendable achievements in the HIV testing and treatment cascade – the UNAIDS 95-95-95 Strategy– a substantial proportion of people in South Africa do not know their HIV status (Mohlabane et al., 2016; Lippman et al., 2019; Majam et al., 2021). This demographic, more specifically, reflects men and young people (Mohlabane et al., 2016; Majam et al., 2021; UNAIDS, 2022b). Research conducted by Mohlabane et al. (2016) established that non-uptake of HIV testing is influenced by both personal factors such as older age, and health systems factors such as not being recommended for HIV testing. In 2012, the Southern African HIV Clinicians Society et al. highlighted various health systems factors including staff having bad attitudes towards HIV-positive patients, a lack of adequately trained staff, long waiting times, a shortage of resources and equipment, and poor infrastructure which hinder the uptake of HTS at public health facilities. They maintained that access to quality healthcare services and ensuring that every individual gets access to treatment and care depend largely on facilities having enough qualified committed staff, resources and equipment, and appropriate infrastructure. Regrettably, a decade later, WHO (2021a) identified the same persisting challenges, urging for a more holistic approach to addressing barriers to HTS.

The National HTS Policy (NDoH, 2016), states that every human being has the right to access healthcare services, including HTS. Therefore, health workers must provide appropriate HTS to patients who require the services without discrimination or ill-treatment. As successful service delivery depends on both patients' demand for HTS and the quality-of-service provision, this study explored the barriers to and facilitators of male uptake of HTS at PHC facilities in Orange Farm township from both user and health worker perspectives.

Globally, reports indicate less knowledge of HIV among men and less involvement in ART among men living with HIV than their female counterparts. The evidence further demonstrates that ART is often initiated at an older age and when the stages of the virus have progressed (Tsai & Siedner, 2015; UNAIDS, 2017a; Colvin, 2019). There are gaps in service coverage across a range of geographic and epidemic settings, from urban centres in the United States of America to rural communities in southern Africa, which threaten the progress of the UNAIDS 90-90-90 and 95-95-95 strategies to alleviate the epidemic (UNAIDS, 2017a). The primary reason for these gaps in service is that men are less likely to take an HIV test, to get initiated on HIV treatment, and to remain on treatment.

As a result, both globally and in South Africa, men are more likely to die than women because of HIV/AIDS. In 2016, men accounted for about 58% of the estimated 1 million AIDS-related deaths around the world, while in sub-Saharan Africa they accounted for 41% of PLHIV and 53% of AIDS-related deaths (UNAIDS, 2017a, p. 5). According to UNAIDS (2022a, p. 45), the two primary factors contributing to this phenomenon include global disparities in ART access and gender differences in attitudes to receiving ART. Compared to only 70% of men living with HIV receiving ART in 2021, 80% of women living with HIV accessed ART. Likewise, rates of viral suppression are markedly higher among women living with HIV globally (74%) than among men living with HIV (65%). For the 90-90-90 and 95-95-95 strategies to be successful, HIV testing should be widely available, patients should be quickly linked up to care, and HIV-positive individuals must consistently engage in care, including adhering to ART (Camlin et al., 2016).

The findings of a study conducted by Camlin et al. (2016, p. 5) show that one of the reasons heterosexual men in Uganda did not access HTS was that they were always busy at work and could not find the time to attend any healthcare facility, especially during planting season. As reported by WHO (2021a), other structural barriers for men to access HTS include clinic operation hours or locations that are inconvenient for ‘workaholics’, as well as opportunity costs associated with obtaining services, such as time off from work. Moreover, it was found that men had concerns about confidentiality in healthcare facilities, as well as disciplinary laws and enforcement. The policy brief recommended that efforts have to be made in high HIV burden areas such as in East and sub-Saharan Africa to reach men in both general and key populations to undertake HTS.

One of the primary objectives of ART is to reduce an individual's viral load to an undetectable level. The risk of transmitting HIV to an HIV-negative partner is effectively zero if a person with HIV maintains an undetectable viral load (Stuart et al., 2018; WHO, 2021a; UNAIDS, 2022b). Therefore, people must test and know their status, and those who test positive must be initiated early on treatment to prevent the widespread transmission of HIV/AIDS.

1.3 Theoretical Framework

The current study was guided by the Socio-Ecological Model (SEM), which illustrates how myriad factors influence an individual’s health behaviour (Bronfenbrenner, 1997; McLeroy et al., 1988). The model comprises five levels which include *Individual, Interpersonal, Organisational, Community,* and *Policy* (McLeroy et al., 1988). These constructs provide a multidimensional approach to understanding and addressing barriers to access to HTS at PHC facilities. The *individual* level relates to personal characteristics that influence behaviours such as knowledge, attitudes, and beliefs. The *interpersonal* level relates to how a person’s behaviour is influenced by his/her relationships with other people, such as family, friends, and communities. The *organisational* level relates to the influence of entities such as schools, healthcare facilities, and employers on an individual’s behaviour. The *community* level relates to community influence, including support/advocacy groups, faith-based organisations (FBOs), and non-governmental organisations (NGOs) on an individual’s behaviour. Lastly, the impact of public policies directing health care, such as the national HTS policy and public policies determining access to resources, are interrogated at the *policy* level. The theoretical or conceptual framework is described in more detail in Chapter 3.

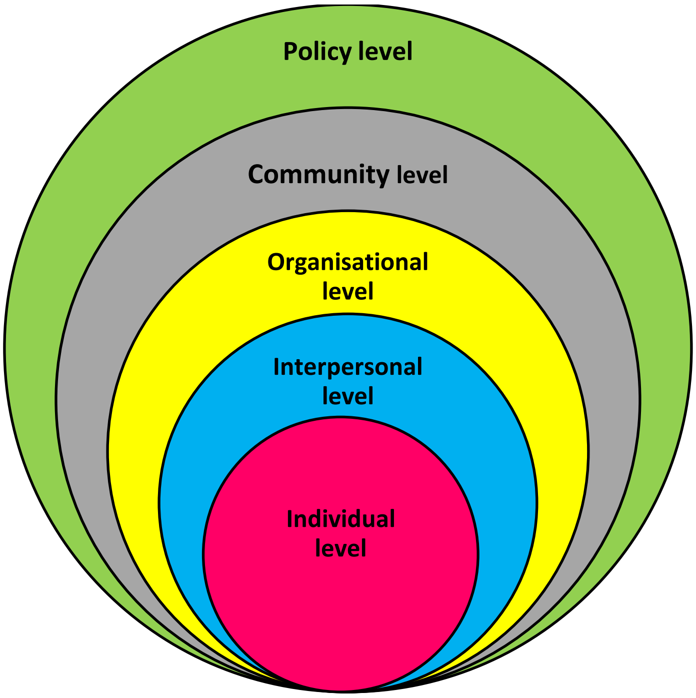

Figure 1.2 The Socio-Ecological Model (SEM)

Source: McLeroy et al., 1988

1.4 Statement of the Problem

The HTS policy stipulates that PLHIV should be identified by providing quality HTS and effectively linking it to appropriate prevention, care and treatment, and support services (NDoH, 2016). However, recent research reported that despite an overall improvement in access to HTS at PHC facilities between 2005 and 2017, the rates of HIV testing among youth, men, and those dwelling in urban areas are still low (Jooste et al., 2020). Furthermore, there is a gap in the HIV testing cascade in the City of Johannesburg (CoJ) district wherein many PLHIV are not timeously initiated on ART (Stuart et al., 2018) or retained on the treatment programme (Lilian et al., 2020). According to Massyn et al. (2020, p. 294), there were 638,683 PLHIV in the CoJ District in 2018, and in 2019, the number increased to 651,835. Additionally, the number of patients who were on ART and defaulted/were lost to follow-up (LTF) increased from 324 in 2017 to 530 in 2018, demonstrating a gap in the HTS cascade in this district.

While there have been some attempts at improving access to HTS at PHC facilities, the interventions are yet to have any significant outcome. In a study conducted in the Ekurhuleni District of Gauteng, Mabuto et al. (2019) found that HTS was poorly implemented in healthcare facilities, with less than 10% of patients being offered HIV testing. Non-uptake of HTS are also attributed to other reasons by Mohlabane et al. (2016) and Tafuma et al. (2018), including the fear of stigma, fear of finding out one's HIV test results, fear of what people will say, staff attitudes, a lack of knowledge of testing sites, fear of death, low-risk perceptions, a lack of motivation to test, and avoidance of divulging personal information to health workers.

HIV testing among men has not been sufficiently achieved, which impedes efforts to control the South African HIV epidemic (Joseph Davey et al., 2022). Most men do not know their HIV status and do not go to healthcare facilities until they get sick and experience HIV-related symptoms. Moreover, there is qualitative evidence that harmful traditional gender norms, such as the belief that men are expected to be strong, independent, and have more than one sex partner, may also prevent men from taking the HIV test (Sileo et al., 2018).

Kranzer et al. (2012) maintain that providing quality HTS to every patient who visits the facility is essential in fighting the HIV epidemic. It is, therefore, imperative to promote good work ethics in public healthcare facilities, as well as to promote appropriate HIV education and counselling in communities. To this end, research is necessary to explore the interplay of factors that facilitate the uptake of HIV testing and retention of HIV-positive individuals in care at public health facilities. The current study examined the barriers to and facilitators of male uptake of HTS at PHC facilities from a user and health worker perspective in the Orange Farm township. It was anticipated that results would inform efforts to improve males' access to HTS at the Orange Farm township PHC facilities.

1.5 Research Question, Aim and Objectives

1.5.1 Research question

This study addressed the following research question: *What are the users and providers' perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township?*

1.5.2 Research aim

The Socio-Ecological Model (SEM) was used to explore users and healthcare providers' perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township.

1.5.3 Research objectives

The specific objectives of this study were to explore:

- Users' views of barriers to male access to HTS at PHC facilities in the Orange Farm township, at the individual, interpersonal, organisational, community and policy levels.
- Providers' views of barriers to male uptake of HTS at PHC facilities in the Orange Farm township, at the individual, interpersonal, organisational, community and policy levels.
- Users' views of facilitators of male uptake of HTS at PHC facilities in the Orange Farm township at the individual, interpersonal, organisational, community, and policy levels.
- Providers' views of facilitators of male uptake of HTS at PHC facilities in the Orange Farm township at the individual, interpersonal, organisational, community, and policy levels.

1.6 Study Setting: Orange Farm Township

Orange Farm is a township located in the South of Johannesburg, approximately 45 km from the CoJ in the Gauteng Province of South Africa. In the late 1980s, Orange Farm was established as an informal settlement. The scrapping of the Pass Laws led to a steady increase in urbanisation in South Africa at that time. Langa (2015, p. 7) states that since no houses were available for the increasing population in the area, many new migrants to Johannesburg settled in Orange Farm, where they built shacks. The same author affirms that a study conducted in Orange Farm in 2008 showed that 70% of the houses in Ward 3 were classified as formal dwellings, leading to the area being categorised as a township and no longer as an informal settlement.

The Orange Farm area was elevated in 2011 with a modern library, tarred roads, permanent housing in the proclaimed area, low-cost housing, three clinics and one community health centre (CHC), an information and skills development centre with internet access, a multi-purpose community centre and some government offices, including a police station, and Department of Health subdistrict, Social Development, Home Affairs, and Housing offices (Langa, The impact of the community work programme on violence in Orange Farm, 2015).

Orange Farm has evolved into the biggest and most densely inhabited community in South Africa with about 380 000 families; and an estimated population of 1 million by 2016 (CoJ, 2018; Orange Farm Human Rights Advice Centre [OFHRAC], 2016). Also, Orange Farm is one of Johannesburg's most geographically isolated communities. The township has a diverse group of people who speak various languages, predominantly IsiZulu, and Southern Sesotho. The records of the OFHRAC (2016) state that Orange Farm comprises six extensions, namely 1, 2, 3, 6, 7 and 8.

Despite the developments in the Orange Farm township, the area is affected by high unemployment rates and extreme poverty. Other challenges faced are low levels of literacy, lack of essential services, lack of justice and healthcare facilities, lack of consultation between the government and community members, and increasing crime (Langa, 2015; OFHRAC, 2016). As stated in a study conducted by Langa (2015, p. 9), Orange Farm is confronted by high crime rates, the most concerning of which are sexual crimes which contribute to an increase in HIV infection rates within the area. Correspondingly, Marshall et al. (2017, p. 2) and Maraux et al. (2017, p. 2) confirmed that Orange Farm experienced one of the most severe HIV epidemics in the world, with an HIV prevalence rate estimated at 28.6% among women undergoing antenatal care in 2013. VMMC-related studies identified that at xxx% the male circumcision prevalence rate among adults between 2010 and 2015 remained relatively constant (Fiamma et al., 2010; Marshall et al., 2016; Maraux et al., 2017). Moreover, 80% of male circumcisions were undergone by younger rather than older men. As a result, it is expected that an increase in male circumcision prevalence among adults will occur with the replacement of generations. It is argued by Gazimbi et al. (2019) that uncircumcised men rapidly increase the spread of HIV infection; therefore, the more men who get circumcised, the lower the spread of HIV infection.

Langa (2015) indicated that the residents of Orange Farm have access to healthcare facilities, including three satellite clinics and the main community health centre, which serves as a referral point for the three clinics in the area. Nonetheless, the Orange Farm area has high HIV prevalence regardless of people accessing healthcare services (Govender et al., 2013). Significantly, less than 10% of Soweto and Orange Farm residents have private medical insurance because private healthcare is generally expensive in South Africa (Statistics South Africa, 2011). UNAIDS (2017b, p. 2) states, “Men are less likely than women to use health services and tend to be sicker when seeking medical help”. To this end, the current study was conducted at three PHC clinics in Orange Farm, including Barney Molokoane, Orange Farm Ext 7, and Imbalenhle clinics. The PHC facilities offer HTS, including HIV testing, tuberculosis (TB) screening/testing, sexually transmitted infections (STI) screening, and ART initiation to men and women.

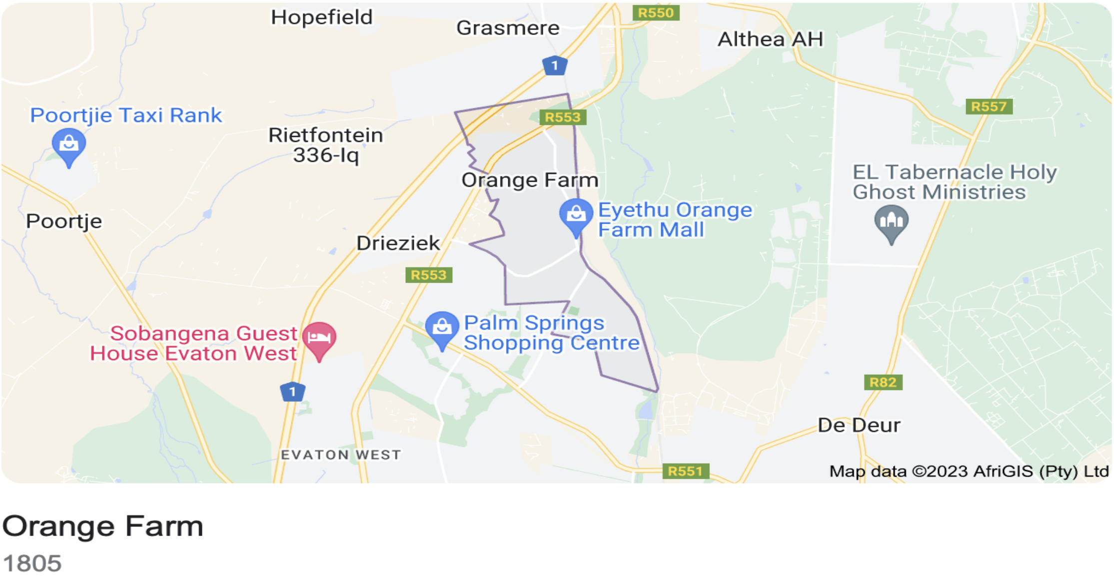

Figure 1.3 Map of Orange Farm

Source: Google Maps, 2023

1.7 Research Methodology

To adequately address the research problem and objectives, the researcher judiciously employed a case study design with a qualitative approach to data gathering, as suggested by Priya (2021), in the Orange Farm Township. From a constructivist stance, this approach allowed the researcher to construct meaning from participants' experiences. Research conducted by Govender et al. (2013) on VMMC in Orange Farm showed high HIV prevalence in the area which informed the purposive selection of this study setting. The qualitative case study method involves an in-depth exploration of a specific real-life system or multiple systems within a contemporary context. Therefore, the current study looked at HTS from a holistic (socio-ecological) view – the individuals interacting with their significant others, families and friends, different organisations, communities, and the policy context of HIV service provision. The study's exploration was carried out over a period, using comprehensive data collection techniques that drew from various sources of information (Creswell, 2013). Single case studies excel at providing rich and detailed descriptions of a phenomenon's existence that lends itself to more profound insights and discoveries. According to Gustafsson (2017), a single case study approach also allows for a more thorough examination of existing theoretical relationships and the exploration of new ones.

A non-probability convenience sampling method was used to select participants from the three PHC facilities based on their availability to participate in the study. Overall, a total of 12 patients (four patients per PHC facility), five professional nurses (two at Barney Clinic, two at Imbalenhle Clinic, and one at Orange Farm Ext 7 Clinic), and six lay counsellors (two per PHC facility) took part in this study. The purpose of this sample size was to reach saturation instead of the generalisability of findings (Saunders et al., 2018). Data were collected using semi-structured interviews with patients and health workers. Ethical clearance was granted by the Gauteng Department of Health (GDoH) Research Committee and the UFS Health Sciences Research Ethics Committee (HSREC). The relevant research methodology is discussed in more detail in Chapter 3.

1.8 Significance of the Study

After numerous studies and randomised controlled trials (RCTs) conducted on VMMC, proposed as an HIV prevention intervention for men over a decade ago, statistics in Orange Farm and other areas still show an increase in men testing HIV-positive (Govender et al., 2013, p. 128). Also, there are strong indications of men who do not want to access HTS at PHC facilities, which motivated the current study to explore barriers and facilitators that men experience. The findings will inform interventions by the GDoH and the local district, subdistrict, and healthcare facilities to improve HTS access for men.

1.9 Structure of the Dissertation

Chapter 1 provides the background and rationale of the study; the HIV/AIDS burden globally, regionally, and nationally; HIV risk-taking behaviour among men; and the subsequent necessity to prompt HTS among men. Moreover, this chapter focuses on the challenges to access to HTS by men internationally and nationally. The chapter also provides a background of Orange Farm, an overview of the theoretical framework, the research problem, the aim and objectives, the study setting, the research methodology, and the significance of the study.

Chapter 2 examines critical factors contributing to men not accessing HTS in PHC facilities according to the SEM. The chapter discusses HTS approaches over time, the concept of gender and HTS, and the global and national policy guidelines for HIV screening, testing, treatment, and care. A discussion of HTS globally and in South Africa follows. It further provides the conceptual framework on which this study hinges. The theoretical framework that influenced this study is the Socio-Ecological Model adapted from the work of Bronfenbrenner on human development. The chapter accentuates the origin of the theory, the five SEM constructs, what they entail, and how the SEM theory has been applied in previous HIV-related studies. The SEM framework enables the reader to understand that the barriers that patients encounter when accessing HTS are influenced by different aspects, which are not only individual but also interpersonal and organisational, and that they manifest at the community and policy levels. Additionally, it discusses the factors which can improve access to HTS for men. The chapter is then drawn to a conclusion.

Chapter 3 presents the research paradigm, the research design, and the study setting. It further describes step-by-step how the research was conducted and provides the motivation for using the research approach. Descriptions are included of the population and sample, research instruments, recruitment of participants, data collection, and the process of data analysis. Furthermore, it explains the ethical considerations, clearance, and study approval. Trustworthiness and reflexivity are addressed, and the chapter is concluded.

Chapter 4 highlights the findings of this study. An overview is provided of the participants' demographics and the qualitative data gathered from semi-structured interviews. These findings are structured according to the SEM, which contextualises the barriers to and facilitators of access to HTS in PHC facilities. The contextualisation is done separately for each participant group which includes male patients, lay counsellors, and professional nurses on the individual, interpersonal, organisational, community, and policy levels. The chapter also includes direct quotes from both patients and healthcare providers, offering their perspectives on the barriers and facilitators of access to HTS by men. Furthermore, the chapter contains tables that display the key barriers and facilitators of HTS uptake by men that were identified across all participant groups.

Chapter 5 expounds on key barriers and facilitators of uptake of HTS among men in keeping with the SEM constructs, the individual, interpersonal, organisational, community and policy levels. It discusses these findings while referencing the literature to support the arguments. Also, the chapter addresses the limitations of the study, offers recommendations, and draws conclusions. The recommendations are directly derived from the findings of this study, and the conclusions are based on an assessment of the entire research, spanning from Chapter 1 to Chapter 5.

1.10 Conclusion

This chapter provided the background and rationale for the study based on the global, regional, and national HIV/AIDS burden, the high-risk sexual behaviour, and the suboptimal HIV testing rates among men. Moreover, the theoretical framework, the statement of the problem, the research question, the aim, and the objectives were described. It also included the study setting, the research methodology, the significance of the study, and the structure of the dissertation. The next chapter describes the key factors contributing to men not accessing HTS in PHC facilities and what can be done to address this.

Chapter 2: Literature Review

2.1 Introduction

Chapter 2 describes the key factors contributing to men not accessing HTS in PHC facilities and what can be done to address this. The chapter commences with a brief historical overview of approaches to HTS; followed by an explication of the necessity to uphold human rights in patient care; reflections on HTS globally and in South Africa; a description of key HTS policy guidelines across the global and national contexts; a description of the study's theoretical foundation, the SEM, and its limitations; a review of the barriers and facilitators of HTS among men in keeping with the five SEM levels (i.e. individual, interpersonal, organisational, community and policy); and lastly, a summary of key highlights in the chapter.

2.2 HTS Approaches Over Time

HIV testing has evolved over the years. According to Alexander (2016), HIV antibody tests were first developed in 1985 to screen blood products rather than diagnose AIDS. Following infection, the first-generation tests detected Immunoglobulin G (IgG) antibodies, with a positive result emerging six to twelve weeks later. Due to the increased frequency of false positive results, a two-test algorithm was later established by using Western blot or immunofluorescence tests as a confirmation step.

Subsequently, in the late 1980s, a second generation of HIV tests was developed. HIV tests of the second generation added recombinant antigens. In the early 1990s, the third generation of HIV tests included the detection of Immunoglobulin M (IgM), significantly reducing the negative test window to approximately three weeks after infection. In the fourth and fifth-generation HIV tests developed between 1997 and 2015, the p24 antigen detection enzyme-linked immunosorbent assay (also known as ELISA) was added to the screening tests, reducing the test-negative window to 11 to 14 days post-infection. The new algorithm was developed in response to the fourth-generation test's ability to detect both antibodies and antigens without distinguishing between them. Then, in 2015, a fifth-generation HIV screening test was approved by the United States of America's Food and Drug Administration (FDA); the test provides antigen and antibody results separately and requires yet another algorithm. The time it takes to detect HIV infection is approximately two weeks post-exposure, with fewer false positive tests.

Alexander (2016) contends that the emergence of HIV prophylactic treatments after potential exposure to blood or body fluids in occupational settings, along with the necessity to deliver prompt HIV results to patients in healthcare settings and during labour and delivery, catalysed the development of rapid HIV assays. The card-based assays underwent similar advancements as the primary screening tests, progressing through first to third generations. These tests were designed for use with blood, serum, and oral fluid samples (Arora et al., 2013; Manoto et al., 2018; Ndlovu et al., 2020). Among them, the OraQuick method stands out as a third-generation HIV assay, waivered by the FDA and approved for home testing[1] (Alexander, 2016). Furthermore, tests for HIV are now offered as a routine diagnostic procedure instead of being used as a method to safeguard the blood supply.

In the past, HTS in South Africa were centralised in health facilities that offered services such as ANC, treatment for STIs, medical male circumcision (MMC), and treatment for HIV-related opportunistic infections (OIs) (NDoH, 2016; Johnson et al., 2019). However, with innovations to increase HIV testing coverage and reach previously under-tested subpopulations, HTS is now offered beyond the healthcare setting. Thus, the HTS approaches include the facility-based and community-based approaches. The facility-based HTS approach refers to the standard HTS procedure that is carried out in a healthcare facility (Sulat et al., 2017, p. 153). Alternatively, the community-based HTS approach includes services offered beyond the healthcare facility, including mobile outreach, door-to-door, and workplace testing (NDoH, 2016; Geoffroy et al., 2017). The current study focused on facility-based HTS, as it explored barriers and facilitators experienced by men when accessing HTS in healthcare facilities.

HTS in healthcare facilities can be client-initiated. This is also known as voluntary counselling and testing (VCT)/client-initiated counselling and testing (CICT), wherein the patients volunteer to acquire testing without a nurse or lay counsellor referral, or provider-initiated counselling and testing (PICT) (UNAIDS, 2007; Makhunga-Ramfolo et al., 2011; Roura et al., 2013). In this context, health workers offer HIV testing to all people attending health services

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[1] For the OraQuick method to be waivered by the FDA it means that the test is approved for use by non-laboratory trained personnel (Alexander, 2016).

in high HIV prevalence settings. WHO guidelines were issued in 2007 recommending PICT adoption to increase HIV testing rates. At that stage, global HIV testing and HIV knowledge were alarmingly low despite improved access to HIV treatment, care, support, and prevention services, leading to the development of the WHO guidelines (Johns Hopkins Bloomberg School of Public Health, 2012).

VCT/CICT typically involves pre-test counselling, where individuals receive information about HIV transmission, prevention, and testing before getting tested. Post-test counselling is also provided, where the test results are disclosed, and individuals are supported in understanding and coping with the results. With VCT/CICT, individuals must give informed consent before HIV testing is conducted. The patients willingly seek HIV testing by themselves in VCT/CICT. PICT also requires consent. Individuals are informed about HIV testing being a routine facet of health care and are given the opportunity to decline if they prefer not to be tested.

According to the NDoH (2016), the VCT/CICT approach employs an opt-in strategy where individuals actively choose to be tested. However, Kennedy et al. (2013, p. 1572) explain that PICT and CICT differ as PICT encompasses both opt-in and opt-out approaches, but the opt-out approach is more prevalent, requiring individuals to actively decline the HIV test after receiving pretest information if they do not wish to be tested. Furthermore, while VCT/CICT targets individuals seeking HIV testing due to potential exposure or those who actively seek to be tested, PICT aims to reach a wider population by offering HTS to individuals who may not have considered getting tested, including asymptomatic people attending routine clinic visits (Kennedy et al., 2013; NDoH, 2016).

Moreover, HIV self-testing (HIVST) in part falls under facility-based HTS. According to the NDoH (2016, p. 11), HIVST does not provide a conclusive diagnosis; as a result, confirmation at a healthcare facility is required. HIVST has been recommended as an attempt to reach people who are not accessing existing HTS, such as men, young people, people who inject drugs (PWID), men who have sex with men (MSM), sex workers, and transgender people (Johnson et al., 2017, p. 1). It is also important to note that within healthcare facilities, it is always voluntary to test for HIV; it is never mandatory. As a result, UNAIDS (2004) and WHO (2016) advocated the latter as a precondition for employment. Yet, many countries have since moved away from this approach because a growing body of evidence has demonstrated that it does not prevent the spread of HIV/AIDS. PICT is also endorsed in all epidemic settings for all people attending outreach and other services tailored to the needs of key populations (WHO, 2007).

2.3 The Concept of Gender and HTS

Nangendo et al. (2020) maintain that recognising that while HIV affects people of all genders there are specific gender-related factors that can contribute to the spread of HIV, affect health outcomes, and impact the success of HIV-related interventions. HTS presents different challenges for men as compared to women. Many studies have highlighted that men are less likely than women to access HTS (Treves-Kagan et al., 2017; Adugna & Worku, 2022; Hlongwa et al., 2022; Asresie et al., 2023). Muwanguzi et al. (2022) affirm that these findings are related to HIV testing or linkage to care. Furthermore, healthcare facilities are often perceived as being spaces for women and children, men tend to consider the utilisation of healthcare facilities as going against masculinity norms (Siu et al., 2014; Camlin et al., 2016; UNAIDS, 2017). Consequently, Jooste et al. (2021) postulate that significantly more women than men are aware of their HIV status.

In a systematic review of research conducted in sub-Saharan Africa, it was established that men tended to portray a low perceived risk of HIV, but feared receiving results that indicated an HIV-positive status, implying that they experienced more stigma and discrimination (Musheke et al., 2013). This view was supported by Nangendo and colleagues’ (2020, p. 7) study in Uganda, which established that several other barriers to HIV testing exist for men, such as a belief that they are HIV-negative and do not need to test, a fear of discovering their HIV status, a lack of interest in testing, a busy work schedule, mistrust in some of the testing methods, and a fear of gossip surrounding testing. Moreover, men are less likely to commence ART compared to their female counterparts; they tend to initiate ART later in life, at advanced stages of the disease; and are often less engaged during treatment (UNAIDS, 2022b). In their study conducted in rural South Africa, Treves-Kagan et al. (2017, p. 6) established that men were five times more likely than women to report any individual anticipated stigma when accessing HTS.

These findings informed the focus on men in this study because they access HTS less than women. The "Male Engagement in the HIV Response – a Platform for Action" initiative proposed that addressing the role of men and boys in the context of HIV prevention, treatment, and support will contribute to closing the gaps in the efforts to end the HIV/AIDS epidemic. Thus, discussions should address various issues, including uptake of HIV testing and treatment, masculinity norms, prevention, stigma, access to services, and data collection (UNAIDS, 2016).

2.4 Global and National Policy Guidelines for HIV Screening, Testing, Treatment and Care

WHO (2019, p. 2) guidelines aim to encourage global and national commitments to HTS as an essential element of achieving and maintaining low HIV incidence by implementing effective and efficient HTS. Guidelines in HTS policies are established and revised by the WHO Guideline Review Committee (WHO, 2021a). The addressees of these guidelines are the national HIV and TB programme managers in low and middle-income countries, clinicians and other health workers especially those who work in primary care services that are first contact for recipients of care, the national advisory boards, community and faith-based organisations, international and bilateral agencies, and organisations that offer technical and financial support to HIV programmes (WHO, 2021b).

Each country's national HTS policy must adapt to WHO's guidelines and recommendations (Flynn et al., 2015). WHO and UNAIDS examine the national HIV testing policies across different countries for alignment with WHO recommendations. As suggested by WHO (2021c, p. xv), an efficient and effective way to find people infected with HIV is to offer everyone visiting the healthcare facilities HIV testing at all service points such as ANC, immunisation, TB, hepatitis, and STIs.

HIV counselling and testing (HCT) in South Africa is now referred to as HIV testing services (HTS) in order "to embrace the full range of services that should be provided together with HIV testing*"* (NDoH, 2016, p. 1). The Department asserts that the purpose of the national HTS policy guidelines is to provide an overview of how HTS must be implemented and to guide health workers in ensuring high-quality provision of services. Furthermore, the policy's main objectives are to provide consistent high quality HTS; use appropriate HTS modalities to reach a variety of populations; strengthen linkages to preventative, care, and treatment services; increase quality assurance; and improve results accuracy (NDoH, 2016). HTS provides an opportunity and an avenue for those who test HIV-positive to enrol in treatment as soon as possible, as well as for those with a negative HIV test result to receive access to an effective package of prevention services to continue maintaining their status (WHO, 2019; PAHO, 2023).

According to the South African HTS policy, there are three guiding principles for quality HTS (NDoH, 2016). The first guiding principle is a rights-based approach which prioritises universal health coverage, gender equality, accessibility, availability, acceptability, and quality of services as constituting a successful HTS programme. The rights-based approach seeks to ensure that those who need prevention, treatment, care, and support services can access them.

The second guiding principle is the 5Cs, which are **c**onsent, **c**onfidentiality, **c**ounselling, **c**orrect test results, and **c**onnection to care. The first C, Consent, entails that patients must first consent to be tested and counselled. Furthermore, HTS discussions between the provider and client should not be disclosed to third parties without the client's permission (confidentiality). In addition, pre-test information can be provided in a group setting; however, individuals with questions they do not wish to ask in the group setting should be able to do so privately (appropriate counselling). Correct test results relate to quality assurance (QA) mechanisms and are essential to ensure accurate diagnosis. Lastly, clients should be linked to prevention, treatment, and care services, with adequate and appropriate follow-up (connection to care).

The third principle is the HTS continuum of care which requires the provider of HTS to ensure that clients are not lost in the HTS cascade. The HTS continuum of care stipulates that there must be a) demand creation and linkage of clients to HTS; b) pre-test information including screening for TB, STIs and non-communicable diseases (NCDs); c) HIV testing and diagnosis; d) post-test counselling; and e) active referral and linkage confirmation to other services (NDoH, 2016, p. 2). These three guiding principles ensure that HTS is offered with excellence and accuracy.

2.5 HTS Globally and in South Africa

2.5.1 HTS globally

In December 2013, UNAIDS embarked on supporting country- and region-led efforts to establish new targets for HIV treatment scale-up beyond 2015 (UNAIDS, 2014). The concept behind these targets was that achieving these milestones would lead to better management of

HIV, increased access to treatment, and a reduction in new infections. In 2014, UNAIDS published the 90-90-90 targets. More specifically, the strategy envisioned that by 2020, 90% of all people living with HIV would know their HIV status, 90% of all people with diagnosed HIV infection would receive sustained ART, and 90% of all people receiving ART would have viral suppression.

Progress made in achieving the 90-90-90 targets varied across countries and regions. A study conducted by Marsh et al. (2019) to assess the progress towards the 90-90-90 targets at the global, regional and country levels, indicated that 79% of people globally knew their HIV status, of which 78% were accessing treatment with 86% of those on treatment having viral suppression. Consequently, most countries did not meet the UN’s 90-90-90 targets for 2020. Many countries faced challenges in achieving the first indicator for HIV case detection (diagnosis) and the second indicator concerning ART coverage. These challenges involved not only identifying individuals with HIV but also ensuring that all diagnosed patients are promptly initiated on life-saving treatment. Inadequate HIV testing leaves a significant proportion of people undiagnosed, increasing the risk for HIV transmission within communities (Nachega et al., 2018). UNAIDS (2022a) announced that the global advancements towards attaining the 90-90-90 targets in 2021 saw an improvement to 85-88-92.

Nachega et al. (2018, p. 1488) highlighted different challenges across populations for not meeting the 90-90-90 targets. For instance, the challenges among pregnant and breastfeeding women included poor adherence to ART, substandard retention in care, and a lack of social and male partner support. Among children, challenges related to missed opportunities for early infant diagnosis, limited paediatric ARV drug formulations, limited caregiver competency, and poor virologic suppression. Among adolescents, key challenges included poor linkage to care, non-adherence to treatment, substandard retention in care, not telling the adolescents who got infected at birth about their status, and poor healthcare transitioning procedures. Among the lesbian, gay, bisexual, transgender, and queer (LGBTQ) community, key challenges related to stigma, as well as criminalisation of sexual orientation, and individuals being targets of violence in some countries.

Furthermore, among sex workers, the challenges included being looked down upon, experiencing violence, and criminalisation of sex work in certain countries. Among PWID, challenges included the experience of stigma and criminalisation of using drugs in some countries. Lastly, among prisoners, the challenges included the experience of stigma and poorly resourced health services in the prisons. Overall, the challenges that mostly contributed to not achieving the 90-90-90 targets across different populations were stigma, insufficient communication with adolescents who have been infected perinatally, and failure to achieve virologic suppression.

In December 2020, UNAIDS revealed a fresh and ambitious set of goals, aiming to achieve a 95% awareness rate of HIV status among all PLHIV, ensuring that 95% of those diagnosed with HIV enrol on ART, and attaining a 95% viral suppression rate for all individuals enrolled on ART by the year 2025 (Frescura, et al., 2022). These targets are successors to the earlier 90-90-90 targets for 2020 which were not reached. Subsequently, access to ART has significantly increased in sub-Saharan Africa, Asia, and the Pacific region, collectively representing approximately 82% of the global population of PLHIV. On a global scale, nearly 71% of individuals living with HIV in 2022 achieved suppressed viral loads, with 76% of women and 67% of men living with HIV successfully managing their viral loads (UNAIDS, 2023, p. 6).

The UNAIDS (2023, p. 11) report further shows that in sub-Saharan Africa, the Caribbean, Eastern Europe, and Central Asia, a notable gap remained in the likelihood of men with HIV receiving treatment compared to women with HIV. Moreover, the report states that it is important to eliminate stigma and discrimination within healthcare institutions and to reform laws and practices that foster distrust and fear of health services, particularly among key populations.

Botswana, Eswatini, Rwanda, the United Republic of Tanzania, and Zimbabwe have successfully achieved the 95-95-95 targets (UNAIDS, 2023, p. 4). The most substantial improvements have occurred in regions and nations with extensive financial investments, particularly in eastern and southern Africa, where new HIV infections have decreased by 57% since 2010. Progress has been enhanced by establishing legal and policy frameworks that support and enable rights rather than undermine them.

2.5.2 HTS in South Africa

South Africa has the largest ART programme in the world (Myburgh et al., 2021). UNAIDS (2019) estimates that this accounts for 21% of the global HIV burden and 14% of new HIV infections. During the early days of setting up a democratic government, HIV was not a major concern and received very little attention. As a result, condoms were provided and a 'safe sex' education strategy was implemented during the 1980s and 1990s, but these strategies were hampered by stigma, fear, and other behavioural and social factors (Simelela & Venter, 2014). President Thabo Mbeki's so-called ‘AIDS denialism’ ultimately made 1998-2008 a challenging period for South Africa as the full extent of the epidemic's health and social consequences emerged.

Plans were devised to lessen the impact of the epidemic. In the first phase, these plans included taking care of HIV-infected people at home and creating strategies for children who were affected. The second phase of efforts to prevent the spread of the disease looked at how effective ARVs were when given to pregnant women and their newborns known as PMTCT. The second phase also brought about a time of increased disagreement due to President Mbeki's denial of the problem. In 2009, when President Jacob Zuma took office, along with Dr Aaron Motsoaledi as the Minister of Health, the approach to handling HIV was changed and given more importance. This included a big push for HIV testing through a major campaign (Simelela & Venter, 2014). The push for increased uptake of HIV testing implied that more patients with HIV would require life-saving ART. Initially, doctors administered ART in hospitals. However, there was an increasing demand for ART due to the rising number of HIV infections (Simelela et al., 2014). In response to the surging number of PLHIV in need of ART and the growing pressure on doctors, a task-shifting approach, the Nurse-Initiated and Managed Antiretroviral treatment model, requiring nurses in the public sector to take on the role of initiating ART, was adopted (Ncama et al., 2017; Crowley et al., 2020).

In December 2014, South Africa adopted the 90-90-90 strategy to manage HIV/AIDS alongside TB (Malaza et al., 2016). In terms of the 90-90-90 targets, the South African Government (2022) considered the country to be at 94-78-89. In April 2013, a fixed dose combination (FDC) first-line ART regimen (Tenofovir/Emtricitabine/Efavirenz) was rolled out which improved access to treatment for patients. Anticipating moving closer to meeting the 90-90-90 targets, South Africa amended the ART initiation criteria in January 2013 from CD4 <200 to CD4 <350, then in 2015 from CD4 <350 to CD4 <500. The universal test and treatment initiative introduced in September 2016, endorsed ART initiation regardless of CD4 count, which improved performance on the 90-90-90 targets (Lippman et al., 2019). Additionally, in 2016, more efforts were made to streamline treatment by offering fast-track ART pick-up and longer medication supplies to stable patients. With the introduction of the FDC and expanded ART eligibility, along with new measures for streamlining treatment and improving adherence, care engagement and adherence are likely to improve significantly. With the transition to the 95-95-95 targets, South Africa is currently at 93-76-90 (South African Government, 2022).

The South African Constitution guarantees the right to have access to healthcare services as a basic human right (South African Human Rights Commission, 2016, p. 1). HTS is included in the healthcare services that citizens have the right to access and is therefore also considered a basic right. The human rights lens has revealed issues of discrimination and social exclusion that often underlie abuse against patients. Abuse is common in PLHIV, especially towards those who use drugs, sexual and gender minorities, ethnic minorities, and people with disabilities (Cohen & Ezer, 2013). Additionally, the realisation of the full potential of HTS may be hindered if the services are provided by under-qualified personnel, compromising access and quality. Furthermore, as highlighted by Mohlabane et al. (2016), a significant proportion of individuals face hurdles in accessing HTS due to limited knowledge of HIV. Therefore, it suggests a potential gap in health education, possibly attributed to inadequately trained lay counsellors being tasked with educating patients about HIV (Mwisongo et al., 2015; Ngangue et al., 2017).

The HTS policy (2016) emphasises that the provider must adhere to the rights of patients when offering HTS to patients to minimise the obstacles patients experience when accessing HTS in facilities. Moreover, the importance of appropriate counselling is stressed in the HTS policy which emphasises that inappropriate counselling of patients has a negative effect on patient care. Therefore, in order to provide the best care, it is essential for the provider to respect the patient’s rights, and also for the patient to respect the providers as they too have rights which should not be violated. According to Dapaah (2016, p. 1), studies in sub-Saharan African countries found that many of the providers showed discriminatory attitudes and have been involved in disreputable behaviours towards PLHIV. Providers’ bad attitudes and disrespect towards patients demonstrate that the patients’ rights to access HTS when they require the services are disregarded.

2.6 Theoretical Framework

This study was guided by the Socio-Ecological Model (SEM). Gombachika et al. (2012, p. 2) maintain that the SEM addresses the complexities and interdependencies between socio-economic, cultural, political, environmental, organisational, psychological, and biological factors influencing behaviour. Before discussing the SEM and its constructs, it is crucial to provide a brief historical background of this model. In this study, the barriers and facilitators men encounter when accessing HTS are explored through the lens of the SEM.

2.6.1 The historical background of the SEM

In the decades since the 1978 Alma Ata Declaration and the 1986 Ottawa Charter of Health Promotion highlighting the importance of nonmedical factors in producing health, health promotion researchers and practitioners have emphasised that changing policies, as well as the environments where people live, work, and play, are essential to improve population health and reduce health disparities (Green & Allegrante, 2011). The SEM was first introduced as a conceptual model for understanding human development by Urie Bronfenbrenner in the 1970s and later formalised as a theory in the 1980s (Bronfenbrenner, 1977; 1986; 1989). The initial theory by Bronfenbrenner was illustrated by nesting circles that place the individual in the centre surrounded by various systems. The microsystem closest to the individual contains the strongest influences and encompasses the interactions and relationships in the immediate surroundings.

The second circle is the mesosystem that looks beyond immediate interactions and includes those people the individual has direct contact with at, for example, work, schools, churches, and neighbourhoods. The exosystem does not directly impact the individual but exerts both negative and positive interactive forces on the individual such as community contexts and social networks. The macrosystem includes societal, religious, and cultural values and influences. Lastly, the chronosystem contains both internal and external elements of time and historical content; in revised models, this level includes the influence of policy (Bronfenbrenner, 1986).

McLeroy et al. (1988) expanded Bronfenbrenner's (1979) SEM to explore how individual, social, and environmental factors potentially impact the uptake of health promotion interventions, more specifically individual factors, interpersonal processes, institutional factors, community factors, as well as public policies. The theory posits that health-seeking behaviour often stems from a combination of both internal and external environmental factors. In the health promotion field, ecological models have been used to understand and identify targets for both general and specific health behaviour interventions (McLeroy et al., 1988; Sallis et al., 2008; Stokols, 1996).

The SEM is a widely employed framework in public health research and practice, placing health-related and other social policies and environments at the centre, and conceptualising how individuals, their social networks, and organised groups produce a community context that fosters healthful policy and environmental development (Kilanowski, 2017). These represent dynamic relationships among individuals, groups, and their environments. Based on Bronfenbrenner’s (1992) theory, they are derived from a systems orientation to human development, in which individuals are understood to influence, and be influenced by, people and organisations with which they interact, available resources and institutions, and societal norms and rules. In essence, the SEM identifies that when people are responsible for establishing and maintaining lifestyle changes needed to reduce risk and improve health, their behaviours are influenced by factors at multiple levels.

The SEM was used in previous studies to explore and understand access to healthcare services by different populations. To mention a few, Yakob and Ncama (2016) used the SEM to research HIV/AIDS treatment and care services in the Wolaita Zone of Ethiopia. The SEM was also used by Ma et al. (2017) in a systematic review addressing the barriers to and facilitators of access to health services by sex workers. Chiaramonte et al. (2018) employed the SEM in a study on barriers to HIV service access for young men who have sex with men and high-risk young women living in low-resource urban areas in the United States of America. In Kenya, Christian et al. (2020) used the SEM in a study on truckers' opinions about HIV self-testing.

2.6.2 Constructs of the SEM

The SEM considers individuals and their affiliations to people, organisations, and their community at large. There are five levels to this model, namely Individual, Interpersonal, Organisational, Community, and Policy. Importantly, these constructs also provide a multidimensional approach to the understanding of barriers and facilitators regarding access to HTS at healthcare facilities. The SEM levels are described in this section.

2.6.2.1 Individual level

The individual level involves personal characteristics such as knowledge, attitudes, skills, and beliefs that influence behaviour (McLeroy et al., 1988, p. 355). In this study, individual-level factors refer to personal characteristics that encourage or discourage people from utilising HTS. For instance, the level of HIV/AIDS awareness influences people's likelihood to seek HIV testing. In support, Ryan et al. (2020) propound that awareness of HIV/AIDS helps inform individuals about how susceptible they are to the disease, how serious the disease is, and the overall threat of the disease. The acceptance of HIV testing at the individual level was linked to factors such as age, educational attainment, religious affiliation, household wealth status, consistent year-round employment, media exposure, the total number of sexual partners in one's lifetime, and the level of knowledge about HIV (Kirakoya-Samadoulougou et al., 2017, p. 3).

In KwaZulu-Natal, Khuzwayo and Taylor (2018) explored the socio-ecological levels for the prevention of sexual risk behaviours. Their participants cited individual-level factors such as role modelling and gender stereotypes as responsible for the ongoing exposure of young people to behaviours that put them at sexual risk. In the context of HIV testing among women in Lebanon, the individual-level barriers pertain to sexual health behaviours that are influenced by knowledge, attitudes, and beliefs. Clark et al. (2017) cautioned that while themes emerged surrounding patient behaviours regarding HIV testing, it is important to recognise that these reports are perceived through the lens of healthcare providers and practitioners. Consequently, factors such as what someone knows, their attitudes, their beliefs, the examples they follow, and the expectations associated with their gender all influence how easily they can access HTS.

2.6.2.2 Interpersonal level

The interpersonal level concerns a person's relationships with other people, formal or informal social networks, and social support systems such as the family, work group, and friendship networks (McLeroy et al., 1988). These relationships have a direct impact on people's health and the way people take care of themselves (Baral et al., 2013). For example, families can have regular talks with their family members about HIV/AIDS and go for HTS from time to time. In Lebanon, a study established that women faced difficulties in getting tested for HIV due to issues between them and healthcare providers. According to Clark et al. (2017), women felt judged by the healthcare providers who usually offered sexual and reproductive health care and were usually the first contact for HIV tests. In research by Khuzwayo and Taylor (2018), some of the siblings and extended family members were reported to be influencing sexual risk behaviours targeted in their study. Therefore, on the interpersonal level, the family, peers, and healthcare providers play a significant role in determining access to HIV testing and prevention measures.

2.6.2.3 Organisational level

Organisational factors include social institutions with organisational characteristics, formal and informal rules, regulations for operation, policies, and informal structures that constrain or promote healthy behaviours (McLeroy et al., 1988; Rural Health Information Hub, 2023). Organisations play a significant role as both conveyors and transmitters of social norms and values. Therefore, organisations may have positive or negative influences on their members' health. Furthermore, they provide a platform for encouraging social support and facilitating behavioural transformations (McLeroy et al., 1988, p. 360). At this level, healthcare systems, schools, businesses, and FBOs can take it upon themselves to monitor policy-making organisations and other structural change efforts meant for HTS at the PHC level.

As described by Christian et al. (2020), organisational factors pertain to the way organisations offer oral HIVST and what methods they use. Most participants in their research in Kenya had good experiences with previous HIV tests performed by healthcare providers. They also believed that men were treated fairly and received the necessary services. At this level, access to healthcare services which include HTS was hindered by healthcare providers' attitudes. For Khuzwayo and Taylor (2018), young leaders affirmed that health workers hold unfavourable views regarding girls' requirements for contraceptives. Additionally, they noted that limited availability and understanding of contraceptives contributed to unsafe sexual behaviour among young individuals in uMgungundlovu, KwaZulu-Natal. Positive staff attitudes and health education are essential to access to HTS and other healthcare services such as family planning to help minimise risky sexual behaviours (Chinyandura & Rees, 2022; Khuzwayo & Taylor, 2018).

2.6.2.4 Community level

At the community level, relationships between organisations, institutions, and informal networks within defined boundaries constitute community-level factors. These include decision-making groups, such as corporate boards, local health commissions, and national governments, as well as relationships and communications among them (McLeroy et al., 1988).

These organisations can pool resources and ideas together to improve community health. For example, a hospital agrees to have some of its nurses teach HIV/AIDS-related education in a nearby school. At this level, organisations in an area could coordinate health events designed to educate and equip affiliates with knowledge on access to HTS available at various PHC facilities; and distribute materials to help prevent the spread of HIV/AIDS in the community. From research conducted in Kenya by Christian et al. (2020) at the community level, the worry about the negative view people might have if they saw someone getting a self-test kit at a clinic highlights the importance of making HIV self-test kits accessible at places where there is no judgment or shame. Thus, stigma in communities also hinders access to HTS.

2.6.2.5 Policy level

At the final level of the SEM, McLeroy et al. (1988) assert that specific policies and environments that are produced by organised and intentional human action enable autonomous action and facilitate healthful choices. They emphasise that at this level laws and regulations which can be municipal, regional, or national, exert substantial influence over the determination of health consequences. Importantly, the distribution of financial resources, implementation of policy endeavours designed to target health habits, promotion of social fairness, and the broader establishment of infrastructure collectively play a critical role in moulding health outcomes. These include public policies with ties to health, such as national health insurance laws as well as public policies that determine access to resources. It could incorporate access to free condoms; voluntary or organisational policies, such as educational programmes on HIV/AIDS and access to HTS at PHC facilities; aspects of the physical environment, such as community clinics; and environmental facilitators of social interaction, such as availability of communications systems and healthcare services (Green & Allegrante, 2011).

Failure to follow the laws was noted as a factor that motivates young people in uMgungundlovu, KwaZulu-Natal to start drinking alcohol. The study also discovered that there is a significant amount of alcohol abuse, which is connected to risky behaviours among young people, as well as gender-based violence and violence (Khuzwayo & Taylor, 2018). Similarly, in another study in Gauteng on alcohol use and sexual behaviour among risky drinkers and patrons, most participants believed that high levels of alcohol consumption and unprotected sex were prevalent in their communities, particularly among casual sexual partners, and the findings indicated strong associations between alcohol consumption and risky sexual behaviour (Morojele et al., 2006).

2.6.3 Application of the SEM in addressing barriers to accessing HTS in previous studies

The SEM has been applied to various qualitative HIV-related research initiatives to identify factors concerning access to HTS at the different SEM levels. The SEM has also been used to explore the acceptability of HTS. Examples of previous studies that have used the SEM to address health-related challenges, more specifically, in addressing barriers to accessing HTS, follow:

- A qualitative case study by Yakob and Ncama (2016) was conducted in six districts in the Wolaita Zone, Ethiopia. This study investigated the impact of socio-ecological factors on access to and acceptability of HIV/AIDS treatment and care services (HATCS). Data was collected using focus group discussions (FGDs). The results showed that four socio-ecological factors of analysis affecting access to and acceptability of HATCS were identified. They included *firstly*, factors affecting the client (awareness, experiences, expectations, income, employment, family, HIV disclosure, and food availability); *secondly*, factors affecting the community (care and support, stigma and discrimination and traditional healing); *thirdly*, factors affecting the health facility (interactions with care providers, availability of care, quality of care, distance, affordability, logistics availability, follow up and service administration); and *fourthly,* factors affecting the policy and standards (healthcare financing, service standards, implementation manuals and policy documents).
- A study by Gombachika et al. (2012, p. 2) explored barriers encountered by couples living with HIV in accessing sexual and reproductive health services using the SEM. The study took place in Malawi in 2010. In-depth interviews were performed with twenty couples purposively selected from the matrilineal Chiradzulu and patrilineal Chikhwawa communities in Malawi. The study used the SEM to analyse the social and cultural issues involved in the decision-making process in couples living with HIV. Through SEM, it recognised the interconnectedness between individuals and their environment. According to the study findings, barriers to sexual and reproductive health services existed across all five levels of the SEM, indicating that they were influenced by numerous factors.

- Chiaramonte et al. (2018) used an ecological approach to investigate the perceived barriers to access of HIV services within two groups of young individuals (aged 12-24) extremely affected by HIV in the United States of America namely MSM and high-risk women. To identify distinct service barriers, the researchers analysed content from interviews with 318 key informants. There were 29 barriers coded as ‘service-seeking demands,’ ‘stigmas,’ ‘knowledge and awareness,’ ‘quality of service,’ ‘powerful opposition,’ and ‘negative emotions’. The findings suggested that barriers affecting youth's access to HIV prevention, testing, and linkage-to-care services were remarkably similar, highlighting the need for comprehensive approaches to improve youth's access to services that address both individual and extra-individual barriers. It concluded that certain groups of youth in the United States were more likely to be undiagnosed with HIV and to have limited access to HIV services due to factors across their social ecology.
- A modified ecological systems framework by Mugavero and colleagues (2013) placed engagement with HIV services in the context of factors at the individual, relational, community, healthcare system, and policy levels. The framework considered the development, psychological, social, and structural needs of United States youth at risk of exposure.
- Research by Baral et al. (2013) investigated the modified social ecological model (MSEM), a tool to help understand and evaluate the risks and situations of HIV outbreaks in different communities, and how to approach community-level actions like HTS, considering various cultural and social backgrounds. The utility of the MSEM was demonstrated with case studies of HIV risk among PWID, MSM and sex workers. The SEM in this study embraced five levels of risk: ‘individual,’ ‘network,’ ‘community,’ ‘public policy,’ and ‘stage of epidemic’ Baral et al. (2013, p. 7) observed that “[e]ach level provides a context in which to understand subsequent levels, and there is interaction between each level and factors within levels”.

2.6.4 Strengths of the SEM

By illustrating the simultaneous relationships and mutual influences among, and within the components of varied systems or environments, Bronfenbrenner (1979) aimed to illustrate how the interplay of the elements of those systems influences human development. According to

Anjorin et al. (2023), the SEM allows behavioural and environmental changes to be integrated. Also, personal, and socio-environmental factors are taken into consideration. The SEM can be used by those who wish to better understand how various factors can affect their health in general. As a result, they can learn ways to balance personal and socio-environmental factors to promote a healthy and safe lifestyle. For the Open University (2023), the SEM is useful for understanding relationships between children and young people and the systems listed above, including friendship networks, families, community organisations and services, cultures, national policies, and globalisation. Additionally, by using SEM techniques, researchers can look at problems from various angles and think about how family, community, culture, and societal factors contribute to problems as well as their solutions. Stevenson (1998) considers using the SEM as a practical way to navigate a very confusing environment as it provides a map.

According to Stokols (1996, p. 287), people-environment relationships are better understood in the SEM when considering their social, institutional, and cultural contexts. The key strength of the SEM in health promotion is that it integrates behavioural change and environmental enhancement strategies into a systems-theoretical framework. In addition, social-ecological theories emphasise cross-level analyses of health problems and their related interventions. Another important feature of the SEM is that researchers and practitioners use it to examine both individual and aggregate manifestations of health problems, as well as the impacts of community interventions because they incorporate two or more analytic levels (e.g., personal, organisational, and community).

2.6.5 Limitations of the SEM

Bronfenbrenner's model has been criticised for focusing too much on biological and cognitive aspects, but not enough on socio-emotional aspects (Dalton State College, 2021). In the health promotion context, the SEM has practical limitations. Ecological interventions must integrate knowledge from several different disciplines and require close coordination among people from different sectors of society (Stokols, 1996, p. 287). As a result, incorporating active and passive interventions into health promotion programmes, as well as multi-level, multi-method evaluation of outcomes over longer periods, can be highly expensive and logistically challenging.

Bedoya (2020) reports that the SEM has several limitations. *Firstly*, its simplification can ignore how dynamic and interactive the SEM levels influences are, and how they frequently overlap and interact in intricate ways. *Secondly*, the model does not specify how to appropriately intervene or address issues at each level. *Thirdly*, due to its Western perspective, it may fail to take cultural, historical, or geographical differences, which influence social dynamics, into account. *Fourthly*, the SEM's linear representation downplays the complexity and multidirectional nature of interactions. *Fifthly*, power structures and their impact on social issues are not specifically addressed by the model. *Sixthly*, even though the model acknowledges the significance of individual-level factors, it places comparatively less emphasis on individual agency and the significance of individual choices and behaviours. *Finally*, there are no standardised measurement tools or indicators associated with the SEM as a theoretical framework.

2.7 Barriers to Male Uptake of HTS Across the SEM Levels

Hittner et al. (2016) contend that behaviour is not only influenced by the individual’s perceptions but also by the social and physical environment in which he or she resides. Therefore, the impediments to the uptake of HTS by male patients are not only influenced by the individual him/herself but also by other factors and people. Again, the SEM can be used to unpack and consider multi-level influences.

2.7.1 Individual level

Research across different countries on men’s uptake of HTS indicated varied factors influencing the phenomenon at the individual level. In the United States of America, Black men were disproportionately affected by HIV, with some of the highest HIV incidence rates and lowest rates of HIV testing (Gousse et al., 2021). These authors further reported that HIV testing among Black heterosexual men was influenced by socio-demographic factors, including nativity, whereas HIV test rates were consistently lower among those with low socio-economic status and educational attainment. According to a study conducted by Olakunde et al. (2020) in Nigeria, HIV testing among sexually active men was low, and the determining factors varied between young and older men.

Johnston et al.’s (2010) findings in a South African township outside of Cape Town, confirmed that low risk perception correlates with high rates of HIV, and may hinder access to HTS.

Correspondingly, findings from Tshuma et al.'s (2015) study in Johannesburg also show a 'low-perceived risk of HIV' as a barrier to accessing HTS. People with low self-perceived risk for infection may become involved in risky sexual behaviours, leading to more HIV infections. Perceptions and reactions to potential results following an HIV test were identified as barriers to accessing HTS by Mohlabane et al. (2016, pp. 87-88). According to Adugna and Worku (2022), their findings on barriers to HIV testing for men in Eastern Africa at this level indicated low HIV knowledge, fear, and high-risk sexual behaviour.

A study conducted in KwaZulu-Natal by Hlongwa et al. (2022) showed several barriers at the individual level to non-uptake of HTS by men which included not starting HIV treatment immediately because of using other methods of treatment like traditional, religious, and immune boosters; a tendency to wait for the HIV infection to advance before seeking care; a belief that there is no reason to seek care if they are not feeling sick; and perceived stigma and confidentiality concerns. They observed that some participants were afraid that linking to care meant their HIV status would be known by other community members. This was attributed to the practice of segregating patients in queues in the clinic according to the services they want to access. These participants preferred being linked to care on the condition HIV treatment could be administered in the privacy of their homes. Other problems included not having enough food, missing work, and not having money for transportation as some of the barriers that were raised at this stage. Moreover, most men mentioned that they preferred to use traditional medicine first, before going to the healthcare facility for HIV treatment.

For Katirayi et al. (2023), Cameroonian barriers at the individual level perceived HIV to be a death punishment with severe health effects. Others preferred to stay ignorant of their HIV status rather than face the potential social consequences, and there were some who did not have time to visit the healthcare facilities. Studies reviewed in South Africa, Ghana, and sub-Saharan Africa by Hlongwa et al. (2019) revealed that men generally felt that a public clinic setting made them feel uncomfortable to either test for HIV or collect their ARV treatment. A systematic scoping review in sub-Saharan Africa revealed that men were reluctant to test for HIV because they feared being considered 'weak' which relates to notions of masculinity.

2.7.2 Interpersonal level

A study conducted by Mohlabane et al. (2016, pp. 87-90) across health facilities in eight of the nine provinces in South Africa, showed that the major barriers to HTS uptake included ‘avoidance of divulging personal information to health workers and fear of death’. Moreover, another barrier to accessing HTS was revealed as the influence the families have on the patient’s ability to make decisions. These findings indicated that families have an important influence on people accessing HTS at facilities.

Similarly, in a study in KwaZulu-Natal by Hlongwa et al. (2022) the results showed that not having support from family and friends was a barrier to men’s uptake of HTS. They further found that support from family members and their partners played an important role in encouraging men to initiate treatment. In addition, having a family member who is HIV-positive made it easier for participants to link to care through the support and encouragement of their relatives.

Tshuma et al. (2015) interviewed both male and female participants at the Noord Taxi Rank in Johannesburg. According to the results, one of the barriers to accessing HTS was the lack of partner support. Participants stated that when they would suggest HIV testing, their partners would not support the idea which discouraged their interest in HIV testing and knowing their status. Not receiving partner support to attain HTS is seemingly an important interpersonal barrier to accessing HTS in healthcare facilities.

2.7.3 Organisational level

Musheke et al. (2013, p. 1) further identified that sub-Saharan African individual perceptions of and experiences with the healthcare system undermined the uptake of HTS. Additionally, the non-utilisation of facility-based HTS is associated with a lack of social support which discourages the population at risk of getting infected with HIV to utilise HTS (Sharma et al., 2015). Mohlabane et al. (2016) found that other barriers to accessing HTS in South Africa are health systems or structural factors which include inconvenient testing hours, inaccessible location of HTS sites, never having been offered an HIV test, lack of confidence in the competence of health personnel, poor staff attitudes, and perceived unreliability of test results.

The HTS programme is affected by many organisational or institutional challenges which include mistreatment of patients by the staff, operational problems including staff, drug shortages, and infrastructural challenges (Mulqueeny & Taylor, 2017, p. 1). Another challenge observed in KwaZulu-Natal was that patients were being discriminated against and stigmatised by health workers when visiting PHC facilities with poor retention. They also waited longer than two hours in queues before they could get tested and counselled. Moreover, patients were concerned if confidentiality would be maintained by healthcare professionals especially when they were not ready to disclose their HIV status to anyone (Mulqueeny & Taylor, 2017, p. 4).

According to a study conducted in KwaZulu-Natal and Mpumalanga by Bell et al. (2019), healthcare providers also faced challenges with offering HTS to patients. In other words, they have their own set of traumas, anxieties, and pressures around HIV where they operate in a difficult environment and reportedly experience numerous issues with the health system. These authors (2019, p. 129) pointed out that the healthcare providers reported that most male patients were more difficult to manage than female patients, characterising the male patients as 'evasive, disrespectful, ignorant, controlling, self-interested and stubborn' when offered HTS. Many of the healthcare providers may have wished to safeguard confidentiality; however, the physical set-up at the facilities made this difficult.

A study conducted in the south of the United States of America by Wise et al. (2019) on barriers to HIV testing from the patient and provider's perspectives, found that most healthcare providers had difficulty explaining the guidelines and only a few providers consistently adhered to HTS policy integration standards. Furthermore, the results showed that there were discrepancies in how the providers interpreted the guidelines. In a study conducted in Lusaka, Zambia, by Katamba (2020), some of the lay counsellors were unskilled in offering HTS to patients and had inadequate knowledge of HIV testing approaches such as index testing. Also, there were low numbers of trained volunteers in HIV testing. According to Mutambo and Hlongwana's (2019, p. 3&7) study in sub-Saharan Africa on barriers to providing HTS to children from the healthcare providers' perspectives, indicated that most health workers did not have formal training in HIV testing and had inadequate knowledge about HTS guidelines.

In South Africa, the National HTS Policy states that the average visit time (including the waiting time and consultation) for patients at facilities was 128 minutes (Mabuto, et al., 2019, p. 4). However, patients who accepted HTS were obligated to wait longer for about 200 minutes in comparison to those who did not undertake HTS. Another cited barrier at the organisational level was that public healthcare facilities' waiting rooms were dominated by female patients and female health workers, causing men to avoid these 'women-friendly' facilities.

In another sub-Saharan Africa study, it was revealed that unsuitable operating hours in public clinics served as a barrier to many men accessing HIV testing services because they were at work during these times (Hlongwa et al., 2019). Patients in this study perceived a lack of confidentiality and poor attitudes by health personnel, which made patients feel like their rights were violated as confidentiality was broken; also, this dissuaded people from testing. Moreover, the lack of human resources and inadequate infrastructure to assure privacy and standards among clinic staff is a legitimate obstacle to the uptake of PICT (Mabuto et al., 2019). Hlongwa et al. (2019) revealed that men's expectations of professionalism from health workers are often undermined by health workers' unsupportive and unfriendly reactions toward them.

In a study conducted in the Gauteng province in South Africa on access to sexual health care among men by Leichliter et al. (2011, p. 85) men reported 'unpleasant visits and discomfort interacting with female nurses'. Additionally, some men thought that the healthcare providers at public clinics, who were typically female nurses, were disrespectful and even rude. In Uganda, further organisational barriers to men's uptake of HTS included limited access to HTS, inflexible work schedules, mandatory work transfers from one place to another, the absence of a centralised information management system for HIV care, and dissatisfaction with how they are handled in healthcare facilities when they show a need to transfer their care (Muwanguzi et al., 2022).

Since the outbreak of the COVID-19 pandemic in 2020, the health system, including facility based HTS, has experienced severe strains. Barriers identified to access to HTS due to the outbreak of the COVID-19 pandemic in sub-Saharan Africa included the closure of facilities, a shortage of staff due to illness and death, and disinclination by individuals to attend clinics due to fear of being exposed to SARS-COV2 at health facilities (Mhango et al., 2020).

2.7.4 Community level

At the community level, the barriers to accessing HTS involve the influence the community members have on patients regarding decision-making, as well as perceptions of and reactions to potential results following an HIV test. For Gombachika et al. (2012, p. 8), the community level in the SEM comprises established norms, values, and expected standards. According to the study participants, a loss of traditional support for married couples living with HIV was a barrier to accessing healthcare services in Southern Malawi. The findings demonstrated that the community had an important influence on people's access to healthcare services, which included HTS.

According to a study conducted in Tanzania by Musheke et al. (2013), individuals who were on ART were regarded as being accountable for the continued spread of HIV by the community as they were living longer with HIV. Furthermore, these authors stated that being seen at a testing centre was associated with sexual promiscuity and an assumed HIV-positive status. To religious communities, the drawing of blood for the HIV test was viewed as a 'satanic motive' (2013, pp. 9-10). These views showed that many people were misinformed about HIV testing and ART which was one of the major impediments to accessing HTS.

Results from a study conducted in Eastern Africa by Adugna and Worku (2022) revealed that barriers to access to men's uptake of HTS at the community level included highly stigmatising attitudes towards HIV/AIDS and high community illiteracy levels whereby HIV testing rates were lower among men from illiterate communities. Studies reviewed by Hlongwa et al. (2019) conducted in Malawi, Kenya and Uganda, two from South Africa, and one each from Ethiopia, and North Africa found that men's engagement with HIV testing is negatively affected by stigma associated with HIV testing in many communities.

2.7.5 Policy level

According to the NDoH (2016, p. 9), healthcare providers should recommend HTS to all patients attending the healthcare facility, regardless of showing signs or symptoms of HIV infection. However, some of the healthcare providers do not recommend HTS for patients (Mabuto et al., 2019) which is a barrier at the policy level. A significant barrier to accessing HTS for men was the lack of privacy during consultations and in waiting areas (Chinyandura & Rees, 2022). A systematic review exploring obstacles to HIV testing and the strategies for intervention among different groups in the Caribbean, including men, transgender women, female sex workers, and incarcerated individuals conducted by Hamilton et al. (2020) pointed to a lack of confidentiality as one of the barriers to uptake of HIV testing.

Within the current corpus of literature, it is essential to note that the study of barriers at the policy level that are influencing the uptake of HTS focused on a limited number of factors. These revolved around concerns related to privacy and confidentiality, as well as adherence to health policies. However, it is important to recognise that additional policy-level barriers may exist that have not received as much attention in the existing literature.

2.8 Facilitators of Males' Uptake of HTS Across the SEM levels

2.8.1 Individual level

According to Qiao et al. (2018), study results in Zambia indicated that high acceptance and high rates of testing for HIV were significantly influenced by good education. Hlongwa et al. (2019) found that based on the articles they reviewed on interventions to improve men's uptake of HTS, four articles reported HIVST as a strategy. Some of the studies these authors reviewed in sub-Saharan Africa indicated that HIVST can improve men's uptake because it is cost-effective, confidential, and convenient. The HIVST strategy is said to be effective because it minimises queues and longer waiting periods experienced in facility-based HTS. The study further states that the HIVST strategy addresses the discomfort men have engaging with the health workers. In addition to removing many barriers to HIV testing among men, this strategy also improves their independence, which extends to addressing issues relating to masculinity.

A study conducted in Nigeria by Olakude et al. (2020) illustrated that there was a significant increase in the likelihood of HIV testing among men with at least a primary education, those married, those using condoms at their last sexual interaction, those drinking alcohol one month before the survey, those with non-discriminatory attitudes towards PLHIV, those exposed to the media, those in the richest quintile, and those living in the North Central Zone. The acceptance of one's HIV-positive status compared to denial was another individual facilitator for those who were linked to care; accepting one's status led to more receptiveness to healthcare providers' advice about the importance of early treatment initiation (Hlongwa et al., 2022). Moreover, HIV-positive status disclosure was a facilitating factor for patients to remain in care.

2.8.2 Interpersonal level

Partner HIV testing or index testing was identified as one of the strategies to improve men's uptake of HTS at the interpersonal level. As reported in a study by Hlongwa et al. (2019), index testing was an effective strategy to encourage men to test for HIV. Index testing is the process of notifying partners of newly diagnosed HIV-positive individuals and referring them for HIV testing (Sharma et al., 2017). It was found in sub-Saharan Africa that using the method of active notification to refer clients to clinics for HIV testing yielded a 50% increase in the number of men referred to clinics for HIV testing (contract referral or provider tracing) in comparison with passive notification involving index cases themselves referring their sexual partners to clinics (Hlongwa et al., 2019, p. 9). Moreover, to encourage male participation in care, establishing family-oriented services and conducting male-friendly index testing, relying on the support of partners, family, and friends, can also improve access to HTS by men at the interpersonal level (Chinyandura & Rees, 2022).

The NDoH (2023, p. 34) recommends strengthening the abilities of families to safeguard and provide support to individuals affected and infected by HIV, TB, STIs, and viral hepatitis to enhance the acceptance of HTS uptake. Similarly, the results of a study by Hlongwa et al. (2022) in KwaZulu-Natal showed that facilitators at the interpersonal level were family support which played an important role in enabling men to take treatment, and peer support. Moreover, those who disclosed their status to their friends and families revealed that they did not experience stigma. So, acceptance and disclosure were very important in improving men's uptake of HTS. Positive responses to reactive results were strongly influenced by peer support, according to some participants in a Ugandan study (Muwanguzi et al., 2022). Additionally, some participants preferred to undergo further testing and commence ART closer to their homes, families, and partners.

2.8.3 Organisational level

Interventions recommended by Higa et al. (2012, p. 319) to improve access to HTS in the United States of America included educating people about HIV, identifying, and addressing needs and barriers to health care, providing ancillary social support services, advocating for and assisting with accessing resources to address structural and financial barriers, and increasing knowledge about utilisation of primary care and adherence. Health system interventions were needed to improve access to HTS. The interventions included the integration of ART and ANC and comprehensive HIV care whereby there is an improvement in referrals, communication, and education. In terms of patient convenience and accessibility intervention, there had to be immediate CD4 count testing, home-based ART initiation, as well as inpatient testing and counselling home visits (Govindasamy et al., 2014).

ANC HIV testing is a well-known strategy to improve men’s HTS uptake. According to Hlongwa et al. (2019), nine articles in sub-Saharan Africa supported the effectiveness of ANC HIV testing in improving men's HIV uptake. Four of the studies (Sharma et al., 2017; Leichliter et al., 2011; Bwambale et al., 2008; Hensen et al., 2014) revealed that ANC acts as an important tool for improving men’s HTS uptake as some men accompany their partners to their clinic visits and for couple testing.

Several studies (Skovdal et al., 2011; Nglazi et al., 2012; DiCarlo et al., 2014; Hensen et al., 2014; Hensen et al., 2015; Camlin et al., 2016) have highlighted the effectiveness of incentives in improving HTS uptake for men. DiCarlo et al. (2014) suggested that these incentives may be in the form of money, food, calling cards, or t-shirts. Another study in sub-Saharan Africa by Hensen et al. (2014, p. 2143), found that utilising mobile settings had the potential to significantly increase HIV testing rates among the population, especially among men, by reaching a substantial number of individuals.

According to Chinyanduru and Rees (2022, p. 5), training health workers on the sensitivities, needs and preferences of men within HIV/AIDS services will improve the uptake of HTS. These authors further stated that extended operating hours, allowing men to seek HTS after their demanding work-related responsibilities; as well as establishing male-oriented environments or services within healthcare facilities, such as ‘Male Corners’ could encourage men's engagement with HTS. Results from a study in Uganda by Muwanguzi et al. (2022), showed that communication with the counsellors, navigating the health facility systems, receiving psychosocial support, navigating the work environment, short time spent at the facility, and providing follow-up online, including the use of social media sites and applications, were the most important motivations for men to link to care.

In a study conducted in Cameroon by Katirayi et al. (2023), most men recommended normalising HIV testing and treatment through education and messaging, especially emphasising early detection as a health benefit and how testing can protect families. In addition to hearing information directly from qualified health professionals, young men noted that social media, radio, and television could be useful, though they noticed that radio and television tended to be associated with older generations. Mokhele et al. (2023) suggested that the DoH in South Africa should ensure that lay counsellors and health educators in facilities receive initial and regular refresher training on offering HTS which will improve the way these counsellors and health educators can impart knowledge on HIV and healthy practices to patients.

2.8.4 Community level

Based on several studies conducted in Lesotho, local leaders, including chiefs, should be involved in HTS education interventions and be part of community-based outreach engagements (DiCarlo et al., 2014). To overcome the stigma and masculinity challenges preventing men from testing for HIV in Lesotho, educational strategies for men may also be most effective if driven by other men. Hlongwa et al. (2019) suggested that HIV education includes basic HIV information, HIV transmission, risk reduction strategies, and confidentiality guidelines. The educational interventions may be in the form of presentations at local clinics, community gatherings or outreach campaigns. The community-based HTS strategy not only reduces the stigma associated with HIV testing but also reduces the financial burden of travelling to facilities and improves access to services for men of lower socio-economic status (Hensen et al., 2015). According to the NDoH (2023, p. 34), the facilitator to improve the uptake of HTS within communities involves empowering these communities to take the lead in addressing the issue through community-driven initiatives Additionally, it is important to reinforce the capacity of these community-led efforts to effectively implement and report on HTS.

2.8.5 Policy level

A strategy at the policy level that aims to enhance the accessibility of HIV testing includes refining the process of home partner testing. The concept of home tracing and testing was highlighted as a crucial method employed by healthcare professionals to boost the utilisation of assisted partner notification services (APNS) for HIV testing in Malawi (Puleni & Nyondo-Mipando, 2022). According to WHO (2021a, p. 3), to improve men’s uptake of HTS the following operational considerations need to be made. *Firstly*, optimisation of facility-based HTS to include men from key populations and make them accessible and inclusive. *Secondly*, improving client confidentiality and assuring stigma-free services by reducing structural barriers and missed opportunities to offer testing, such as extending operating hours (Katirayi et al., 2023) and using rapid diagnostic tests. *Thirdly*, adapting services must take into account the local context and epidemiology, and focus on the gaps in service that are the most prevalent for men. *Fourthly*, incorporating HTS for men into existing services for STIs, viral hepatitis, TB, and other health services that are accessible to men. *Fifthly*, never considering routinely offered HTS to be mandatory.

Guidelines for good practice in the healthcare profession promote the importance of maintaining a positive demeanour toward patients, showing empathy and respect in their treatment, consistently upholding patient confidentiality, and delivering comprehensive counselling during patient consultations (HPCSA, 2021). Mohlabane et al. (2016) stated that the major perceived facilitator to the uptake of HIV testing in South Africa was HIV/AIDS education. Furthermore, people who had never tested for HIV perceived that the integration of HTS into general health care, along with a good HIV testing experience, and good employee attitudes (respect and confidentiality) would play a role in facilitating HIV testing.

In a study conducted in KwaZulu-Natal by Hlongwa et al. (2022), the results showed that facilitators of linkage to care are adequate counselling, patience, and emotional support from healthcare professionals during the testing process. Results from a study in Cameroon by Katirayi et al. (2023), showed the following facilitators to improve access to HTS by men; increasing the number of local clinics that men could access, positioning the testing centres in more convenient locations for working men, optimistic messaging that would motivate men by destigmatising testing, challenging misconceptions surrounding HIV-positive prognoses, increasing confidentiality protections and improving on privacy.

According to Shand et al. (2014, p. 55), the transformation of policy discourses is likely to enhance the involvement of men in influential roles in the formulation of gender equality policies. Consequently, it becomes imperative to establish a collective policy agenda on gender equality that actively engages men and boys. The suggested collaboration should extend across civil society, national policymakers, and regional bodies, ensuring the prioritisation of these issues within existing laws and policies. Notably, an analysis conducted by Sonke Gender

Justice[2] 2011-2013 underscored the current deficiency in prioritising the necessity to improve men's participation in HTS within existing African HIV policies (Shand et al., 2014).

2.9 Conclusion

Chapter 2 demonstrated that some aspects of HTS have changed and improved over time. Initially, HIV tests used to take six to twelve weeks to show results, but now they can provide results on the same day. Different methods for HIV testing have also been developed, including tests that can be done at home, in healthcare facilities, or within communities. This chapter also discussed the role of gender in HTS. It explained how gender influences access to HIV testing and treatment. Challenges that men encounter when seeking HTS were also reported. Furthermore, facility-based HTS on a global and national scale was explored, evaluating how well countries are meeting the goals set by the United Nations and the difficulties they encounter in reaching these targets. It further delved into the variations in men's utilisation of HTS across different countries. Additionally, the HIV testing services policy in South Africa and globally was examined. The theoretical framework of the Socio-Ecological Model (SEM) was described, along with its historical background and components as well as the application of this framework in the context of HTS. The barriers and facilitators that impact HTS at each level of the SEM, were also identified based on existing literature. Furthermore, the literature revealed that a socio-ecological perspective provides a useful framework to investigate the interplay among multilevel and interactive factors that impact access to HTS at PHC facilities. Equally, factors manifesting at the different SEM levels influence the acceptability of HTS to male patients. The following chapter presents the philosophical stance underpinning the study and elaborates on the research methodology, focusing on the research design and methods used, as well as the ethical considerations.

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[2] Sonke Gender Justice is a non-partisan, non-profit organisation dedicated to promoting just, democratic societies and fostering equitable, healthy relationships among men, women, and young people (Department of Government Communication and Information Systems, 2023).

Chapter 3: Research Methodology

3.1 Introduction

Chapter 3 presents the philosophical stance underpinning the study. This is followed by an elaboration of the research methodology focusing on the research design and methods used to explore the obstacles to and enablers of male uptake of HTS in selected Orange Farm PHC facilities from the perspectives of both the male patients and healthcare providers. In particular, the research methods describe the targeted populations, sampling procedures, research instrument development, participant recruitment, data collection, and data analysis. The chapter concludes with a presentation of the ethical considerations, clearance and study approval process, and an explanation of the trustworthiness of the study findings, reflexivity, and conclusion.

3.2 Paradigm

Rehman and Alharthi (2016) describe a research paradigm as a framework for decision-making, offering a collection of guiding viewpoints to address intricate decision-related challenges of the study. To explore the research question *What are the users and workers' perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township?*, the researcher judiciously adopted a constructivist paradigm for this study, also known as interpretivism (Mann & MacLeod, 2015; Rehman & Alharthi, 2016; Pope & Mays, 2020).

The selection of the constructivist paradigm in this research was influenced by the belief that individuals give meaning to their experiences through interactions with their environments and that these meanings are subjective and can vary among individuals as offered by Rehman and Alharthi (2016) and Tenny et al. (2023). These authors posit that a constructivist paradigm acknowledges that there is no single reality, but rather multiple realities that are constructed through social, cultural, and historical contexts. In terms of the current study, the constructivist paradigm underscores the importance of understanding the perspectives of patients and healthcare providers and how these participants perceived and made sense of the factors that influence male uptake of HTS.

3.2.1 Ontology

Ontology pertains to our understanding of the fundamental nature of reality (Richards, 2003; Pope & Mays, 2020). In this study, the ontology was concerned with understanding the fundamental nature of factors influencing men’s access to HTS at PHC facilities. Rehman and Alharthi (2016) argue that interpretive ontology rejects foundationalism; instead, it ascribes to the belief that there are numerous socially constructed realities. The researcher was interested in how patients and healthcare providers constructed their understanding and interpreted the barriers to and facilitators of male uptake of HTS based on their experiences, interactions and social, historical and cultural contexts (Willig, 2016; Pope & Mays, 2020). Accordingly, the perspectives of the participants were influenced by how they interpreted their experiences and the significance they attached to those experiences (Creswell, 2013; Amineh & Asl, 2015; Creswell & Poth, 2018).

The interpretive ontological perspective often employs qualitative research methods such as interviews (Onwuegbuzie et al., 2008) and FDGs (Redman-MacLaren et al., 2014). Creswell and Poth (2018) attest that these methods allow researchers to explore participants’ narratives and uncover the social construction of their experiences. In addition, language and discourse play a role in shaping reality. Patients and healthcare providers’ descriptions of barriers and facilitators were expressed through their preferred language, which further rationalises the study’s social constructivist ontological perspective.

3.2.2 Epistemology

Epistemology influences the methodology employed in the research. It serves as a lens through which one perceives and understands the world (Rehman & Alharthi, 2016; Pope & Mays, 2020). Interpretive epistemology emphasises subjectivity, as it contends that observers cannot access external reality without being influenced by their worldviews, concepts, backgrounds, and so forth (Rehman & Alharthi, 2016, p. 55).

The researcher’s interest was in exploring subjective understanding, specifically, the subjective experiences and meanings patients and healthcare providers assign to their world. Furthermore, the researcher’s interest in contextual elements like culture and social environments resonates with interpretivism, which embraces the idea that multiple interpretations and realities can coexist as advocated by Creswell and Poth (2018) and Denzin and Lincoln (2018). Patients and health workers’ perceptions of barriers and facilitators may diverge significantly based on their distinct backgrounds and experiences. Therefore, interpretivism offers an understanding of the multifaceted factors that shape participants' perspectives and experiences (Ryan G. , 2018). Moreover, interpretivism acknowledges the dynamic interaction between the researchers and the participants through dialogue. Engaging in meaningful conversations with patients and healthcare providers unearthed profound insights and fostered a better understanding of their viewpoints.

3.2.3 Axiology

Axiology deals with values and how they influence research (Creswell, 2013; Creswell & Poth, 2018). Axiology, according to Creswell and Poth (2018), reminds researchers to be aware of their biases and to be transparent about how their values might shape their work. In this study, the researcher was mindful of how her personal values could influence the formulation of interview questions, interpretation of data, and presentation of findings. To address this issue, she undertook several precautions (Sharma, Reimer-Kirkham, & Cochrane, 2009; Biesta, 2015; Zaidi & Larsen, 2018). *Firstly*, transparency and efforts to minimise bias were crucial. The researcher undertook to be open-minded and accept participants’ perspectives and recommendations. *Secondly*, it was crucial to reflect on the values held by both patients and healthcare providers. For instance, during the interviews, the researcher was sensitive to some patients with strong personal and cultural values related to healthcare, privacy, and stigma, which could influence their willingness to discuss specific issues related to HTS. *Thirdly*, ethical considerations were important. The researcher assessed the potential consequences of her work on the participants and society. She undertook to respect participants’ values, privacy, and dignity, and conducted research to inform the enhancement of HTS in Orange Farm.

3.2.4 Methodology

Creswell (2013) compares methodology to a recipe for doing research with guidelines for collecting and analysing data and drawing conclusions. A qualitative approach was best suited for this study because it employed semi-structured interviews among patients and healthcare providers, allowing for a ‘deep delve’ into patients and healthcare providers’ views of males’ uptake of HTS (Denzin & Lincoln, 2018; Creswell, 2013; Tenny et al., 2023). Moreover, Tenny et al. (2023) contend that qualitative research collects information on participants' views, perceptions, and behaviour, focusing on understanding the reasons and mechanisms behind them rather than quantifying the information.

An essential aspect of qualitative research is its emphasis on prioritising participants' voices and perspectives. That is, interpretive methodology necessitates the understanding of social phenomena from the perspective of the participants rather than that of the researcher (Cohen & Ezer, 2007). An interpretive methodology facilitated the capturing of patients and healthcare providers’ diverse perspectives and experiences of HTS. The nature of data collected in qualitative research is rich, which allowed the researcher to understand participants' experiences and viewpoints using direct quotes and detailed descriptions identified through emerging subthemes aligned with the different levels of the SEM framework.

3.3 Research Design and Study Setting

3.3.1 Research design

According to Grbich (2013), a research design is a procedure used to collect, understand, and interpret information during fieldwork. To adequately address the research problem and objectives, this study employed a cross-sectional case study design (Priya, 2021) with a qualitative approach to data gathering. Ridder (2017) and Priya (2021) define case study research as a design that entails an in-depth exploration of a real-life phenomenon within its environmental context. The phenomenon may be a programme, event, activity, process, individual, group, organisation, problem, or anomaly. Researchers focus on specific cases defined by time and activity, gathering comprehensive information through a range of data collection methods over an extended period. Typically, case study researchers employ data triangulation in their data collection strategy, ultimately yielding a detailed and thorough case description.

In this research study, the data triangulation approach was employed to examine the varying perspectives on the barriers to and facilitators of males’ uptake of HTS within three distinct participant groups, namely patients, lay counsellors, and professional nurses. Data triangulation allowed for a comprehensive analysis of the data from each of these groups, enabling a thorough exploration of the commonalities and differences in their perspectives regarding barriers to and facilitators of male engagement with HTS.

The forthcoming chapter, titled 'Findings' will delve deeper into these observations, presenting a detailed analysis of the perspectives of patients, lay counsellors, and professional nurses concerning the barriers and facilitators influencing males' uptake of HTS. This comprehensive examination will shed light on the complex dynamics at play in discouraging and encouraging men to access HTS and provide valuable insights for creating effective strategies to improve male engagement with HTS.

3.3.2 Study setting

HIV/AIDS is one of the leading causes of death among men and women aged 25-64 years in the CoJ Metropolitan Municipality, with a population of about 5.3 million (Massyn et al., 2020, p. 361). Orange Farm is one of the 18 towns within the CoJ Metropolitan Municipality (p. 362). Based on their work on VMMC, Govender et al. (2014) established that there was a high HIV prevalence in Orange Farm. The high HIV prevalence informed the purposive selection of this study area.

Previous research in the Orange Farm area presented an interplay of socio-cultural and economic factors that shape the health and behaviours of Orange Farm residents. Marshal et al. (2016) reported a persistent challenge of low uptake of VMMC despite promotional campaigns, primarily due to insufficient integration of VMMC into participants' cultural practices. In another study on patterns of healthcare utilisation, Adedini et al. (2020) determined that Zulu and Sesotho were the predominant ethnic groups in Orange Farm. Most participants in the study identified as Christian, with many preferring healthcare services at PHC facilities instead of traditional healers. Moreover, Matuku and Kaseke (2014), in their study on the role of *stokvels* (saving schemes) in improving people's lives, highlighted the profound socio-economic challenges facing Orange Farm residents. The current study anticipated that socio-cultural and economic factors would shape patients and healthcare providers' experiences and views of male uptake of HTS.

Three PHC facilities[3] in Orange Farm, Clinic A, Clinic B, and Clinic C were purposefully selected from among the four healthcare facilities within the Orange Farm area (Langa, 2015).

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[3] The clinics were anonymised in this study in compliance with the Protection of Personal Information Act (POPIA) requirements (RSA, 2013). The POPIA regulates the processing of personal information to safeguard individuals' privacy and personal data. It places certain obligations on organisations when handling personal information and sets guidelines for the lawful and responsible processing of such data.

The fourth facility functions as a CHC. The three healthcare facilities were selected based on their shared characteristics as PHC facilities. All these facilities operate eight hours a day, from 08h00 am until 16h00 pm, from Monday to Friday. The PHC facilities were suitable for participant recruitment because they provided the entire continuum of HIV-related services, including pre-test information, HIV testing, pre and post-test counselling, treatment, and support.

3.4 Population and Sample

3.4.1 Population

A population is defined as "…the collection of all individuals, families, groups, or organisations, communities and events that will participate in the study" by Mark (1996, p. 105). Male patients, lay counsellors, and professional nurses were recruited from the three PHC facilities mentioned in Section 3.3.2 in Orange Farm.

3.4.2 Sampling

Creswell (2013) states that while a population represents an entire bounded system, a sample represents a sub-category of a population selected to participate in a study. A sampling procedure, therefore, entails the process followed in selecting study participants. The non-probability, convenience sampling method was used to select study participants from the three PHC facilities based on their availability (Pace, 2021, p. 10). Overall, a total of 12 patients (four patients per PHC facility), five professional nurses (two each from Clinic A and B, and one from Clinic C as one declined to participate), and six lay counsellors (two per PHC facility) participated in the study. The purpose of this sample size was to reach saturation as opposed to generalisability of findings as suggested by Saunders et al. (2018). Saturation was reached based on the richness of the data collected, and the diversity of perspectives within the participant pool. Additionally, as the researcher listened to the audio recordings of the interviews, similar themes, patterns, or responses regarding perceived barriers and facilitators of male uptake of HTS became evident among participants. To this end, it should be noted that in qualitative research, the goal of sampling is not necessarily about numbers or the generalisability of findings, there is a need to identify suitable participants from whom data collected would yield a comprehensive understanding of the phenomenon in question (Brink, 2006). In this instance, male patients, lay counsellors, and professional nurses were direct stakeholders in the health community of Orange Farm township and the researcher expected them to provide information-rich data.

3.4.2.1 Patient inclusion criteria

- Adult men aged 18 years and older (because they are within the sexual reproductive age and were at high risk of contracting HIV).
- Able to express themselves intelligibly in English, isiZulu, or Sesotho.
- Efforts were made to capture perspectives from the youth, middle-aged and older men, as well as those who had/had not experienced facility-based HTS.

3.4.2.2 Patient exclusion criteria

- Male patients who were too ill (mentally, emotionally, and physically) to participate in the study. The mental and emotional state of the patients was determined through the recruitment process whereby patients were asked about their reason for their clinic visit and if they were comfortable taking part in the research study.
- Aged 17 years and younger.
- Not able to express themselves intelligibly in English, isiZulu or Sesotho.

3.4.2.3 Healthcare providers inclusion criteria

- Involved in the provision of HTS.
- Professional nurses with NIMART training or lay counsellors trained on RTCQI.

3.4.2.4 Healthcare providers exclusion criteria

- Not involved in the provision of HTS.
- Healthcare providers who were not professional nurses nor lay counsellors.
- Professional nurses without NIMART training.
- Lay counsellors without RTCQI training.

3.5 Research Instruments

A recruitment form (Appendices A1-3) was furnished to the attending nurse to assist with male patient recruitment. Likewise, a recruitment form (Appendix B) was furnished to the facility manager to assist with the recruitment of professional nurses and lay counsellors. Every healthcare provider indicated their preferred date and time for participation. The researcher arranged the healthcare provider interviews using the information provided by the facility manager. Both the male patients and healthcare providers received information sheets (Patients: Appendices C1-3; Healthcare providers: Appendix D) outlining the details of the study including its purpose, a broad overview of the questions included in the interview schedules, duration of the interviews, request to record interviews, ethical considerations, and data handling and dissemination of the research findings. Upon reading (the researcher read out the questions for illiterate patients) the information sheet, the participants were requested to consent to participate in the study and to permit audio-recording by way of signing (illiterate patients indicate with an ‘X’) an informed consent form (Patients: Appendices E1-3; Healthcare providers: Appendix F).

A guide (Appendices G1-3) was developed for conducting semi-structured interviews with the male patients. The guide comprised demographic questions including gender, age, race, and questions about barriers to accessing HTS at PHC facilities in the Orange Farm area at individual, interpersonal, organisational, community, and policy levels. Significantly, it included questions on patients’ views on how to advance access for males to HTS at PHC facilities according to the five aforementioned SEM levels. Guides (Appendix H and Appendix I) were also developed for semi-structured interviews with healthcare providers. The questions covered specific barriers that NIMART professional nurses/lay counsellors experience regarding offering/recommending HTS to patients at their PHC facilities as influenced by factors at the individual, interpersonal, organisational, community, and policy levels; as well as healthcare providers’ views on what can be done at each of these levels to improve access to HTS at PHC facilities in the Orange Farm township.

All the research instruments used among patients were translated from English to Sesotho and isiZulu, which are the most frequently used languages in Orange Farm township. To ensure accuracy, the forward and back translation was done by four different people, including a Sesotho and isiZulu translator. The researcher discussed any discrepancies between the original and translated versions with the translators before adopting the final drafts of the research instruments. However, the research instruments used among the healthcare providers were all in English, as the participants were literate in this language.

Creswell (2013) recommends the pre-testing of research instruments to help to identify flaws. Accordingly, the research instruments were tested for practicality and validity before data gathering. The researcher conducted a pre-test interview with three patients (one for each language, isiZulu, Sesotho, and English) at Clinic X, a PHC facility in a township next to Orange Farm as it has similar characteristics to PHC facilities in Orange Farm. Similarly, the research instruments for healthcare providers were piloted among three healthcare providers at Clinic X. These patients and healthcare providers did not form part of the final data collection process for the study and the results were excluded from the overall study findings.

3.6 Participant Recruitment

Patients were recruited for the study with the assistance of their attending healthcare provider. The attending nurse briefly informed the patients about the study by reading out the information on the recruitment form (see Appendices A1-3) and screened the patients for study eligibility by completing relevant sections on the recruitment form. Patients who were willing to participate in the study were requested to sign a consent form for participation (see Appendices E1-3), which was handed to the researcher after being signed. The patients were then directed to the researcher in a private room within the PHC facility for the interview.

Concerning healthcare providers, the facility manager used the healthcare provider recruitment form (see Appendix B) to recruit healthcare providers for the study. Since the healthcare providers had busy work schedules, interviews were arranged around their availability. The facility manager asked prospective interviewees to provide their contact details to the researcher who scheduled appointments with the respective professional nurses and lay counsellors at their convenience. Before the interviews commenced, the participants were requested to read the information sheets for details about the study (see Appendix D) and sign the consent form (see Appendix F).

3.7 Data Collection

Data collection among patients and healthcare providers lasted for six weeks. A summary follows in this section.

3.7.1 Data collection among patients

A semi-structured interview guide (see Appendices G1-3) was used for individual semi-structured interviews among patients. The researcher enlisted and trained a male assistant to conduct interviews among the male patients. The interviews with patients took 45 minutes to an hour. The research assistant administered the informed consent before commencing with the semi-structured interviews in the patients' preferred language (English, Sesotho, or IsiZulu). The research assistant is fluent in English and the two African languages. The interviews were conducted in a private room within the PHC facilities and were audio-recorded with patients' permission.

3.7.2 Data collection among healthcare providers

Data collection among healthcare providers was done using semi-structured interviews (see Appendices H & I). The interviews with healthcare providers were conducted by the researcher at the convenience of the healthcare provider, in a private room to maintain privacy and lasted between 45 minutes to an hour. As with the patients, informed consent was obtained prior to the interviews which were audio-recorded with the healthcare providers' permission.

3.8 Data Analysis

Data analysis followed a thematic approach involving the grouping of key barriers to and facilitators of HTS perceived by study participants according to the constructs of the SEM. The SEM constructs served as *a priori* themes for developing the subthemes. As stated by Archer (2018) and Kiger and Varpio (2020), thematic analysis entails identifying common patterns or themes by breaking down data into components (codes) and then restructuring and grouping these codes into categories, also referred to as themes. Thematic analysis is particularly useful in exploring individuals' meanings and experiences to gain insights into how they perceive external reality (Kiger & Varpio, 2020). Braun and Clarke (2013) regard thematic analysis as a suitable approach when seeking to understand thoughts, experiences, or behaviours across a data set.

Triangulation in qualitative research involves employing various methods or sources of data to gain a holistic comprehension of phenomena (Carter et al., 2014). In this study, data was triangulated to identify commonalities and differences in the perspectives of patients, lay counsellors, and professional nurses on the barriers to and facilitators of male uptake of HTS.

It is worth noting that there are no universally agreed-upon guidelines on which steps or processes to apply when using thematic analysis. Braun and Clark (2006) and Braun et al. (2014) proposed the six steps of thematic analysis which were followed in this study. These steps include 1) familiarisation with the data, 2) identifying subthemes and codes, 3) searching for subthemes, 4) reviewing subthemes, 5) defining and naming subthemes, and 6) reporting.

3.8.1 Familiarisation with the data

The first step involved the researcher familiarising herself with the data (Braun et al., 2014). The familiarisation process commenced with transcribing the interviews verbatim from the audio recordings. The researcher translated vernacular interviews into English, which facilitated further familiarisation with the data. After transcription, the researcher read and re-read the data repeatedly, ensuring that all the text that appeared to be relevant was highlighted. By actively re-reading the raw data, the researcher undertook an active role in understanding and extracting text aligned with the SEM levels (i.e., individual, interpersonal, organisational, community, and policy). The researcher needed to be familiar with the data so that she could fully understand both the depth and breadth of the content (Braun & Clarke, 2013; Braun et al., 2014).

3.8.2 Identifying themes or generating codes

The SEM levels as delineated earlier served as themes, eliminating the need for theme generation. Instead, the focus was on identifying subthemes using an inductive and a deductive approach. According to Wilson (2010), a deductive approach entails developing a premise based on existing theory and then designing research to test the premise. Braun and Clark (2006) characterise the deductive approach as involving researchers actively analysing data in alignment with their theoretical focus. Conversely, inductive analysis is a more adaptive approach in which the researcher systematically reviews the data, permitting codes to surface and labelling concepts as they manifest; it represents a ‘bottom-up’ analytical strategy (Bingham & Witkowsky, 2022). In this study, the deductive approach started with systematically labelling interesting segments of the data according to the *a priori* themes (SEM levels) and later organising the coded data into subthemes. The inductive approach took over when the researcher systematically reviewed the data to generate subthemes from the participants’ perspectives. In other words, deductively, the data was analysed based on the SEM levels serving as *a priori* themes; whereafter subthemes were generated inductively.

3.8.3 Searching for subthemes

By searching for subthemes, the researcher aimed to identify patterns and relationships across and within all data sets (Chamberlain, 2015). Braun and Clarke (2006, p. 10) point out that “A theme captures something important about the data in relation to a research question and represents some level of patterned response or meaning within the data set”. The researcher collated the codes into *a priori* SEM themes and potential subthemes. The organisation entailed grouping codes that shared common patterns into themes and subthemes. Subthemes were identified for each participant group.

3.8.4 Reviewing the subthemes

Guided by Braun and Clarke (2006), the researcher reviewed the themes by assessing the alignment of themes and subthemes with coded data extracts and with the entire data set. The review process was an iterative process of validation in which the researcher evaluated the alignment of the themes and subthemes with the overall data. It allowed for eliminating data that did not fit the research question and was not aligned with the SEM constructs. The review culminated in developing a thematic map to visualise the correlation of themes and subthemes coherently.

3.8.5 Defining and naming subthemes

According to Braun and Clark (2006), this step entails ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each subtheme. When establishing subthemes, it was crucial to articulate what set each subtheme apart distinctly and to explicitly label the subtheme (Braun & Clarke, 2013). Naming the subthemes ensured that they were easily identifiable and clearly differentiated, facilitating a more structured and organised analysis of the data. Defining the subthemes involved recognising distinctive and common viewpoints concerning both barriers and facilitators influencing the males’ utilisation of HTS and assigning descriptive labels to these subthemes within each level of the SEM. This method allowed for a better understanding of the subthemes, making them more meaningful and representative of the richness of the data.

3.8.6 Reporting

In the final step of the analysis, the researcher compiled the findings which are presented in the ensuing chapter. Javadi and Zarea (2016) emphasise that researchers should ensure that they report the data in a manner that fits into pre-existing theories. In that way, researcher bias will be significantly reduced. Therefore, the researcher ensured that data was reported according to the SEM based on the five levels. The data was reported by presenting the subthemes identified from the SEM constructs, along with relevant quotes from the data, to illustrate and support the findings. Presenting the subthemes provided a clear and comprehensive analysis.

3.8.6.1 Data triangulation

Data triangulation was employed to analyse the perspectives of the three participant groups. Bhandari (2023) defines triangulation in research as the practice of employing a variety of datasets, methodologies, theories, and/or researchers to investigate a research inquiry. Moreover, this approach serves as a research strategy aimed at strengthening the reliability and trustworthiness of the findings while reducing the potential influence of any biases in the research. The author further maintains that, as an example, triangulation in qualitative research would involve a researcher conducting semi-structured interviews with various categories of stakeholders. For example, in this research, semi-structured interviews were conducted among patients, lay counsellors, and professional nurses to understand their perspectives on barriers to and facilitators of male uptake of HTS. The data triangulation process resulted in the generation of multiple data sources, which were compared to identify commonalities and differences in the participants' views regarding males' uptake of HTS. Triangulation enabled the researcher to gain distinct insights from each group separately, minimise biases, and enhance the generalisability of the findings.

3.9 Ethical Considerations, Clearance, and Study Approval

3.9.1 Ethical considerations and clearance

According to Harding (2013), researchers have a moral responsibility to conduct their studies ethically. They are required to protect participants, develop trust with them, protect researchers' institutions from impropriety, and promote the integrity of their work (Creswell, 2013). The ethical principles that were considered in the study will be discussed in this section.

3.9.1.1 Voluntary participation

De Vos et al. (2011) state that voluntary participation ensures that participants are given the right to volunteer to participate and the right to discontinue the interviews if they feel uncomfortable. The participants in this study were informed about their right to voluntary participation in the information sheets (see Appendices C1-3: Patient information sheet and Appendix: D: Healthcare provider information sheet).

3.9.1.2 Informed consent

Informed consent is described by Creswell (2013) as an 'on-going and transparent process'. Informed consent requires that participants be fully informed of the nature of the research, as well as the risks, benefits, expected outcomes, and alternatives before they agree to participate. Additionally, informed consent includes informing participants of the option to withdraw from the study at any time, without consequences. To this end, before the interviews commenced, participants received a Participant Information Sheet (see Appendices C1-3 and D) explaining the purpose of the study, the data collection strategy, ethical considerations, and the data handling and processing strategy. In the case of illiterate patients, the researcher read out and explained the information. A request for the participants to sign consent forms followed (see Appendices E1-3 and F), confirming their understanding and willingness to participate in the study.

3.9.1.3 Confidentiality and privacy

Confidentiality is defined by Cooper and McNair (2015) as the agreement to limit access to a participant's information. The researcher assured the participants that the information discussed during the interviews would 'stay between them'. However, if participants (both patients and healthcare providers) were to harm themselves, the information would be shared with relevant personnel such as psychologists or social workers affiliated with the PHC facilities at which the research took place (Denzin & Lincoln, 2018). The researcher did not discuss private participant information with other parties except the supervisors guiding her with data analysis. Another way to ensure confidentiality was by storing the raw data in a password-protected computer, to which only the researcher had access. Hard copies of the research materials such as consent forms and copies of interview transcripts (without identifying information) were stored in a locked cabinet and will be destroyed after five years. Privacy was ensured by conducting the interviews in a private room in the facility.

3.9.1.4 Anonymity

Anonymity is defined as protecting the respondent's identity (Wiles et al., 2008). The anonymity of the participants' identity and information was ensured by assigning pseudonyms to the participants, for example, 'Clinic A P1,' 'Clinic B N1' and 'Clinic C LC'.

3.9.1.5 Beneficence

The principle of beneficence includes freedom from harm during data collection (De Vos et al., 2011). No harm was anticipated from this research. However, in case they experienced psychological distress as a result of recalling painful past events participants would be referred to a social worker at Stretford CHC for further assistance. The social worker granted the researcher permission to refer the participants to her (see Appendix K). Nevertheless, there was no instance where participants were directed to the social worker, as none of them encountered any psychological distress during or after the study.

3.9.2 Study authorisation

Before the study began, the researcher presented the study proposal to the Centre for Health Systems Research & Development departmental review panel in accordance with the University of the Free State's (UFS) postgraduate research guidelines. The next step involved the proposal being reviewed for scientific merit by the UFS' Faculty of the Humanities Scientific Committee. After receiving approval from this committee (Appendix L), the study protocol was submitted to the UFS' Health Sciences Research Ethics Committee (HSREC) to obtain ethical clearance. Ethical clearance was subject to the study's approval by the GDoH. A letter was then submitted to the Department (Appendix J) to request permission to conduct research among patients and healthcare providers in public health facilities. Authorisation was granted by the Research Committee of Johannesburg Health District, reference number GP202205005 (Appendix M). Upon meeting all the requirements, the study received ethical clearance with the reference number UFS-HSD2022/0294 (Appendix N).

3.10 Trustworthiness

Trustworthiness is defined by Connelly (2016) as the amount of confidence in data, interpretation and the methods used to guarantee the quality of the study. Trustworthiness is categorised into four aspects including credibility, transferability, dependability, and confirmability (Shenton, 2004).

3.10.1 Credibility

Credibility is defined as the primary goal of trustworthiness by ensuring that the study measures what is intended to measure (Shenton, 2004). Credibility was ensured by *firstly*, involving a male research assistant to collect data from male patients; *secondly*, seeking input and feedback from the supervisors who are experts in the field; and *thirdly*, peer debriefing with colleagues to provide an external check on the research (Nowell et al., 2017). Between October 2022 and February 2023, the data analysis phase involved discussions with supervisors and peer debriefing sessions with colleagues. This collaborative process comprised two meetings per month with supervisors and one monthly meeting with colleagues. These sessions served as platforms to delve into research findings, interpretations, and methodological approaches, enriching the analytical process and fostering a deeper understanding of the research findings. Adjustments to the subthemes became necessary following the meetings, indicating a dynamic and iterative refinement process in response to the feedback and insights gained during these collaborative discussions.

3.10.2 Transferability

Shenton (2004, p. 69) indicates that transferability is concerned with the extent to which the findings of one study can be applied to other situations. Since cross-sectional research studies consist of data collection at a single point in time (Kesmodel, 2018), it is not constantly possible to replicate or transfer the findings to other populations. Also, because the data is collected only once, it may not be possible to replicate the findings in the future or generalise them to other populations with different characteristics or at different points in time. However, the study provided comprehensive information about the research setting, the participants involved, the data collection methods, and their associated limitations to allow other researchers to replicate the study.

3.10.3 Dependability

Dependability means that if the study is to be conducted again in a similar population with similar research methodologies, similar results would be obtained (De Vos et al., 2011). The researcher established an audit trail of the research process including the data collection and analysis, which allows for verification of the research methods and the findings. *Firstly*, transcribed data from the interviews were studied multiple times to make sure it was well understood. *Secondly*, data was analysed thematically based on the SEM levels, in order to identify barriers to and facilitators of male uptake of HTS. *Thirdly*, there was documentation of procedures for data analysis, ensuring that coding, classification, and interpretation of data were conducted systematically and reliably, and that the data was really understood. The entire research process was reported in detail, thereby facilitating a future researcher to repeat the work, if not necessarily to gain the same findings.

3.10.4 Confirmability

Confirmability means that research findings can be confirmed by another researcher so that research bias can be reduced (De Vos et al., 2011). In confirmability, two or more independent people agree about the accuracy, relevance, or meaning of the data, i.e., they agree on the objectivity of the data (Elo et al., 2014). To ensure confirmability, the researcher's supervisors guided and reviewed the research process to reduce bias. The research report includes rich and detailed descriptions of the study context, participants, data collection methods, and analysis procedures. This allows readers to assess the validity of the findings. Furthermore, a comprehensive record of the research process is preserved, including the stages of both data collection and data analysis. The record also includes the documentation of decisions, selections, and any modifications made throughout the course of the study.

3.11 Reflexivity

According to Cleland and Durning (2015), reflexivity stands as a core principle within constructivism, and it is not meant to resemble 'confessional writing'. Instead, its purpose is to serve as a rigorous self-assessment method aimed at shedding light on the disparity between theory and practice. A potential conflict of interest in this study is that the researcher is an HTS coordinator at PHC facilities. However, it was anticipated that the integrity of the research would not be affected. The researcher articulated her work position to the healthcare providers, with emphasised reassurance that the content of the interviews would be kept confidential and not be divulged elsewhere. The researcher further recognised that some male patients would have been uncomfortable speaking to her. Subsequently, she trained a male research assistant to conduct interviews with such patients. Moreover, two of the facilities selected for the study were supported by other HTS coordinators.

3.12 Conclusion

Chapter 3 explained the research paradigm, followed by a discussion of the research design, the setting, and the methods employed. It further described the paradigm employed in the study which embraces essential elements such as ontology (how we perceive reality), epistemology (how we acquire knowledge), axiology (our value system), and methodology (the methods we use for inquiry). Ontologically, the researcher embraced a constructivist view, acknowledging that reality is subjective and shaped by individual experiences. In terms of epistemology, the interpretive stance was adopted, recognising that our understanding of the world is constructed through interpretation and interaction. In terms of axiology, the researcher endeavoured to value the diverse perspectives of male patients, lay counsellors, and professional nurses while maintaining ethical research practices. Methodologically, the researcher used a case study design following a qualitative approach to data gathering and analysis. A qualitative design allowed the researcher to explore the details of the research topic in-depth, drawing from rich qualitative data obtained from three important stakeholder groups to gain insights and uncover patterns. Together, this paradigm and research design provided an appropriate framework for the study, enabling the researcher to explore and understand the barriers to and facilitators of males’ uptake of HTS in a contextually sensitive manner. Furthermore, the chapter delved into the specifics of the research methods including the setting; the population and sampling strategy; instrument development, the procedures for participant recruitment, data collection and analysis; ethical considerations and clearance; and study authorisation. The chapter also discussed the measures taken to ensure the study's trustworthiness and addressed reflexivity. Finally, this chapter concludes by summarising the key points discussed. Chapter 4 will present the findings from the male patient and healthcare provider interviews.

Chapter 4: Findings

4.1 Introduction

This chapter presents the findings that were drawn from a thematic analysis of semi-structured interviews with users and providers across three PHC facilities in Orange Farm. The participants' views of the barriers that prevent men from accessing HTS at PHC facilities are then described, along with suggestions of how to enhance this service's uptake based on the five SEM levels. Concluding remarks about the main topics raised by the attendees round off the chapter.

4.2 Socio-demographic Characteristics of Participants

Semi-structured interviews were conducted with a total of 23 participants, including 12 male patients, five rapid test continuous quality improvement (RTCQI) trained lay counsellors and five NIMART professional nurses. The socio-demographic profiles of these participants are detailed in Table 4.1.

Table 4.1 Socio-demographics of participants

Characteristics	**Frequency (n)**		
	Patients (n)	**Lay counsellors (n)**	**Professional nurses (n)**
Gender			
Male	12	6	3
Female	Not applicable*	6	2
Age categories			
18-25 years	4	0	0
26-45 years	6	5	3
46+ years	2	1	2
Race			
African	12	6	5
White	0	0	-

Characteristics	Frequency (n)		
	Patients (n)	Lay counsellors (n)	Professional nurses (n)
Coloured	0	0	-
Indian	0	0	-
Marital status			
Married	1	-	-
Single	11	0	0
Education level			
Secondary	5	0	0
Matric	6	4	0
Tertiary	1	2	5
Employment status			
Employed	8	Not applicable	Not applicable
Unemployed	4	Not applicable	Not applicable
Healthcare provider training			
RTCQI trained	Not applicable	6	Not applicable
NIMART trained	Not applicable	Not applicable	5
Clinic A	4	2	2
Clinic B	4	2	2
Clinic C	4	2	1

*Question not applicable to the participant group

4.3 Patients' Perspectives on Barriers to Male Uptake of HTS

4.3.1 Individual level

The individual level subthemes as perceived by the male patients include, *firstly*, a lack of information; *secondly*, misconceptions around HIV self-screening (HIVSS) kits; and *thirdly*, fear.

4.3.1.1 Lack of information

Eight male patients disclosed that most men lacked knowledge about HTS [Clinic A P2, P4; Clinic B P1, P2, P4; Clinic C P1, P2, P4], rendering them susceptible to acquiring sexually transmitted diseases (STDs). Additionally, men’s responses highlighted the lack of comprehensive understanding and the existence of misconceptions concerning the causes and effects of HIV, TB, and STIs which could potentially prevent men from accessing these critical healthcare services. Two of the participants expressed these sentiments, with one stating that,

> “*The challenge is a lack of information. People do not know why it’s important to get tested... Some even think HIV/AIDS is like flu not knowing it is deadly*” [Clinic A P4].

Participant P2 from Clinic B commented,

> “[Males] *lack of thorough knowledge of HIV/AIDS, TB and STIs*”.

4.3.1.2 Misconceptions around HIVSS kits

The study uncovered that some participants harboured misconceptions about HIVSS which acted as a barrier to male uptake of HTS. Two male patients had misconceptions that the oral HIVSS kit is used for spreading COVID-19 to patients. This subtheme is supported by the following comments,

> “*I prefer the pricking test kit* [to] *the oral test kit because I do not trust the oral one …since the COVID-19 pandemic…*” [Clinic A P2].

> “*The problem was them not giving more information on self-testing services which gives most people fear, [because] it’s an oral testing kit and there’s COVID-19*” [Clinic B P1].

4.3.1.3 Fear

The data revealed that fear acted as a barrier for men to access HTS at healthcare facilities [Clinic A P2, P3, P4; Clinic C P1, P2, P3; Clinic C P1-4]. The men’s concerns centred primarily around the utilisation of Ora-quick test kits, within the context of the HIVSS programme. Their fears encompassed the possibility of receiving HIV-positive results, fear of death, reluctance to discuss HIV, and hesitancy to visit a clinic for an HIV test. These fears collectively hinder men from accessing HTS at PHC facilities. Notably, one patient remarked,

> “*I have a fear that if I am to test HIV-positive, I will be very stressed, and then end up getting depressed*” [Clinic C P1].

The following comment supports this subtheme,

> "*People still fear to bring HIV into topic*" [Clinic B P1].

4.3.2 Interpersonal level

According to the male patients' views, the subtheme at the interpersonal level comprises a lack of family support and stigma.

4.3.2.1 Lack of family support and stigma

Four male patients lamented the lack of family support concerning HTS and sexual health education which were perceived to hinder the uptake of HTS by men. They mentioned that their families failed to initiate conversations about HTS or safe sexual behaviours, and neglected to provide education, encouragement, or recommendations for HTS. This finding is supported by the following comments,

> "*My parents do not talk about nor recommend HIV testing*" [Clinic A P4].

> "*There is nobody in the family who has ever encouraged me to test*" [Clinic C P3].

> "*My family does not support nor educate me and my male siblings about HIV*" [Clinic B P4].

> "*…do not talk about HIV. It's like a taboo to mention anything HIV or sex-related*" [Clinic C P1].

4.3.3. Organisational level

At the organisational level, eight subthemes which deter access of males to HTS as perceived by male patients emerged. *Firstly*, discomfort when attended to by female healthcare providers; *secondly*, negative staff attitudes; *thirdly*, inadequate health promotion efforts; *fourthly*, inconvenient administrative and logistical practices; *fifthly*, infrastructural challenges; and *sixthly*, closure of facilities on weekends; *seventhly*, privacy and confidentiality concerns; *eighthly*, staff shortages; and *ninthly*, prolonged waiting periods.

4.3.3.1 Discomfort when attended to by female healthcare providers

Six male patients [Clinic A P2, P1, P4; Clinic B P4; Clinic C P1, P3] expressed discomfort with certain aspects of the HTS process involving female healthcare providers which could potentially act as a barrier to male uptake of HTS. Some men felt uneasy when attended to by female professional nurses or lay counsellors and expressed a preference for male healthcare practitioners. They also mentioned that male nurses would facilitate open discussions and freedom to ask questions. One participant commented,

> "*I was tested by a female counsellor [preferred a female lay counsellor]… I did not feel comfortable talking to her and discussing my sexual life*" [Clinic B P4].

Similarly, another patient noted,

> "*As a man, I would be very comfortable to be attended to by a male counsellor and would feel calm answering all questions relating to unsafe sex, HIV, and sexually transmitted infections*" [Clinic C P3].

4.3.3.2 Negative staff attitudes

Eight male patients identified negative attitudes from healthcare providers as a barrier to their access to HTS [Clinic A P1, P3, P4; Clinic B P1, P3; Clinic C P2, P3, P4]. They further expressed a perception of unfair treatment and believed that women received better treatment from healthcare providers. The following patients' responses show how negative staff attitudes result in male patients' reluctance to access HTS at healthcare facilities,

> "*I really do not appreciate how we are mistreated at the clinic... they are always rude*" [Clinic A P4].

> "*They need to stop having bad attitudes and treat people with respect*" [Clinic C P2]

4.3.3.3 Inadequate health promotion efforts

Five male patients lamented the lack of health promotion by healthcare providers which hindered men from accessing HTS in healthcare facilities [Clinic A P3, P4; Clinic B P1, P2, P3]. These participants felt that healthcare providers provided insufficient information on self-testing in particular, and HTS in general. One of the male patients felt that health education was rushed stating,

> "*…the session was rushed, and I was not given much information on the processes... I had many questions, but I could not ask because of time*" [Clinic B P2].

4.3.3.4 Inconvenient administrative and logistical practices

The challenge of navigating the process of opening a clinic file and queuing at every service point was found to ultimately deter men from seeking HTS at clinics by three male patients [Clinic A P1; Clinic B P3; Clinic C P4]. Additionally, the male patients also pointed out that the prolonged and frequent tea and lunch breaks taken by healthcare providers contributed to men's reluctance to undertake HTS. The following responses capture the patients' sentiments,

> "*They took forever to help me; one can die while still waiting to get attended to*" [Clinic A P1].

> "*... take longer breaks abandoning patient*" [Clinic C P4].

> "*The fact that I must go inside the clinic to open a card, consultation rooms are inside the clinic, but HIV testing is outside at the tents. So, going up and down gets tiring. It would be good if all services were in one place*" [Clinic A P1].

4.3.3.5 Infrastructural challenges

Seven male patients found that infrastructural shortfalls pose a challenge in their efforts to access HTS at PHC facilities [Clinic B P2, P3, P4; Clinic C P1, P2, P3, P4]. They attributed this challenge to the inadequate design and layout of these clinics which make it difficult to physically navigate through small spaces. Confined spaces were also noted to compromise privacy and confidentiality as one male patient pointed out,

> "*I wish there was a room-like testing place to maintain privacy. The tent is quite an issue in maintaining privacy*" [Clinic B P3].

Other comments from male patients further underscore the challenge of clinic size and its potential hindrance to the uptake of HTS,

> "*This clinic is very small to the point where 25 patients do not fit inside. Also, there are two small separate structures, one must go 'le na le' (going up and down) to acquire services*" [Clinic C P2].

> “[The clinic] *...does not have appropriate waiting areas… not enough chairs to sit on while waiting to consult*” [Clinic C P3].

4.3.3.6 Closure of facilities on weekends

A patient highlighted the limited operational hours of clinics, which typically did not include weekends. He suggested that offering these vital services, over weekends, would benefit men, considering their work and other responsibilities on weekdays as confirmed by the following statement,

> “*…have access to the HTS and other services on weekends of which the facility only operates Monday to Friday [whereas] people are busy*” [Clinic C P3].

4.3.3.7 Privacy and confidentiality concerns

Three male patients [Clinic A P2; Clinic B P2, P4] perceived that privacy and confidentiality posed challenges to the uptake of HTS. They also revealed that health providers tend to discuss their results with other people who are not providers. Patient P2 [Clinic B] opined,

> “*What happens in their rooms should not be discussed with other people who are not health professionals*”.

Another patient observed that providers do not attend to male patients individually which affects confidentiality,

> “*They should attend to patients one at a time instead of in a group setting*” [Clinic A P2].

4.3.3.8 Staff shortages

Three male patients [Clinic C P1-P3] viewed shortage of staff to be a barrier. This finding is supported by the following responses,

> “*…do not have medical doctors who come to the clinic* [weekly] *like in other facilities*” [Clinic C P3].

> “*Eish … staff, there is a shortage. The nurse who is supposed to help* [with collecting of treatment] *...is too busy…*” [Clinic C P2].

4.3.3.9 Prolonged waiting periods

Seven male patients revealed that men encounter prolonged waiting times before receiving assistance from professional nurses or lay counsellors [Clinic A P4; Clinic B P1, P3, P4; Clinic C P2, P3, P4]. They provided the following insights,

> "*The longer waiting period is a challenge because one gets here early but stays longer while waiting for the healthcare providers to start operating*" [Clinic C P4].

> "*I did not understand why I had to go to many different people and wait longer when I did not come to see nurses but the people who tested for HIV by the tents…*" [Clinic B P3].

4.3.4. Community level

At the community level, the subthemes that emerged as perceived by male patients included *firstly*, a lack of support from community members; *secondly*, a lack of support from community leaders; and *thirdly*, community stigma.

4.3.4.1 Lack of support from community members

Eight male patients underscored the lack of support from community members as a deterrent to accessing HTS [Clinic A P1, P2, P4; Clinic B P1, P2, P3; Clinic C P1, P2]. It manifested as a lack of support from community members and lack of information about HTS provided by the community. The following excerpts shed more light on the patients' views,

> "*The community never talks about things like HIV …People still fear to bring HIV into the topic. Most people are still confused between what we call 'drop'* [STI] *and HIV*" [Clinic B P3].

> "[Community members] *…do not encourage each other to undertake HTS*" [Clinic A P4].

4.3.4.2 Lack of support from community leaders

Five male patients noted the lack of support from community leaders in educating men about the significance of utilising HTS [Clinic A P1, P2, P4; Clinic B P1, P4]. Two patients shared the following sentiments,

> “*Honestly speaking, there is no support we receive from the community. The community leaders do not even care about arranging meetings* [to] *encourage* [HIV testing]” [Clinic A P2].

> “*There is no support or encouragement from the community council or leaders*” [Clinic A P1].

4.3.4.3 Community stigma

The stigma subtheme is also featured at the interpersonal level wherein patients experience stigma from their families. Three male patients identified stigma as a barrier to male access to HTS at PHC facilities in their communities. Stigma discourages community members from being open to and willing to utilise HTS. One patient expressed,

> “*When people see you in the tents the assumption is that you are HIV-positive…*” [Clinic B P2].

Another patient shared the following,

> “*Also, we are afraid to be stigmatised. We only test when it is a ‘do or die’ situation...*” [Clinic C P3],

Patient P4 [Clinic C] mentioned that he does not access HTS due to fear of ridicule, stating,

> “*…being laughed at by people because we wait longer in the collection queue… it creates discrimination and stigma*”.

4.3.5 Policy level

Male patients did not perceive any barrier to male uptake of HTS at the policy level.

4.4 Lay Counsellors’ Perspectives on Barriers to Male Uptake of HTS

4.4.1 Individual level

The individual-level subthemes that emerged from the perceptions of lay counsellors on barriers to male uptake of HTS are beliefs and fear.

4.4.1.1 Beliefs

Four lay counsellors revealed the sentiments and beliefs that participants have regarding access to HTS services at PHC facilities were a barrier to accessing HTS. The study found that some men believe that HIV could be treated using traditional medicines. They also believe that when they test positive, they will immediately start being sick. Others believe that when their partners test negative it means they are also negative. Some of the lay counsellors' responses included,

> "[Males] *tell me that they cannot take treatment but will consult with a traditional healer to give them 'muthi'* (traditional medicine) *to use*" [Clinic A LC2].

> "*They are of the misconception that when one tests HIV-positive they will immediately get sick to death because of the emotional strain that being HIV-positive causes*" [Clinic C LC2].

> "*Males have a perception that when their partner tests negative, it means they are negative too*" [Clinic C LC1].

4.3.1.2 Fear

Five lay counsellors perceived fear as a significant barrier that discourages men from seeking HTS [Clinic A LC2; Clinic B LC1-2; Clinic C LC1-2]. According to them, fear encompasses multiple aspects. Some men were fearful of the entire HIV testing process, others feared the potential outcome of a positive HIV test result, and others feared the very act of being tested, including the fear of needles or being 'pricked'. Moreover, the lay counsellors perceived that there was a pervasive fear of the consequences of a positive HIV test result, including the dread of illness and mortality. The following excerpts capture the lay counsellors' sentiments,

> "*...males are afraid of the emotional burden of knowing one's status comes with*" [Clinic A LC2].

> "*...some men fear to be pricked*" [Clinic B LC1].

> "*Most men think HIV is deadly which gives them a big scare to test*" [Clinic B LC2]

> "*Most perceive that testing HIV-positive is the end of the world*" [Clinic C LC1]

4.4.2 Interpersonal level

Three sub-themes emerged from the lay counsellors' views on the Interpersonal level. They included *firstly* discrimination and stigma from peers and family; *secondly*, negative peer and family influence; and *thirdly*, a lack of support.

4.4.2.1 Discrimination and stigma from peers and family

Two lay counsellors disclosed that many men harbour fears of experiencing discrimination and stigmatisation from their peers [Clinic A LC1; Clinic B, LC2]. Men were concerned about the potential negative judgments and social isolation they might face from their friends or acquaintances if they were to reveal their HIV status or seek HTS. Another lay counsellor mentioned that discussions about HIV were considered taboo in some families, which highlights stigma from the families. This observation is supported by some of the comments,

> "*Males are afraid of discrimination and stigmatisation by their peers*" [Clinic A LC1].

> "*It is a taboo for most families to talk about…*" [Clinic B LC2].

4.4.2.2 Negative peer and family influence

Four of the lay counsellors identified peer pressure and a lack of support from friends as factors that impede men's access to HTS at PHC facilities [Clinic A LC2; Clinic B LC1-2; Clinic C LC1]. The lay counsellors perceived that stigma within social circles often serves as a deterrent, preventing men from seeking HTS at healthcare institutions. Moreover, men's uptake of HTS was reportedly also hindered by the absence of familial support. One lay counsellor mentioned that there is a prevailing expectation that men should exhibit strength, a perception commonly held by families. The following excerpts capture the lay counsellors' views,

> "*No, men are known to be strong*" [Clinic A LC2].

> [Men] "*…do not want to disclose to their families or partners because they will not support them, instead, they will shout/fight them for being HIV-positive*" [Clinic B LC1].

> "*Men do not get enough support from their families because it is believed that they are the ones who infect women*" [Clinic B LC2].

4.4.2.3 Lack of support

Men often tend to distance themselves from individuals who offer them support, and in some instances, it is the men themselves who decline such support. This observation is supported by one participant who stated,

> "*Sometimes when we as women try to support men, they push us away*" [Clinic A LC2].

4.4.3 Organisational level

The organisational level comprised seven subthemes. They included *firstly*, discomfort by female lay counsellors to offer HTS to older men; *secondly*, negative staff attitude; *thirdly*, administration by healthcare providers issues; *fourthly*, confidentiality concerns as perceived by the lay counsellors; *fifthly*, impacts of male patient diversity and language barrier; *sixthly*, a lack of psychosocial support in the PHC facilities; and *seventhly*, confidentiality concerns.

4.4.3.1 Discomfort by female lay counsellors to offer HTS to older men

One lay counsellor revealed that another barrier to male uptake of HTS was her discomfort with engaging with older males. The following comment supports this finding,

> "*It is uncomfortable for a female to deal with older male patients*" [Clinic A LC2].

4.4.3.2 Negative staff attitudes

One of the lay counsellors [Clinic C LC2] revealed that negative staff attitudes discouraged male uptake of HTS. The lay counsellor mentioned that negative attitudes and judgmental behaviour from some of the nurses pose significant challenges in creating a comfortable and confidential environment for men, particularly those with STIs.

> "*…the issue is worsened by nurses with bad attitudes and who are judgmental towards patients with STIs. When we refer them for services, they would even shout at the top of their voice that they do not deal with people with STIs which compromises any confidentiality we try to maintain with the patient*" [Clinic C LC2].

4.4.3.3 Administration issues by healthcare providers

Two lay counsellors indicated that lengthy administration processes at health facilities hindered male HTS uptake [Clinic A LC1; Clinic B LC1]. Men were reportedly hesitant to access HTS because they were concerned about waiting in long queues at the clinics. Additionally, men found administrative procedures, such as opening a file, to be time-consuming and potentially delaying. Also, men felt that this paperwork was an unnecessary step, especially if they did not plan to consult with healthcare professionals or nurses. The following response supports this finding,

> "*Males are afraid to wait longer in the queues, they feel like the admin process is lengthy; they do not understand why they need to open a file when they just want to get tested for HIV only and not consult with any nurses*" [Clinic A LC1].

4.4.3.4 Inconsistent counselling session lengths

Another perceived barrier to male uptake of HTS was the inconsistency in the duration of sessions conducted by lay counsellors. There was a lack of uniformity or predictability in the amount of time they spent with each client. When patients were asked the question, *How long does an HIV testing and counselling session usually take?* all of them mentioned different lengths of time.

4.4.3.5 Impacts of male patient diversity and language barrier

According to four lay counsellors [Clinic B LC1, LC2; Clinic C LC1, LC2], patient diversity acts as a barrier to male uptake of HTS. They noted that men who did not speak or understand English or any local languages posed communication challenges which would hinder their access to services. Also, they pointed out that male patients hold beliefs in the effectiveness of traditional medicine in HIV treatment. The following comments from the lay counsellors support this finding,

> "*The main challenge with serving a diverse group of patients is that some do not speak or understand any local language… they do not understand English or any of the local languages*" [Clinic C LC2].

> "*Some patients have a different belief about treatment because of their cultural beliefs…they tell me that they cannot take treatment but will consult with a traditional healer to give them* 'muthi' [traditional medicine] *to use*" [Clinic A LC2].

4.4.3.6 Lack of psychosocial support in the PHC facilities

A barrier to the uptake of HTS is the absence of psycho-social support for male patients at PHC facilities as revealed by three lay counsellors. One of the lay counsellors remarked,

> "*If a patient needs in-depth counselling, we refer the patient a social worker or a psychologist at the CHC. We have a referral form which we complete for the patient to produce at the* [CHC]" [Clinic A LC2].

4.4.3.7 Confidentiality concerns

One lay counsellor perceived that the difficulty in maintaining confidentiality and privacy during the testing process due to limited space and the use of gazebos posed challenges for men accessing HTS. This is supported by the following statement,

> "*It is difficult to maintain confidentiality because of space, the rooms are too small and even though gazebos are available, they are not ideal because people know what takes place in a gazebo, i.e., HIV testing*" [Clinic C LC2].

4.4.4 Community level

At the Community level, one subtheme emerged from the perceptions of lay counsellors, namely the lack of community-driven education and support for men.

4.4.4.1 Lack of community-driven education and support for men

Four lay counsellors [Clinic A LC2; Clinic B LC1-2; Clinic C LC1] experienced a deficiency in community-driven education and support for men as a barrier to male HTS uptake. The following excerpts support this finding,

> "*The community does not offer enough support. The support the community receive is that from the NGOs when they send their community health team to do campaigns to educate the people*" [Clinic C LC1].

> "[Community] *fails men because they do not educate them about health issues men face such as HIV, STIs, and prostate cancer. They do not educate men that unsafe sexual ways can lead to HIV infection…*" [Clinic B LC2].

4.4.5 Policy level

Based on the lay counsellors' views, one subtheme emerged at the policy level on barriers to access to HTS for men which is non-adherence to health policies.

4.4.5.1 Non-adherence to health policies

Lay counsellors identified that the non or inconsistent utilisation of the Standard Operating Procedure (SOP) by healthcare providers to guide the recruitment of men impeded their access to HTS. Two of the lay counsellors commented,

> "*No. there is no SOP for recruiting patients that I know of*" [Clinic C LC1].

> "*To be honest with you, we sometimes do not follow it*" [Clinic B LC2].

These findings highlight a lack of standardised procedures for male recruitment, with variations in practices among healthcare providers and facilities.

4.5 Professional nurses' Perspectives on Barriers to Male Uptake of HTS

4.5.1 Individual level

The individual-level barriers to the uptake of HTS by men from the professional nurses' perspectives include *firstly* men's unawareness when offered health education; *secondly*, lack of knowledge; *thirdly*, fear; and *fourthly*, self-stigmatisation.

4.5.1.1 Men's unawareness when offered health education

An additional factor that hinders men from accessing HTS at PHC facilities is unawareness when offered health education. One nurse explained,

> "*Most of the male patients refuse to take treatment regardless of how much information I have given the guy on the importance of taking treatment*" [Clinic A N2].

In line with this perception, another nurse stated,

> "*They have the knowledge and are motivated enough to test for HIV… but are very ignorant to wanting to know their status*" [Clinic C N1].

4.5.1.2 Lack of knowledge

The study revealed that a lack of knowledge or understanding was a significant barrier to male HTS uptake in PHC facilities. The following responses support this finding,

> “*Males have a perception that when their partner tests negative, it means they are negative too. Younger males are hindered by a lack of more information because at schools they are given basic knowledge about HIV*” [Clinic A N1].

> “*Most males are misinformed about HIV, TB and STIs; they do not know the causes or symptoms of these infections*” [Clinic A N1].

> “*Others say they do not see a need to test because they are healthy and not as sick yet*” [Clinic A N2].

4.5.1.3 Fear

Fear was identified as a barrier to the uptake of HTS for men. It was found that men's fear is linked to both the uncertainty of the testing process and the emotional distress that may arise from receiving a positive test result. This finding is supported by the following comment,

> “*Men are* [so] *afraid of emotional pain that they* [would] *rather not know their HIV status*” [Clinic C N1].

4.5.1.4 Self-stigmatisation

The data revealed that men frequently encounter self-stigmatisation which acted as a barrier to access to HTS in PHC facilities. This is confirmed by the following statements,

> “*…males do not want to be seen in testing rooms…*” [Clinic B N2].

> “*There is a stigma that only women come to the clinic, women are treated better…*” [Clinic B N1].

4.5.2 Interpersonal level

Three subthemes emerged from the professional nurses’ views at the interpersonal level which include *firstly*, stigma from the family; *secondly*, a lack of familial support; and *thirdly*, negative peer influence.

4.5.2.1 Stigma from the family

One nurse revealed that discrimination and judgment from family members play a role in men's unwillingness to utilise HTS,

> “*…like the fear of how their image might be affected if their families were to discover that they are HIV-positive*” [Clinic C N1].

4.5.2.2 Lack of familial support

All five professional nurses revealed that men lack support and encouragement from their families to access HTS in healthcare facilities, which acted as a barrier to male uptake of HTS. They emphasised the importance of families talking and encouraging one another about taking an HIV test and disclosing their HIV status to help influence their family members to seek an HIV test and undergo testing together as families. One nurse stated,

> “*No! Families do not support men because of the ideology that men are strong and men cannot cry, which is not good*” [Clinic A N1].

4.5.2.3 Negative peer influence

Peer pressure was identified as a factor that can impede men's uptake of HTS at PHC facilities. A nurse further mentioned that younger males may be influenced by their peers' experiences, especially if some of those peers had negative or discouraging experiences with HTS. This finding is supported by the following excerpt,

> “*For younger males, the challenge could be peer pressure from the peer’s experience more especially those that had a bad experience*” [Clinic C N1].

4.5.3 Organisational level

At the organisational level, six subthemes emerged from the perceptions of professional nurses. These include *firstly*, unfavourable staff attitudes; *secondly*, infrastructural concerns; and *thirdly*, discomfort when receiving care from female healthcare providers; *fourthly*, privacy and confidentiality concerns; *fifthly*, issues pertaining to the infrastructure and layout of the PHC facilities; *sixthly*, staff shortage; and *seventhly*, extended waiting times.

4.5.3.1 Unfavourable staff attitudes

Two professional nurses admitted to the existence of unfavourable staff attitudes towards male patients. They commented,

> “*We need to change our attitudes as healthcare providers by being kind to the patients*” [Clinic B N1]

> "*Nurses on the other hand need to improve on their attitude towards male patients*" [Clinic B N2].

4.5.3.2 Infrastructure concerns

Three professional nurses perceived the designs and layout of the healthcare facilities as a significant barrier to men seeking HTS [Clinic A N1; Clinic B N1; Clinic C N1]. The professional nurses emphasised that this particular problem contributes to prolonged waiting periods for patients needing medical attention. At Clinic C, Nurse 1 also revealed that the poor layout and infrastructure challenges compromise patient privacy and confidentiality.

> "*I think the lay-out of this clinic does affect access to HTS because we now have two separate structures with consultation rooms. Men do not like going to many rooms and waiting on different queues…*" [Clinic A N1].

> "*The clinic setup is not conducive because we do not have enough rooms… It would be great if we had more rooms, so patients do not wait longer to get assistance*" [Clinic B N1].

> "*The physical layout does affect access to HTS... The problem is that we do not have a concealed waiting area which affects patients' privacy and at times confidentiality*" [Clinic C N1].

4.5.3.3 Discomfort when receiving care from female healthcare providers

Three professional nurses opined that men's discomfort when receiving care from female healthcare providers hinders their access to HTS. The professional nurses noted that some men feel uncomfortable when receiving care from female healthcare providers, expressing a preference for male healthcare practitioners. The following excerpts from the participants support this finding,

> "*Some men do not want to be initiated nor tested by a female healthcare provider…*" [Clinic A N1].

> "*There are those who prefer to be attended to by male healthcare providers*" [Clinic B N1].

"*…they are uncomfortable dealing with female healthcare providers*" [Clinic C N1].

4.5.3.4 Privacy and confidentiality concerns

One of the professional nurses revealed that the lack of privacy and confidentiality posed challenges to male uptake of HTS in facilities. One nurse iterated,

> "*The problem is that we do not have a concealed waiting area which affects patients' privacy and at times confidentiality*" [Clinic C N1].

4.5.3.5 Issues pertaining to infrastructure and layout of the PHC facilities

Three professional nurses [Clinic A N1; Clinic B N1; Clinic C N1] expressed concerns about the layout and dimensions of certain healthcare facilities. Some mentioned that the physical layout of the consultation rooms for HTS is designed in a manner that restricts patient privacy during sessions.

4.5.3.6 Staff shortage

One of the professional nurses identified that staff shortages at the PHC facilities are also a barrier to male uptake of HTS. He stated the following,

> "*…there is still a shortage of staff*" [Clinic A N2].

The preceding finding highlights a need to hire more healthcare providers to assist with male patients.

4.5.3.7 Extended waiting times

Four professional nurses revealed that men experience extended waiting times before they can see a nurse or lay counsellor. These extended waiting times act as a barrier for men when it comes to accessing HTS at PHC facilities. The identified challenge encompasses decreased clinic use, negative views of healthcare facilities, and the possibility of postponing HIV diagnosis and ART.

> "*Men do not like going to many rooms and waiting on different queues hence we have people who abscond before they are initiated because they do not want to stay long at the clinic*" [Clinic A N1].

> "*Another challenge is that they do not want to stay longer at the clinic*" [Clinic B N2].

> "*Most men do not want to wait longer, when they wait longer, they get irritated and want to leave the facility unless if they are very sick*" [Clinic A N2].

4.5.4 Community level

At the community level, the professional nurses did not identify any barrier that hinders access to HTS at the PHC facilities.

4.5.5 Policy level

Three subthemes emerged at the policy level based on the professional nurses' views. They include *firstly* lack of adequate support from the DOH; and *secondly*, variation in HTS policy.

4.5.5.1 Lack of adequate support from the Department of Health

Two professional nurses [Clinic A N1; Clinic C N1] perceived the inadequacy of support from the DoH to PHC facilities, particularly HTS to men, as a barrier. Furthermore, the findings uncovered that certain professional nurses on duty neglected the initiation of male patients on ART and preferred to wait for their colleagues, who might be on leave, to return and address a backlog of patients who had not yet been attended to. The following statement attests to this finding,

> "[Giggles] ... *DoH is not offering support in providing quality HTS specifically ART. The leaders say nothing when the professional nurses refuse to initiate. This is something that is well-known by the managers*" [Clinic A N1].

The professional nurses also revealed that some of their colleagues fail to make referrals for HTS among men.

4.5.5.2 Variation in HTS policy

Five professional nurses' responses highlighted varied HTS policy implementation as a barrier to male uptake of HTS in PHC facilities. The professional nurses had different criteria for referring men for HTS based on the specific patient populations they serve. Nurse 2 from Clinic B took a particularly proactive approach by referring every male patient for HTS, highlighting the importance of HTS as a preventive measure. However, other professional nurses provided vague criteria, such as 'when they come with TB symptoms' or 'when they come with the same problem time and again'. The varied criteria for referring men for HTS could lead to confusion and potential inconsistencies in patient referrals. Moreover, referring every male patient without considering risk factors might also not be an efficient use of resources. These criteria lack specificity and may not be clear enough for consistent implementation. Here are the responses from some of the professional nurses,

> "*When a man comes with a skin problem, when they have STIs, when they come to the clinic with the same problem time and again, and when they are sexually active*" [Clinic B N2].

> "*During screening when asking when last they tested, when they are presenting with STI symptoms, and when they come with TB symptoms to treat the patient comprehensively*" [Clinic B N1]

> "*I deal with chronic patients, where most are on chronic treatment. Then if a male patient has not tested in the past six weeks or does not know his status, then I refer for testing*" [Clinic C N1].

4.6 Shared Perceived Barriers of Male Uptake of HTS

Common challenges to male HTS uptake emerged across the three participant groups, as reflected in Table 4.2. The subthemes represent shared concerns among the different stakeholders regarding access to HTS for men.

Table 4.2 Shared perceived barriers to male uptake of HTS

SEM LEVELS	BARRIERS
Individual	• Fear • Lack of knowledge
Interpersonal	• Negative peer and family influence • Lack of familial support and stigma
Organisational	• Discomfort when attended by female healthcare providers • Negative staff attitudes • Confidentiality concerns

Community	- Lack of education and awareness within the community
Policy	- Non-adherence to policy

4.7 Male Patients’ Perspectives on Facilitators of Male Uptake of HTS

4.7.1 Individual level

Four subthemes emerged at this level regarding facilitators of male uptake of HTS in PHC facilities as viewed by the male patients. They include *firstly*, ending unawareness; *secondly*, promoting HTS as a standard practice; *thirdly*, overcoming the fear of HIV testing; and *fourthly*, encouraging men to give priority to their health.

4.7.1.1 End unawareness

Two male patients believed ending unawareness about HIV could improve access to HTS by men. They stated the following,

> “*Men need to stop being ignorant of important information which will benefit us and our health*” [Clinic C P1].

> “*People need to stop being ignorant and come to the clinic to test*” [Clinic C P2].

4.7.1.2 Promote HTS as a standard practice

Three patients [Clinic A P2, P4; Clinic B P4] suggested that standardising access to HTS for men is crucial as it would ensure equitable access to HTS, bridging the gender gap in HIV diagnosis and treatment. This finding is supported by a comment from Patient 4 at Clinic B,

> “*Men should make HIV testing a standard practice*”.

4.7.1.3 Overcome the fear of HIV testing

A patient proposed that overcoming the fear of HIV testing would facilitate the uptake of HTS for men. He underscored that addressing the fear of HIV testing is an act of self-care and responsibility that can help prevent the spread of HIV/AIDS. The patient stated,

> "*Things have changed now; it is not like years back* [when] *people had a huge fear of HIV/AIDS when it was known that it's a killer disease***.** *Men should get used to having an interest in their health, there is nothing to fear*" [Clinic B P2].

4.7.1.4 Encourage men to give priority to their health

Two patients [Clinic A P4; Clinic B P4] recommended that men should be encouraged to prioritise their health. One of the participants emphasised,

> "[Men] *need to start taking their health seriously, they need to stand up and volunteer to access HTS at the clinics*" [Clinic A P4].

4.7.2 Interpersonal level

Three subthemes emerged at the interpersonal level. They included *firstly*, advocating for support from family and peers; *secondly*, promoting health education within families; and *thirdly*, encouraging and fostering motivation within the family.

4.7.2.1 Advocating for support from family and friends

All 12 male patients agreed that advocating for support from family and peers could significantly improve access to HTS. As one patient remarked,

> "*Families need to support males and create an environment where men can open up. Also, families must be open instead of being judgemental*" [Clinic A P1].

4.7.2.2 Promoting health education within families

Five male patients [Clinic B P2, P3, P4; Clinic C P1, P2] recommended promoting health education within families as a facilitator of improving men's access to HTS in PHC facilities. The promotion of health education in families as a facilitator is supported by a statement from P2 from Clinic B who iterated,

> "*...families should start having health talks because they are very important*. [During] *family gatherings* [have] *someone who educates everyone about HIV and how important it is for one to know their status*".

4.7.2.3 Encourage and foster motivation within the family

All 12 male patients were of the opinion that encouraging and fostering motivation within families was vital in facilitating improved access to HTS for men. One patient commented,

> "*Families need to support one another by encouraging each other to test*" [Clinic C P3].

4.7.3 Organisational level

Five subthemes emerged from male patients' views regarding facilitating factors at the organisational level. These include *firstly*, improving healthcare provider-led health education; *secondly*, encouraging non-judgemental attitudes and environment by healthcare providers; *thirdly*, strengthening NGOs; *fourthly*, engender positive attitudes and fair treatment among healthcare providers; and *fifthly*, developing men's support groups.

4.7.3.1 Improving healthcare provider-led health education

All 12 patients proposed that an improvement in health education delivered by healthcare providers can play an important part in improving men's access to HTS. The men expressed a desire for comprehensive health education to facilitate informed decision-making about their health. Also, they expressed the desire to be afforded an opportunity to ask questions during health education, in a separate environment from female patients. Some patient excerpts follow,

> "*Give education*" [Clinic A Patient 2].

> "*…the more knowledgeable people are the keener they are on acquiring the services*" [Clinic B P4].

> "*They should hand out pamphlets to the patients as they educate us…*" [Clinic B P3].

4.7.3.2 Encouraging non-judgemental attitudes and environment by healthcare providers

Two male patients suggested that encouraging non-judgemental attitudes and environments by healthcare providers would improve male access to HTS. One patient stated,

> "*They need to stop being judgemental…*" [Clinic B P1].

According to another patient,

> "*…they need to treat everyone equally…*" [Clinic B P3].

4.7.3.3 Strengthen the NGOs' influence

Five male patients [Clinic B P1; Clinic C P1, P2, P3, P4] suggested that strengthening NGOs' influence would facilitate access to HTS for men. NGOs, with their community outreach programmes and educational initiatives, can work to destigmatise HIV, raise awareness about its importance, and provide confidential testing and treatment options. The following statements support this finding,

> "*NGOs should door-to-door campaigns to get more men to test*" [Clinic B P1].

> "*NGOs and the government need to also do promotions where they test people and give them something. Most men like testing when there is a benefit (…laughs)*" [Clinic C P1].

4.7.3.4 Engender positive attitudes and fair treatment among healthcare providers

Six male patients [Clinic A P4; Clinic B P3; Clinic C P1, P2, P3, P4] emphasised the importance of healthcare providers showing positive attitudes and treating men with fairness and respect to improve access to HTS by men. The following excerpts reflect the patients' views,

> "*…being respectful and kind to male patients*" [Clinic A P4].

> "*They should stop being rude and shutting us out when we have something to say or ask*" [Clinic C P1].

> "*They need to stop having bad attitudes and treat people with respect*" [Clinic B P3].

> "*The problem is staff attitudes which they need to work on*" [Clinic C P3].

4.7.3.5 Developing men's support groups

Six patients [Clinic A P1; Clinic B P1-4; Clinic C P4] recommended that the DoH should establish support groups for male patients at PHC facilities. By establishing dedicated spaces or programmes tailored to men's needs and concerns, a more comfortable and welcoming environment for them to address their HIV-related health issues can be created. These 'men's corners' could offer not only accessible HIV testing facilities but also educational resources and support services, encouraging men to act towards HIV prevention through safe sexual behaviours. According to some of the participants' statements,

> "*The Department of Health should initiate support groups for people who are infected*" [Clinic B P3].
>
> "*Creating men's support groups at the clinics where men will meet and be educated…and be a platform to ask questions*" [Clinic B P4].
>
> "*They need to create men's groups where they educate men on HIV/AIDS*" [Clinic C P4].

4.7.4 Community level

One subtheme emerged from the findings under the community level as perceived by the male patients. The subtheme is that the community needs to create awareness.

4.7.4.1 Community needs to create awareness

All 12 male patients pointed out that community health education and awareness are important in increasing men's access to HTS. The patients stated that increasing awareness and knowledge would improve men's engagement with and access to HTS, subsequently contributing to a healthier and more informed society. Excerpts follow of some male patients emphasising the need for creating community awareness,

> "[Community] *... gather all men to teach them about HIV testing and create men dialogues*" [Clinic B P3].
>
> "*The community needs to organise a 'men's conference' type of meeting to discuss different issues such as men's health*" [Clinic B P1].
>
> "*The community should also educate boys from a young age about different diseases that one can contract through unsafe sexual behaviours*" [Clinic C P1].

4.7.5 Policy level

The subthemes that emerged from this level as perceived by the male patients are *first*, the improvement of facility structure and space; *second*, hiring of more male healthcare providers; *third*, extending operational hours to weekends; *fourth*, conducting performance evaluations of healthcare providers; *fifth*, the DoH to promote HIVSS; and lastly ensuring confidentiality in facility setting.

4.7.5.1 Improvement of facility structure and space

Three male patients [Clinic B P2, P4; Clinic C P2] proposed that improving the physical infrastructure of healthcare facilities to be a more accommodating environment for men can encourage men to seek HTS. Two patients stated,

> "*The government should add more buildings to avoid using tents. Privacy is important*" [Clinic B P4].
>
> "[DoH] *needs to build another structure because this clinic is very small*" [Clinic C P2].

4.7.5.2 Hiring of more male healthcare providers

Six male patients [Clinic A P1-2; Clinic B P1; Clinic C P1-3] suggested that the DoH should employ more male healthcare providers at PHC facilities. The following excerpts capture the patients' sentiments,

> "*What needs to be done is get male nurses who can relate to us fellow men; I will keep re-emphasising this because some issues that are just difficult to discuss with female healthcare providers*" [Clinic A P1].
>
> "*…Moreover, they need to employ more healthcare providers because there is a shortage of nurses and counsellors*" [Clinic C P2].

4.7.5.3 Extending operational hours to weekends

One of the male patients recommended that the DoH extend clinic operational hours to include weekends to facilitate more men accessing HTS, especially those that are busy and are at work on weekdays declaring,

> "*More emphasis on operating on weekends because some if not most men do want to come to the clinic to test but are afraid of waiting longer and cannot skip going to work*" [Clinic C P3].

The patient put forward that extended operational hours could reduce the longer waiting periods as some of the patients can go to the facilities on weekends when they are off duty.

4.7.5.4 Conducting performance evaluations of healthcare providers

A male patient suggested that the DoH should evaluate healthcare providers' performance and how they treat men in facilities. The respondent emphasised that the performance evaluation would assist in ensuring that healthcare providers treat patients with fairness and respect. Patient 2 at Clinic B responded,

> "*The department needs to make sure that they assess their workers and that they treat patients fairly*".

4.7.5.5 The DoH to promote HIVSS

One of the patients suggested that the DoH should promote HIVSS to men as a facilitator of male uptake of HTS in PHC facilities. Patient 4 at Clinic A observed,

> "*They need to teach people about self-test. It would be a good initiative for the DoH to make self-tests available in public places just like with condoms being distributed at tuckshops*".

4.7.5.6 Ensuring confidentiality in facility setting

Ten male patients [Clinic A P1-3; Clinic B P1-4; Clinic C P1, P2, P4] emphasised that healthcare providers should ensure confidentiality when providing HTS by not discussing the results among themselves, not disclosing results without permission from men, and attending to one man at a time. Some patients further proposed that to maintain confidentiality, the packaging of ARVs should be discreet, like the packaging of other medications. The following responses were received from the participants,

> "*They need to upgrade or change the packaging in which they store antiretroviral treatment ...*" [Clinic B P1].

> "*They need to stop discussing patients' information and gossiping*" [Clinic A P1].

> "*…they should attend to patients one at a time instead of a group setting…*" [Clinic A P3].

4.8 Lay Counsellors' Perspectives on Facilitators of Male Uptake of HTS

4.8.1 Individual level

At the individual level, there were four subthemes perceived by the lay counsellors. They include *firstly*, promoting a positive attitude towards accessing HTS; *secondly*, overcoming pride and fear; *thirdly*, making time for HIV testing; and *fourthly*, normalising regular HIV testing.

4.8.1.1 Promote a positive attitude towards accessing HTS

Two lay counsellors revealed that promoting a positive attitude towards testing for HIV is an essential facilitator for men. The respondents stated that a positive attitude towards HTS shows a responsibility towards one's own health. One of the two lay counsellors observed,

> [Men] need to adjust their attitude towards accessing health care … which will help them to understand better the need to know their HIV status and access HTS. [Clinic C LC2]

4.8.1.2 Overcoming pride and fear

A statement from LC1 at Clinic A emphasised the importance of men overcoming pride and fear. The lay counsellor stated,

> "*Men need to stand up for themselves. They need to stop having pride or any fear, and then come to the facilities or go to the community tents to get tested*".

4.8.1.3 Self-education on STIs

Participant LC2 at Clinic A suggested that men should take the initiative to educate themselves about STIs. The participant commented,

> "*They need to educate themselves about* [STIs] *and get used to testing for HIV without waiting to be recruited in the clinic to come test*".

4.8.1.4 Normalising regular HIV testing

Two lay counsellors [Clinic B LC1-2] promoted the idea of making HIV testing a routine practice, similar to monitoring vital signs. Normalising HIV testing entails viewing HTS as a regular part of healthcare, rather than something only done in response to specific concerns or symptoms. LC2 at Clinic B suggested,

> "*The patients need to make HIV testing a norm just like with vital signs. They must access HTS regularly in facilities, more especially that they know that they have been having unsafe sex*".

4.8.2 Interpersonal level

The interpersonal level consists of three subthemes identified by lay counsellors which are *firstly*, encourage family support; *secondly*, promote health education from the family; and *thirdly*, address GBV.

4.8.2.1 Encourage family support

Six lay counsellors suggested that families should be supportive of men as a facilitator to improve the uptake of HTS. Below are some of the responses from the lay counsellors in support of their proposed facilitator:

> "*Families need to talk more to these men about HIV and the importance of testing and being on treatment. They also need to accompany each other as brothers to come to the clinic whether it is to test or to collect treatment*" [Clinic A LC 1].

> "*Families need to encourage men to go and test; more especially partners they need to encourage their men/husbands to go tested every now and then*" [Clinic A LC 2].

4.8.2.2 Promote health education from the family

Six lay counsellors proposed health education for the family as a facilitator of male uptake of HTS. Here are responses from the lay counsellors:

> "[Families] *need to seek education about HTS, subsequently they can educate men in their families with the knowledge they would have gotten from healthcare providers*" [Clinic B LC 1].

> "*Families need to educate men about different health issues. If they do not have the knowledge, the least they can do is recommend that they go to the facilities to access HTS. In their family meetings, they must talk about HIV and encourage one another to take care of their health*" [Clinic B LC 2].

> "*Sharing information at home by making use of WBOTs* (Ward based outreach teams) *and encouraging families to talk about health issues*" [Clinic C LC 1].

4.8.2.3 Address Gender-based Violence

One of the lay counsellors proposed that addressing GBV in families can act as an important facilitator to male uptake of HTS in PHC facilities. The participant emphasised that eradicating GBV is critical for creating an environment where families feel safe to discuss and encourage males to access HTS. The participant responded,

> "*Eradicating* [GBV] *can go a long way in ensuring that families encourage males to access HTS, most patients are afraid to encourage their male partners to test for HIV because of GBV*" [Clinic C LC2].

4.8.3 Organisational level

The organisational level comprises four subthemes which emerged from the lay counsellors' views. They include *firstly*, designating men's health services; *secondly*, targeted health education in influential areas; *thirdly,* healthcare providers to stop stigmatising men; and *fourthly,* improvement of facility structure and space.

4.8.3.1 Designating men's health services

Three lay counsellors [Clinic B LC1, LC2; Clinic C LC2] suggested designating a part of each facility that will specifically attend to men and improve men's health services as facilitators of male uptake of HTS. Participant LC2 from Clinic C noted,

> "*Having a designated section for males such as a Men's Clinic catering to male-related health needs…*" [Clinic C LC2].

4.8.3.2 Targeted health education in influential places

Influential places are settings where a significant number of people gather or pass through, making them ideal for reaching a broad audience. One lay counsellor suggested targeted health education in public places as a facilitator of uptake of HTS for men to promote better health outcomes by delivering tailored health information to specific groups in locations where they are most likely to engage with the material. The choice of location is important. The lay counsellor mentioned examples of these places including malls and taxi ranks, which are typically crowded and frequented by diverse groups of individuals.

> “[Lay counsellors] *need to target places where there are many people at once such as at malls or taxi ranks where we can give health education to men. On such campaigns healthcare providers need to make health education the only apriority without convincing them to test or even testing at the spot. That will make them realise the importance of always checking for their health. Information is powerful and on its own it is a marketing strategy for people to test*” [Clinic B LC 2].

4.8.3.3 Healthcare providers to stop stigmatising men

Another facilitator of male uptake of HTS is to stop stigmatisation by providers as suggested by one of the lay counsellors. The current subtheme is supported by the lay counsellor’s comment,

> “*At times, we as healthcare providers we are the ones stigmatising HIV because we make it seem like they have a choice to take* [ART] *or not*” [Clinic B LC2].

4.8.3.4 Improvement of facility structure and space

A lay counsellor at Clinic C [LC2] proposed that improving the infrastructure of healthcare facilities to make them more welcoming for all male patients could potentially motivate men to access HTS. The lay counsellor stated,

> “*…I feel that HTS needs to be allocated adequate space within facilities and not depend on gazebos as they do not offer the best level of privacy and can be impractical during extreme weather conditions*” [Clinic C LC 2].

4.8.4 Community level

The community level has one subtheme that emerged from the lay counsellors’ perspectives, namely integrating health talks in community meetings.

4.8.4.1 Integrating health talks in community meetings

A facilitator suggested by three of the lay counsellors [Clinic A LC2; Clinic B LC2; Clinic C LC1] was integrating health talks in community meetings to improve the uptake of HTS at PHC facilities. Lay counsellor LC2 from Clinic B stated,

> "[Community] *...need to invite the healthcare providers at those meetings, so they give health talks about different diseases like prostate cancer, diabetes, and HIV. Not only talk about HIV because it creates stigma when they educate only about HIV*" [Clinic B LC2].

4.8.5 Policy level

The policy level comprised three subthemes identified by the lay counsellors. They include *firstly*, hiring male healthcare providers; *secondly*, reinforcing health policy adherence; and *thirdly*, promoting HIVSS distribution.

4.8.5.1 Hiring male healthcare providers

The proposed facilitator emphasises the need to hire more male healthcare providers and assign dedicated male staff to cater to the needs of male patients. Two lay counsellors emphasised that by having more male healthcare providers and dedicated male staff for male patients, healthcare facilities can better meet these preferences which will assist in improving males' access to HTS. The lay counsellors revealed,

> "*They need to improve on human resources, employing more male lay counsellors and NIMART…*" [Clinic A LC1].

> "*I would say having dedicated male nurses…"* [Clinic C LC1].

4.8.5.2 Reinforcement of health policy adherence

Two lay counsellors [Clinic A LC2; Clinic B LC1] recommended that strengthening health policies by the government and healthcare organisations can implement targeted initiatives aimed at reducing barriers to HTS. They contend that by addressing these challenges through policy reinforcement, men will be empowered to access HTS at PHC facilities. LC2 at Clinic B stated,

> "*DoH needs to reinforce their policy that everyone who enters the public healthcare facility needs to test for HIV*".

The reinforcement of policy adherence is important to encourage male patients to access HTS whenever they visit healthcare facilities as revealed by the lay counsellors.

4.8.5.3 Promoting HIVSS distribution

This facilitator suggested by one of the lay counsellors involves making HIVST kits accessible to men, educating them on how to use the kits, allowing them to test at home, and establishing a system for follow-up and support if they receive a positive result. HIVSS distribution eliminates the need for them to take time out of their busy schedules to visit a clinic for testing. The lay counsellor emphasised this facilitator by remarking,

> "*Enhancing HIV self-test distribution to men… Educating them on how it works. Then they can leave their contact details for us to follow up on their results*" [Clinic B LC1].

4.9 Professional nurses' Perspectives on Facilitators of Males' Uptake of HTS

4.9.1 Individual level

Six subthemes emerged from the professional nurses' perspectives of individual-level facilitators of the male uptake of HTS. They include *firstly* a shift in healthcare providers' attitudes toward men and *secondly*, an awareness and perception shift.

4.9.1.1 A shift in healthcare providers' attitudes toward men

A nurse suggested that improving male uptake of HTS could be facilitated by changing healthcare providers' attitudes towards patients. She or he pointed out,

> "*We need to change our attitudes as healthcare providers by being kind to the patients consequently they will recommend others to come access HTS because they receive warm people to attend to them*" [Clinic B N1].

4.9.1.2 Awareness and perception shift

Four professional nurses [Clinic A N1, N2; Clinic B N1; Clinic C N1] suggested that it is important for men to increase their awareness and alter their perception of HIV, treat it seriously, and take proactive steps to get tested and informed about HIV, TB, STIs, and available treatments. Here are the comments from some of the professional nurses,

> “[Men] *need to stop thinking HIV is like flu. They need to start taking it seriously like the old ‘AIDS’ that used to take lives. They must go get tested and be informed about HIV, TB, STIs and treatment*” [Clinic A N1].

> “*Males need to stop being ignorant and access HTS. They need to start taking their heath seriously*” [Clinic C N1].

4.9.2 Interpersonal level

One subtheme, encouraging health education and family support, emerged from the professional nurses’ perspectives of facilitators of males’ uptake of HTS at the interpersonal level.

4.9.2.1 Encouraging health education and family support

Four professional nurses [Clinic A N1, N2; Clinic B N2; Clinic C N1] stated that health education within the family is essential in improving men's access to HTS. Two professional nurses responded as follows,

> “*Parents need to educate their children about HIV...*” [Clinic C N1].

> “*When people within the families start sharing their experience of accessing HTS at the facility, that encourages others to access the services too*” [Clinic A N1].

4.9.3 Organisational level

Five subthemes emerged based on the professional nurses’ perspectives at the organisational level. They include *firstly*, promoting health education tailored towards men; and *secondly*, initiating engagement with men at the clinics.

4.9.3.1 Promoting health education tailored towards men

Three professional nurses recommended that PHC facilities should promote health education and programmes tailored towards men to enhance their access to HTS. The professional nurses commented,

> “*They must educate people about HIV, STIs and ART adherence because they prioritise reaching testing targets rather than imparting knowledge and impacting lives*” [Clinic A N1].

> “*They need to hold men’s meetings at the clinic for men to discuss circumcision, HIV, STIs and AR*” [Clinic A N2].

> “*…a specialised* [health education] *programme for males to access services faster…*” [Clinic B N1].

4.9.3.2 Initiating engagement with men at the clinics

Two professional nurses [Clinic A N2; Clinic C N1] recommended the initiation of men’s meetings at the clinic as a way of creating dedicated and male-specific initiatives or spaces within healthcare facilities to encourage men to access HTS. The initiatives would cultivate a welcoming and informative environment that would encourage men to take proactive steps in managing their health and getting tested for HIV and other related conditions. According to the professional nurses,

> “*There needs to be a men’s corner at every public healthcare facility, where there are different slots for meetings for men to attend wherein, they will be educated about most men’s health issues and HIV*” [Clinic C N1].

> “*They need to hold men’s meetings at the clinic for men to discuss circumcision, HIV, STIs and ART*” [Clinic A N2].

4.9.4 Community level

The professional nurses did not identify any facilitators of male uptake of HTS at the community level.

4.9.5 Policy level

Five subthemes emerged from the professional nurses’ perspectives of policy-level facilitators of male HTS uptake including *firstly,* employing more male healthcare providers; *secondly,* reinforcing of health policy adherence; *thirdly,* encouraging schools to provide comprehensive HIV and STI education; *fourthly,* encouraging influence by faith-based organisations; and *fifthly,* encouraging employers to encourage their employees to access HST.

4.9.5.1 Employ more male healthcare providers

Two professional nurses [Clinic A N1; Clinic B N1] proposed that the DOH should employ more male providers to render HTS specifically to male patients as some men prefer to be tested and initiated on ART by female healthcare providers. One nurse stated,

> "*They need to hire more male professional nurses because some men do not want to be initiated or tested by a female healthcare provider*" [Clinic A N1].

4.9.5.2 Reinforcement of health policy adherence

Reinforcement of policy adherence such as routinely referring/recommending male patients for HTS was suggested by two professional nurses [Clinic A N2; Clinic C N1]. According to Nurse N1 from Clinic C,

> "*The reinforcement that is needed is the policy that states that 'every patient must not leave the clinic without knowing their status,' whereby the DOH leaders need to ensure that this policy is followed. Then we will see an improvement in HTS at the PHC facilities*".

4.9.5.3 Encouraging schools to provide comprehensive HIV and STI education

Five professional nurses suggested that schools need to offer comprehensive HIV and STI education to improve male uptake of HTS in healthcare facilities. The following comments support this subtheme,

> "*Male teachers need to host meetings to teach the boys about sex, HIV and STIs*" [Clinic A N2].

> "*Principals need to collaborate with the clinics to set up a time …to release learners to come have a clinic visit hour... to educate them about HIV and STIs*" [Clinic C N1].

4.9.5.4 Encourage influence by faith based-organisations

All five professional nurses suggested that FBOs need to encourage and influence their male members to access HTS. These professional nurses stressed the importance of involving FBOs in HIV education and support efforts. Excerpts from three of the professional nurses support this facilitator,

> "*Pastors or church leaders need to be in contact with healthcare professionals who can go to their churches to provide health education*" [Clinic A N1].

> “*Faith-based organisations need to stop discrimination and being judgemental to those who are HIV-positive…*” [Clinic B N2].

> “*…they need to create awareness about HTS in their congregation*” [Clinic C N1].

4.9.5.5 Employers need to recommend HTS to their employees

The five professional nurses proposed that employers recommending HTS to their employees would improve HTS uptake by men at PHC facilities. Employers or companies could host healthcare days to encourage men to test for HIV as well as having a department within their companies to provide health education to their male employees. Two of the professional nurses suggested,

> “*Employers should have a ‘health day’ where they do health promotion for all types of illnesses and sexually transmitted diseases*” [Clinic B N2].

> “*…have a ‘healthcare day’ where they get healthcare providers to inform men about HIV, STIs and prostate cancer*” [Clinic C N1].

4.10 Shared Perceived Facilitators of Male Uptake of HTS

Table 4.3 presents the key factors identified by male patients, lay counsellors, and professional nurses as facilitators of men’s utilisation of HTS. These facilitators represent the shared perceptions of these groups and their collective understanding of how to enhance HTS uptake.

Table 4.3 Shared perceived facilitators of male uptake of HTS

SEM LEVELS	FACILITATORS
Individual	• Overcoming fear • Addressing men’s unawareness
Interpersonal	• Fostering supportive family and friend networks • Encouragement of health education within families

Organisational	• Positive staff attitudes when providing care • Initiation of men’s corner in PHC facilities
Community	• Initiating community health education and awareness tailored for men
Policy	• Hiring male healthcare providers • Reinforcement of policy adherence

4.11 Conclusion

This chapter presented participants’ views of barriers to and facilitators of male HTS uptake at PHC facilities. The researcher made use of deductive and inductive thematic data analysis to interpret the findings. Deductively, the findings were presented based on the SEM levels serving as *a priori* themes; whereafter subthemes were generated inductively. A rich array of both barriers and facilitators were identified across all SEM levels for all participant groups. However, participants mostly perceived barriers at the SEM’s individual and organisational levels. Importantly, the study findings addressed the objectives of this research. The next chapter will further elaborate on the results against the existing literature, limitations, recommendations, and conclusion.

Chapter 5: Discussion, Limitations, Conclusions, and Recommendations

5.1 Introduction

The preceding chapter presented the findings of this study, offering insights into the barriers to and facilitators of male uptake of HTS as perceived by both male patients and healthcare providers. This study addressed the question, "*What are the users and providers' perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township?*" The research aimed to explore users and healthcare providers' perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township through the lens of the SEM. The SEM constructs were the *a priori* themes from which subthemes were developed.

Chapter 5 delves into discussions of barriers to and facilitators of uptake of HTS by males, limitations of the study, research contribution, recommendations, and conclusions related to male uptake of HTS. It begins by identifying barriers to male HTS uptake across various SEM levels including the individual, interpersonal, organisational, community, and policy levels. Next, a discussion of the facilitators that can improve male uptake of HTS across the SEM levels is presented. This is followed by recognising the limitations of the study, recommendations for addressing these barriers and promoting facilitators to improve male uptake of HTS, and the research contribution.

5.2 Key Barriers to Male Uptake of HTS

5.2.1 Individual level

At the individual level, it was found that both male patients and healthcare providers perceived a lack of knowledge and fear as barriers to male uptake of HTS in PHC facilities. Men seem to lack awareness of the importance of knowing their HIV status, which may lead to a reluctance to get tested. The fear factor is multifaceted, encompassing emotional distress, the fear of needles (being pricked), anxiety about receiving a positive HIV diagnosis, concerns about potential consequences like death, apprehension around discussing HIV, and reservations about visiting a clinic for an HIV test.

These findings resonate with the existing findings of Adugna and Worku (2022) and Mohlabane et al. (2016), which revealed that barriers to HIV testing for men in Eastern Africa at the individual level were low HIV knowledge and fear (Adugna & Worku, 2022). Global HIV testing and HIV knowledge were alarmingly low despite improved access to HIV treatment, care, support, and prevention services (Johns Hopkins Bloomberg School of Public Health, 2012). A systematic scoping review in sub-Saharan Africa revealed a different type of fear which is the fear of being considered ‘weak’, which relates to notions of masculinity as a barrier to men’s uptake of HTS (Hlongwa et al., 2019). Two studies in sub-Saharan Africa and in Uganda by Musheke et al. (2013) and Nangendo et al. (2020) found that men harboured concerns about receiving HIV-positive test results, leading to heightened experiences of stigma, discrimination, and fear about potential gossip linked to the testing process.

These findings emphasise the importance of healthcare promotion interventions, indicating the need for educational campaigns targeting both the public and healthcare providers. Campaigns should aim to increase the benefits of HTS benefits and address concerns related to fear. Additionally, healthcare facilities can focus on creating a more welcoming environment to encourage men to overcome these fears and get tested for HIV.

5.2.2 Interpersonal level

Negative peer and family influence, lack of familial support and stigma were perceived as interpersonal-level barriers by both male patients and healthcare providers. These findings align with a study conducted by Mohlabane et al. (2016), indicating that family dynamics play a vital role in male patients' decisions about accessing HTS. Additionally, a study by Hlongwa et al. (2022) revealed that the absence of support from family members and friends was a significant barrier to men's engagement in HTS. Addressing these barriers requires targeted family and peer-based interventions that aim to educate both the individuals seeking HTS and their social networks. Fostering supportive familial and peer relationships can positively impact male HTS uptake.

These findings highlight the importance of men receiving support not only from their families but also from their social networks to improve their access to HTS. In essence, having a strong support system from both family and friends can positively influence men's decision to engage with HTS, addressing a critical aspect of improving HIV testing uptake among this population.

5.2.3 Organisational level

Discomfort when attended by female healthcare providers, negative staff attitudes, and confidentiality concerns, were perceived as organisational-level barriers by both groups. This finding suggests that gender-specific preferences and the overall attitudes and conduct of healthcare staff play a crucial role in determining whether male patients access HTS. The discomfort experienced when receiving care from female healthcare providers highlights the need for gender-sensitive healthcare provision where patients' preferences are respected and accommodated. Therefore, training programmes and ongoing sensitisation efforts for healthcare staff are crucial to ensure that they approach their roles positively and with enthusiasm. Also, healthcare organisations need to prioritise the training and sensitisation of their staff to address gender-related discomfort and promote a more inclusive and supportive environment for male patients.

In a study conducted by Leichliter et al. (2011) on access to sexual health and seeking behaviour, it was observed that in the majority of focus groups that men reported negative experiences and discomfort in their interactions with female nurses during clinic visits. Moreover, some men perceived public clinic healthcare providers, mainly female nurses, as lacking respect and being rude. A systematic scoping review conducted by Hlongwa et al. (2019) highlighted the potential of HIVST as an approach to improve men's uptake of HTS because it effectively addresses the discomfort experienced by men when engaging with healthcare professionals. These studies suggest that the discomfort factor is indeed a significant barrier to men seeking HTS when they interact with healthcare providers. However, it is worth noting that these authors do not specifically mention the gender of the healthcare providers responsible for this discomfort. Furthermore, the studies reviewed in South Africa, Ghana, and other sub-Saharan African countries by Hlongwa et al. (2019) revealed a common sentiment among men. They generally felt uncomfortable in public clinic settings, whether it was for HIV testing or collecting their ARV treatment. Discomfort in healthcare settings appears to be a common and recurring issue that needs to be addressed to improve men's uptake of HTS.

The research findings of both Mohlabane et al. (2016) and Hlongwa et al. (2022) also brought to light that poor attitudes demonstrated by healthcare staff represent a significant barrier when it comes to accessing HTS. Addressing this barrier is imperative to improve the accessibility of HTS. Healthcare providers play a crucial role in encouraging people to get tested for HIV, and their attitudes should be characterised by empathy, respect, and a commitment to delivering care without prejudice. By fostering a positive and supportive healthcare environment, this barrier can be mitigated, which could lead to increased uptake of HTS, ultimately contributing to better public health outcomes.

The research findings emphasised the substantial impact of organisational-level barriers on the overall healthcare experience. Specifically, discomfort arising from interactions with female healthcare providers, coupled with negative staff attitudes and concerns about confidentiality, emerged as prevalent challenges. Notably, these barriers were not confined to the perspective of patients alone; lay counsellors and professional nurses also echoed similar sentiments, emphasising the shared recognition of these issues across various stakeholder groups within the healthcare system. This collective perception highlights the need for comprehensive interventions and systemic improvements to address and mitigate these challenges at the organisational level.

Additionally, efforts should be made to improve privacy and confidentiality measures during HTS to alleviate patients' concerns. Significantly, research findings have highlighted that the absence of privacy during consultations and in waiting areas is a major obstacle for men when accessing HTS in South Africa (Chinyandura & Rees, 2022). Similarly, a systematic review conducted by Hamilton et al. (2020) in the Caribbean, identified a lack of confidentiality as a key barrier affecting the uptake of HIV testing. If the lack of privacy were to be alleviated, more men would access HTS in healthcare facilities.

In this study, privacy is highlighted as an important aspect of healthcare service delivery. Privacy is an essential consideration in healthcare settings, especially when it comes to sensitive services like HTS. Without adequate privacy, individuals may feel uncomfortable, exposed, or hesitant to seek HTS. Confidentiality and discretion are essential in encouraging people, particularly men who might have reservations about being tested for HIV, to access these services. Addressing this pervasive barrier requires healthcare facilities to prioritise and improve privacy measures, including creating private consultation spaces and waiting areas. Moreover, staff training on maintaining confidentiality and ensuring patient comfort is essential. By doing so, healthcare providers can help eliminate this barrier and make HTS more accessible.

5.2.4 Community level

In the current study, the lack of provision of education and awareness about HIV within the community was identified as a community-level barrier by the male patients and lay counsellors. This barrier highlights the fundamental role of public education and awareness campaigns in promoting health and well-being. When a community lacks essential information and understanding about HTS, it can impede individuals from making informed decisions and accessing necessary healthcare services. However, based on the available research literature on the community-level barriers to male uptake of HTS, studies mostly do not stress the lack of education and awareness within the community as a barrier to the uptake of HTS (Mohlabane et al., 2016; Gousse et al., 2021; Katirayi et al., 2023).

Nevertheless, findings from a study conducted in Eastern Africa by Adugna and Worku (2022) indicate that one of the barriers to men's engagement with HTS is the prevalence of high illiteracy rates within the community. Illiteracy was associated with lower HIV testing rates among men residing in rural communities with high illiteracy levels. This study's findings shed light on the significance of education and awareness within a community context. Communities with a higher proportion of illiterate individuals may face challenges in accessing information about the importance of HIV testing and may experience lower rates of access to HTS among men as a result. Therefore, efforts to improve awareness and education regarding HTS should tailor interventions to address the unique challenges faced by men. By doing so, community leaders and members can work towards increasing the uptake of HTS among men in communities with high illiteracy levels, eventually contributing to better public health outcomes.

5.2.5 Policy level

Non-adherence to health policy was perceived as a barrier to male uptake of HTS at the policy level by healthcare providers. Addressing this challenge necessitates strict adherence to established health policies at PHC facilities. The current body of literature does not indicate that non-adherence to health policies serves as a barrier to men's utilisation of HTS in PHC facilities. Addressing this barrier requires healthcare facilities to prioritise and improve policy adherence. By doing so, healthcare providers can help eliminate this barrier and make HTS more accessible.

5.3 Key Facilitators of Male Uptake of HTS

5.3.1 Individual level

Both patients and providers recognised the importance of overcoming fear and addressing men’s unawareness as facilitators to improve access to HTS at the individual level. The acknowledgement of the need to address fear is crucial. The findings show that men often have various fears related to HIV testing, including the fear of receiving a positive diagnosis, the fear of the testing process itself, and the fear of societal stigma. These findings highlight that by providing counselling, emotional support, and information, healthcare providers can help men confront and overcome these fears. The recognition of men's ignorance or unawareness about HIV indicates the necessity for strong educational initiatives. Providing clear, accurate information about HIV, its transmission, and the benefits of testing can empower men to make informed decisions about their health. Importantly, encouraging men to take the initiative in standardising their HIV testing suggests that they should actively engage in the process. Personal agency can lead to increased awareness and acceptance of HIV testing as a routine and responsible health practice.

The current body of literature does not provide evidence to support the notion that overcoming fear and addressing men’s unawareness as facilitators in improving male uptake of HTS. This gap in the literature highlights the need for a more focused exploration of the role of attitude change in encouraging men to engage with HTS. The specific influence of men's attitude transformation remains relatively understudied. Therefore, further research in this area could shed light on effective strategies for promoting a positive shift in attitudes among men, ultimately contributing to increased HTS uptake and better public health outcomes.

5.3.2 Interpersonal level

The findings of this study revealed that both male patients and healthcare providers perceived the fostering of supportive family and friend networks, along with the encouragement of health education within families, as facilitators of the uptake of HTS by men at the interpersonal level. The perception of the importance of supportive family and friend networks suggests that involving close relationships can have a positive impact on men's willingness to access HTS. Family and friend support can be achieved by reducing the stigma associated with HIV testing and creating an environment where men feel comfortable discussing their health concerns with their families and friends. Furthermore, healthcare organisations can design programmes that engage and educate families and friends to support men in accessing HTS.

Emphasising health education within families is a key strategy. When families are well-informed about the importance of regular HIV testing and are aware of the benefits, they can play a crucial role in motivating men to get tested. Awareness can be achieved through awareness campaigns and educational initiatives that target families as a unit. Moreover, healthcare facilities and providers can take an active role in promoting these facilitators. By recognising the value of supportive social networks and health education within families, healthcare organisations can undoubtedly create a more inclusive and conducive environment for men to access HTS, thereby contributing to better public health outcomes in the context of HTS.

In a study conducted by Hlongwa and colleagues (2022) in the KwaZulu-Natal, findings indicated that family and peer support were significant factors in empowering men to undertake HTS. The NDoH (2023) proposes that strengthening families' capacity to protect and support individuals affected and infected by HIV, TB, STIs, and viral hepatitis will promote high acceptance of HTS. According to Hlongwa et al. (2022) and the NDoH (2023), interpersonal relationships play a crucial role in healthcare decision-making, particularly within the context of men's treatment adherence. They also highlight the essential role played by family support in motivating men to acquire HTS. Family members often serve as a source of emotional and practical support. Therefore, they can provide encouragement, accompany individuals to healthcare appointments, and assist with medication adherence.

The current study’s findings emphasise the importance of involving family members in healthcare interventions. However, the existing literature lacks substantiation of the promotion of health education within families as an effective facilitator to enhance access to HTS among men. The logic of promoting health education within families is evident, however, there is limited empirical support in the literature to conclusively establish its role in improving male uptake of HTS. Therefore, further research in this area may be needed to better understand the impact of family-based health education on HTS utilisation among men.

5.3.3 Organisational level

Positive staff attitudes when providing care and initiation of ‘men’s corners’ in PHC facilities were perceived as facilitators to improve access to HTS for men by both healthcare providers and male patients at the organisational level. It is suggested that investing in ‘male-friendly’ healthcare provider training and creating a positive work environment can promote positive qualities and, in turn, improve male patients’ experiences of HTS services in Orange Farm PHC facilities.

Aligned with this perceived facilitating factor, a study conducted in South African health facilities by Mohlabane and colleagues (2016) revealed that individuals who had not previously undergone HIV testing believed that the incorporation of HTS alongside positive healthcare provider attitudes, characterised by respect and the assurance of confidentiality, would encourage and make HTS more accessible. Positive staff attitudes are one of the essential facilitators of access to HTS and other healthcare services to help minimise risky sexual behaviours in South Africa (Chinyandura & Rees, 2022; Khuzwayo & Taylor, 2018). Additionally, Chinyandura and Rees (2022) also propose establishing male-oriented environments or services within healthcare facilities, such as ‘men’s corners’ to encourage men's engagement with HTS. These studies emphasise the importance of healthcare provider attitudes in influencing individuals' decisions regarding access to HTS.

The attitudes of healthcare providers need to promote respect and maintain confidentiality to significantly reduce barriers to access to HTS by men. Healthcare professionals should therefore be trained not only in clinical skills but also in creating a supportive and non-judgmental environment for individuals seeking HIV testing. The need for confidentiality and respect is closely linked to the stigma associated with HIV. As a result, people may be reluctant to get tested due to fear of discrimination or gossip.

The introduction of men's corners in PHC facilities is an innovative approach to encourage men to seek HTS. These designated areas can create a more male-friendly and welcoming environment for HTS in South Africa (Chinyandura & Rees, 2022). Men's corners can provide a space where men can receive information, engage in discussions about their health, and access testing services without feeling self-conscious. This tailored approach can help address the gender-specific needs and preferences of male patients, ultimately leading to increased HTS uptake. Therefore, by focusing on these facilitators, healthcare organisations can not only make HTS more accessible but also enhance the overall healthcare experience for men.

5.3.4 Community level

Initiating community health education and awareness tailored for men was perceived as a facilitator of male uptake of HTS at the community level by both male patients and healthcare providers. Community engagement and awareness campaigns should be aimed at educating and raising awareness in the community about HIV. In line with this facilitator, DiCarlo and colleagues (2014) suggest that to overcome the stigma and masculinity-related barriers that discourage men from undergoing HIV testing in Lesotho, educational efforts targeting men may be most effective when they are led by other men. Moreover, the South African NDoH (2023) suggests that to enhance HTS uptake within communities, the key approach is to empower these communities to take the lead in addressing the issue through community-driven campaigns. Therefore, it is crucial to reinforce the capacity of these community-led efforts to effectively implement and report on HTS (NDoH, 2023).

Community-based education and awareness campaigns can help dispel myths, challenge negative perceptions, and reduce the stigma attached to HIV. According to Hlongwa et al. (2019), the idea that educational efforts are more effective when led by other men highlights the power of community influence. Moreover, men who have already undergone HIV testing and are seen as relatable figures within the community can serve as influential advocates for testing. Their personal experiences can help counteract the stigma associated with HIV and challenge traditional gender norms that may discourage testing (Hensen et al., 2015). As a result, tailoring educational strategies to the cultural and social context of men is crucial. What works in one setting may not be as effective in another. Therefore, understanding the specific challenges and beliefs within a community is essential for designing interventions that resonate with the intended audience.

Addressing HIV-related issues, including stigma and gender dynamics, requires a community-based educational approach. Collaboration with local leaders, community organisations, and healthcare providers in educating and creating awareness within communities is essential in developing and implementing effective strategies to improve the uptake of HTS by men. Initiating community health education and awareness tailored for men emphasises the importance of outreach efforts that focus on disseminating information about the benefits of HTS, reducing stigma, and raising awareness within local communities. Additionally, community-based education and awareness campaigns can improve access to HIV testing.

Overall, these efforts not only empower men to take charge of their health but also contribute to the broader goal of HIV prevention and control within communities (Hensen et al., 2015; Hlongwa et al., 2019; NDoH, 2023).

5.3.5 Policy level

The study’s findings established that the reinforcement of policy adherence by healthcare providers and employing more male healthcare providers were perceived by both male patients and healthcare providers as facilitators that would encourage men to access HTS more. Shant et al. (2014) stated that it is crucial to establish a unified policy agenda for gender equality that actively involves men and boys. Sonke Gender Justice's analysis highlights the current inadequacy in prioritising the need to improve men's participation in HTS within existing African HIV policies (Shand et al., 2014).

Despite this, the literature does not widely recognise reinforcement of policy adherence by healthcare providers and the hiring of more male healthcare providers as facilitators to male uptake of HTS. The reinforcement of policy adherence highlights the potential role of healthcare providers in ensuring that policies related to HTS are consistently followed. When healthcare providers adhere to these policies, it can create an environment that is conducive to men seeking and utilising HTS. Policy adherence includes aspects such as ensuring privacy, maintaining confidentiality, and providing non-discriminatory care. Moreover, employing more male healthcare providers means having a diverse healthcare workforce which can help in making healthcare services more gender-sensitive. Many of the current study’s participants opined that men may feel more comfortable discussing their health concerns, including HIV testing, with male healthcare providers. Thus, having a variety of healthcare providers can meet the diverse preferences and needs of patients, ultimately encouraging more men to seek HTS.

The perceived policy-level facilitators draw attention to a gap in existing research. While some literature exists on factors influencing men's access to HTS, the specific role of policy adherence by healthcare providers and the hiring of more male healthcare providers may have been overlooked. This highlights the importance of exploring these facets in future research to better understand their impact on men's healthcare-seeking behaviour and potential strategies to ensure policy adherence and having more male healthcare providers in healthcare settings.

5.4 Limitations

Limitations in research refer to the constraints, boundaries, or factors that can affect the scope, quality, and generalisability of a study's findings. Recognising the limitations of the study is an essential aspect as it acknowledges the potential challenges and constraints encountered during the research process. Acknowledging and understanding these limitations is also an essential part of responsible and transparent research and scholarship. The limitations of this study include:

- The participants' perspectives may not represent the views of other patients, professional nurses, and lay counsellors at other PHC facilities.
- A limited sample size.
- Users were selected based on availability.
- Perceptions may not always align with actual behaviours and actions.
- Participants' responses were possibly influenced by social desirability bias, where they provided answers, they believed were socially acceptable rather than reflecting their true attitudes or experiences. Therefore, the findings should be interpreted with caution, and future research may benefit from including objective measures of the barriers to and facilitators of male HTS uptake to validate these perceptions.
- The study identified barriers and facilitators at various levels, including individual, interpersonal, organisational, community, and policy levels. While this multi-level approach provides a comprehensive view of the factors influencing male HTS uptake, it may also introduce unnecessary complexity and make it challenging to prioritise interventions. Further research is needed to determine the relative importance of these factors and their interplay, which can guide the development of targeted interventions.
- The study identified barriers and facilitators that were uniquely perceived by patients, lay counsellors, and professional nurses in PHC facilities in Orange Farm. While these perspectives offer valuable insights into the specific challenges and opportunities within each group, it is essential to recognise that these perceptions may not be universally applicable. Different regions, cultural contexts, and healthcare systems may have distinct dynamics that influence male HTS uptake. Therefore, the generalisability of these findings to other settings should be considered cautiously.
- The study focused on perceptions related to male HTS uptake and did not provide a quantitative assessment of the actual prevalence of these barriers and facilitators within

the study settings. A quantitative component could have strengthened the findings by allowing for statistical analysis and a clearer understanding of the prevalence and significance of these factors.

- Some of the subthemes related to barriers and facilitators were found to overlap across various levels of the SEM. For instance, a subtheme like ‘health education’ was applicable at multiple levels, including the interpersonal, organisational, community, and policy levels. The presence of overlapping subthemes across multiple SEM levels suggests that certain factors may have complex interactions and implications that span various aspects of the socio-ecological context. The complexity of these interactions can make it challenging to isolate the exact impact of these factors on specific levels of influence.

5.5 Research Contribution

By applying the SEM to explore the barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township, this study illustrated how myriad factors influence an individual’s health behaviour. The SEM comprises five levels including the individual, interpersonal, organisational, community, and policy levels. Addressing these barriers and promoting facilitators requires a holistic and multi-pronged approach that involves individual, interpersonal, organisational, community, and policy-level interventions. Tailoring interventions to specific contexts and engaging key stakeholders, including healthcare providers, community leaders, and family members, is crucial to improving male HTS uptake and reducing the burden of HIV in the studied population. This research contributes valuable insights into the ongoing efforts to enhance HIV testing services and promote men's engagement in healthcare-seeking behaviours. However, further research and programmatic initiatives are needed to build on these findings and develop effective strategies for increasing male HTS uptake.

5.6 Recommendations

Based on the findings and discussions presented, the following recommendations can be made to improve male uptake of HTS at PHC facilities in Orange Farm:

- **Gender-sensitive services**: Develop and implement gender-sensitive HTS strategies, including ensuring that male patients have access to male lay counsellors and professional nurses.

- **Community engagement**: Engage community leaders in awareness campaigns to promote HTS and combat stigma.
- **Provider training**: Offer regular training and support for healthcare providers, including both lay counsellors and professional nurses, to ensure they possess accurate knowledge and maintain a positive attitude towards HTS.
- **Peer and family support:** Promote supportive familial and peer networks to encourage men to seek HTS.
- **Policy adherence:** Ensure strict adherence to health policies, especially regarding patient privacy, to build trust and confidence among male patients.
- **Continuous education:** Conduct ongoing health education programmes for patients to address misconceptions and miseducation about HIV.
- **Community-level interventions:** Implement community-based interventions that emphasise men's responsibility for their health and reduce HIV-related stigma.
- **Quality improvement:** Invest in improving the quality of HTS services at PHC facilities to provide comprehensive and patient-centred care.

These recommendations are intended to guide future investigations, interventions and initiatives aimed at improving HIV testing rates among men.

5.7 Conclusion to the Study

This study sought to explore ‘users’ and ‘healthcare providers’ perspectives of barriers to and facilitators of HTS uptake by men attending PHC facilities in the Orange Farm township through the lens of SEM. The study adequately addressed the research problem and objectives, by employing a cross-sectional case study design with a qualitative approach to data gathering. The findings/data were then thematically analysed using the SEM. The findings suggested that barriers to male uptake of HTS exist at various levels. *Firstly*, at the individual level, perceived barriers were a lack of knowledge and fear. *Secondly*, at the interpersonal level, perceived barriers were negative peer and family influence, a lack of familial support, and stigma from peers and family. *Thirdly*, at the organisational level, perceived barriers included discomfort when attended by female healthcare providers, negative staff attitudes, and confidentiality concerns. *Fourthly*, at the community level, perceived barriers were the lack of education and awareness within the community. *Fifthly*, at the policy level, a perceived barrier was non-adherence to health policy.

The findings on facilitators of male uptake of HTS indicated ways to improve healthcare access to HTS. *Firstly*, at the individual level, perceived facilitators were overcoming fear, and addressing men's ignorance. *Secondly,* at the interpersonal level, perceived facilitators were the fostering of supportive family and friend networks, along with the encouragement of health education within families. *Thirdly,* at the organisational level, perceived facilitators were positive staff attitudes when providing care, and the initiation of a 'men's corner' in PHC facilities. *Fourthly,* at the community level, perceived facilitators were initiating community health education and awareness. *Fifthly,* at the policy level, perceived facilitators were reinforcement of policy adherence by healthcare providers and employing more male healthcare providers. There were both common and distinct perspectives between male patients and healthcare providers regarding perceived barriers and facilitators. Moreover, according to these findings, there is a complex multifactorial influence on male uptake of HTS at PHC facilities, which necessitates complex and multifaceted intervention strategies.

This research explored and provided a comprehensive approach for investigating and addressing the multi-level barriers and leveraging facilitators to increase male uptake of HTS. By implementing the recommended strategies, communities, and healthcare systems can work towards improving HIV prevention and treatment outcomes for men. Prior to this study, limited research existed on the systematic examination of the various factors influencing HTS, particularly among men in Orange Farm. By identifying individual, interpersonal, organisational, community, and policy-level barriers and facilitators, the researcher filled a critical knowledge gap in the field of HTS access. This exploratory research brought new barriers and facilitators to male uptake of HTS to the fore. These new findings contribute to the development of targeted interventions and strategies, ultimately hoping to attain improved male uptake of HTS. Moreover, the findings from this research reinforce the importance of addressing barriers at multiple levels (individual, interpersonal, organisational, community, and policy) while highlighting the potential for positive change through interventions and support systems.

References

Adedini, S. A., Sello, M., Thaele, D., & Madhi, S. A. (2020). Patterns of healthcare utilisation and barriers affecting access to child healthcare services in low-income urban South African settings. *South African Journal of Child Health, 14*(1), 34-39. doi:10.7196.SAJCH.v14.i1.1650

Adugna, D. G., & Worku, M. G. (2022). HIV testing and associated factors among men (15-64 years) in Eastern Africa: a multilevel analysis using the recent demographic and health survey. *BMC Public Health, 22*(1), 2170. doi:10.1186/s12889-022-14

Aho, J., Hakim, A., Vuylsteke, B., Semde, G., Gbais, H. G., Diarrassouba, M., . . . Laga, M. (2014). Exploring risk behaviors and vulnerability for HIV among men who have sex with men in Abidjam, Cote d'Ivoire: Poor knowledge, homophobia and sexual violence. *PLoS One, 9*. doi:10.1371/journal.pone.0099591

Alexander, T. S. (2016). Human immunodeficiency virus diagnostic testing: 30 years of evolution. *Clinical Vaccine and Immunology, 23*(4), 249-253. doi: 10.1128/CVI.00053-16

Amineh, R. J., & Asl, H. D. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences, Literature and Languages, 1*(1), 9-16. Retrieved 03 09, 2023, from https://www.scirp.org/%28S%28vtj3fa45qm1ean45vvffcz55%29%29/reference/referencespapers.aspx?referenceid=2783231

Andrews, T. (2012). What is social constructionism? *Grounded Theory Review, 11*, 39-46. Retrieved 08 10, 2023, from https://groundedtheoryreview.com/2012/06/01/what-is-social-constructionism/

Anjorin, B., Carter, A., & Kelly, K. (2023). *Strengths of using the ecological model. Chapter 4: Application of the ecological model*. Retrieved 07 22, 2023, from https://courses.lumenlearning.com/suny-buffalo-environmentalhealth/chapter/strengths-of-using-the-ecological-model/

Archer, E. (2018). *Qualitative data analysis: A primer on core approaches*. Cape Town: University of the Western Cape. Retrieved 06 12, 2023, from https://www.psyssa.com/wp-content/uploads/2018/10/ORIM-Chapter-2-Qualtitative-Data-Analysis_by-Archer-1.pdf

Arora, D. R., Maheshwari, M., & Arora, B. (2013). Rapid point-of-care testing for detection of HIV and clinical monitoring. *ISRN AIDS*. doi:10.1155/2013/287269

Asresie, M. B., Worku, G. T., & Bekele, Y. A. (2023). HIV testing uptake among Ethiopian rural men: Evidence from 2016 Ethiopian demography and health survey data. *HIV/AIDS, 15*, 225-234. doi:10.2147/HIV.S409152

Baggaley, R. F., White, R. G., & Boily, M. C. (2010). HIV transmission risk through anal intercourse: systematic review, meta-analysis and implications for HIV prevention. *International Journal of Epidemiology*, *39*, 1048-1063. doi:10.1093/ije/dyq057

Baral, S., Logie, C., Gross, A., Wirtz, A., & Beyre, C. (2013). Modified social ecological model: a tool to guide the assessment of the risks and risk contexts of HIV epidemics. *BMC Public Health*. doi:10.1186/1471-2458-13-482

Bedoya, D. (2020). *Ecological model of health*. [Youtube]. Retrieved 10 06, 2023, from https://www.youtube.com/watch?v=Ij1ffFjXr4I

Bell, J., Sharma, S., Malone, S., Levy, M., Reast, J., Little, J., & Hasen, N. (2019). Understanding Barriers to HIV testing and treatment: a study of young men and healthcare providers in KwaZulu-Natal and Mpumalanga. *South African Health Review, 2019*(1), 125-132. doi:10.10520/EJC-1d2ae40d58

Bhandari, P. (2023). Triangulation in Research: Guide, Types, Examples. Scribbr. Retrieved 28 09, 2023, from https://www.scribbr.com/methodology/triangulation/

Biesta, G. (2015). On the two cultures of educational research, and how we might move ahead: reconsidering the ontology, axiology and praxeology of education. *European Educational Research Journal, 14*(1), 11-22. Retrieved 10 07, 2023, from https://eric.ed.gov/?id=EJ1058833

Bingham, A. J., & Witkowsky, P. (2022). Deductive and inductive approaches to qualitative data analysis. In C. Vanover, P. Mihas, & J. Saldaña (Eds.), *Analyzing and interpreting qualitative data: After the interview*, 133-146. SAGE Publications.

Boily, M., Baggaley, R. F., Wang, L., Masse, B., White, R. G., Hayes, R. J., & Alary, M. (2009). Heterosexual risk of HIV-1 infection per sexual act: systematic review and meta-analysis of observational studies. *The Lancet infectious diseases, 9*, 118-129. doi:10.1016/S1473-3099(09)70021-0

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Braun, V., & Clarke, V. (2013). *Successful qualitative research: a practical guide for beginners*. London: Sage. Retrieved 10 07, 2023, from https://www.researchgate.net/publication/256089360_Successful_Qualitative_Research_A_Practical_Guide_for_Beginners

Braun, V., Clarke, V., & Rance, N. (2014). *How to use thematic analysis with interview data*. London: Sage.

Brink, H. (2006). *Fundamentals of research methodology for health care professionals* (2nd ed.). Cape Town: Juta.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychology*, *32*, 513-531. doi:10.1037/0003-066X.32.7.513

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments in nature and design*. Cambridge, MA: Harvard University Press. doi: 10.2307/j.ctv26071r6

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: research perspectives. *Developmental Psychology*, *22*(6), 723-742. doi:10.1037/0012-1649.22.6.723

Bronfenbrenner, U. (1989). Ecological systems theory. In: Vasta R, ed. *Development, Annals of Child*, *6*, 187-249.

Bronfenbrenner, U. (1992). *Ecological systems theory*. London, England: Jessica Kingsley Publishers.

Bronfenbrenner, U. (1997). *The ecology of human development: Experiments by nature and design*. Cambridge, Massachusetts: Harvard University Press. Retrieved 06 02, 2022, from https://khoerulanwarbk.files.wordpress.com/2015/08/urie_bronfenbrenner_the_ecology_of_human_developbokos-z1

Bwambale, F. M., Ssali, S. N., Byaruhanga, S., Kalyango, J. N., & Karamagi, C. A. (2008). Voluntary HIV counselling and testing among men in rural western Uganda: implications for HIV prevention. *BMC Public Health*, *8*, 263. doi:10.1186/1471-2458-8-263

Cambridge Dictionary. (2023). *Barrier*. Cambridge: Cambridge University Press. Retrieved

31 10, 2023, from https://dictionary.cambridge.org/dictionary/learner-english/barrier#google_vignette

Cambridge Dictionary. (2024). *Perspective*. Cambridge: Cambridge University Press. Retrieved 08 02, 2024, from https://dictionary.cambridge.org/dictionary/english/perspective#google_vignette

Camlin, C. S., Ssemmondo, E., Chamie, G., El Ayadi, A. M., Kwarisiima, D., Sang, N., . . . SEARCH, C. (2016). Men "missing" from population-based HIV testing: insights from qualitative research. *AIDS Care*, *28*(Suppl 3), 67-73. doi:10.1080/09540121.2016.1164806

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum*, *41*(5), 545-547. doi:10.1188/14.ONF.545-547

Chamberlain, L. (2015). *Exploring the out-of-school writing practices of three children aged 9 - 10 years old and how these practices travel across and within the domains of home and school*. England: The Open University.

Cheng, C. Y., Quaife, M., Eakle, R., Cabrera Escobar, M. A., Vickerman, P., & Terris-Prestholt, F. (2019). Determinants of heterosexual men's demand for long-acting injectable pre-exposure prophylaxis (PrEP) for HIV in urban South Africa. *BMC Public Health*, *19,* 996. doi:10.1186/s12889-019-7276-1

Chiaramonte, D., Strzyzykowski, T., Acevedo-Polakovich, I., Miller, R. L., Boyer, C. B., & Ellen, J. M. (2018). Ecological barriers to HIV service access among young men who have sex with men and high-risk young women from low-resourced urban communities. *Journal of HIV AIDS and Social Services, 17*(4), 313-333. doi:10.1080/15381501.2018.1502710

Chinyandura, C., & Rees, K. (2022). *Improving access to HIV testing and treatment services for men in South Africa: a qualitative evaluation*. Retrieved 21 04, 2023, from https://www.anovahealth.co.za/wp-content/uploads/2022/02/Improving-access-to-HIV-testing-and-treatment-services-for-men-in-South-Africa-a-qualitative-evaluation_Brief_2020.pdf

Christian, S. N., Mantell, J. E., Romo, M. L., Grov, C., George, G., Mwai, E., . . . Kelvin, E. A. (2020). Applying a social-ecological lens to opinions about HIV self-testing among

Kenyan truckers who declined to test: a qualitative study. *African Journal of AIDS Research, 19*(2). doi:10.2989/16085906.2020.1764070

City of Johannesburg (CoJ). (2018). *Change is coming to Orange Farm.* Johannesburg: News Room. Retrieved 10 01, 2023, from https://www.joburg.org.za/media_/Newsroom/Pages/2013%20articles/2011%20&%202012%20%20Articles/Change-is-coming-to-Orange-Farm.aspx

Clark, K. A., Keene, D. E., Pachankis, J. E., Fattal, O., Rizk, N., & Khoshnood, K. (2017). A qualitative analysis of multi-level barriers to HIV testing among women in Lebanon. *Culture, Health & Sexuality*, *19*(9), 996-1010. doi:10.1080/13691058.2017.1282045

Cleland, J., & Durning, S. J. (2015). *Researching medical education*. Wiley. doi:10.1002/9781118838983

Cohen, J., & Ezer, T. (2013). Human rights in patient care: A theoretical and practical framework. *Health and Human Rights Journal*, *15*(2).

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education,* (6th ed.). New York: Routledge. Retrieved 13 08, 2023, from https://gtu.ge/Agro-Lib/RESEARCH%20METHOD%20COHEN%20ok.pdf

Colvin, C. J. (2019). Strategies for engaging men in HIV services. *Lancet HIV, 6*(3), e191-e200. doi:10.1016/s2352-3018(19)30032-3

Connelly, L. M. (2016). Trustworthiness in qualitative research. *Medical Surgical Nursing*, *25*(6). Retrieved 02 07, 2022, from https://link.gale.com/apps/doc/A476729520/AONE?u=anon~fe7828a8&sid=googleScholar&xid=4f6daa9d

Cooper, A. J., & McNair, L. (2015). Simplifying the complexity of confidentiality in research. *Journal of Empirical Research on Human Research Ethics*, *10*(1). doi:10.1177/1556264614568783

Creswell, J. W. (2013). *Qualitative inquiry and research design choosing among five approaches (3rd ed.)*. Thousand Oaks: Sage. Retrieved 07 05, 2023, from http://www.ceil-conicet.gov.ar/wp-content/uploads/2018/04/CRESWELLQualitative-Inquary-and-Research-Design-Creswell.pdf

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design choosing among five approaches* (4th ed.). Thousand Oaks: Sage Publications Inc.

Crowley, T., Mokoka, E., & Geyer, N. (2021). Ten years of nurse-initiated antiretroviral treatment in South Africa: A narrative review of enablers and barriers. *Southern African Journal of HIV Medicine*, *22*(1).

Dalton State College. (2021, 02 22). *Educational learning theories: Chapter 7 required reading*. Dalton State College. Retrieved 06 02, 2023, from https://libguides.daltonstate.edu/c.php?g=722740&p=5523425#:~:text=Criticisms%20of%20the%20Bioecological%20Model,socioemotional%20aspect%20of%20human%20development

Dapaah, J. M. (2016). Attitudes and behaviours of healthcare providers and the use of HIV/AIDS health care services. *Nursing Research and Practice*. doi:10.1155/2016/5172497

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. (2011). *Research at grass roots: For social sciences and human services professions*. Pretoria: Van Schaik Publishers.

Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage handbook of qualitative research (5th ed.)*. Los Angeles: Sage Publications.

Department of Government Communication and Information Systems. 2023. Sonke Gender Justice. Retrieved 17 02, 2024, from https://www.gov.za/sites/default/files/images/GBV%20_booklet.pdf

DiCarlo, A. L., Mantell, J. E., Remien, R. H., Zerbe, A., Morris, D., Pitt, B., . . . El-Sadr, W. M. (2014). 'Men usually say that HIV testing is for women': gender dynamics and perceptions of HIV testing in Lesotho. *Culture, Health, & Sexuality*, *16*(8). doi:10.1080/13691058.2014.913812

Dorward, J., Khubone, T., Gate, K., Ngobese, H., Sookrajh, Y., Mkhize, S., . . . Garrett, N. (2021). The impact of the COVID-19 lockdown on HIV care in 65 South African primary care clinics: an interrupted time series analysis. *Lancet HIV, 8*(3), e158-e165. doi:10.1016/S2352- 3018(20)30359-3

Doungmo Goufo, E. F., Khan, Y., & Chaudhry, Q. A. (2020). HIV and shifting epicenters for COVID-19, an alert for some countries. *Chaos Solitons Fractals*. doi:10.1016/j.chaos.2020.110030

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *Sage Open*, *4*(1). doi:10.1177/2158244014522633

Fiamma, A., Lissouba, P., Amy, O. E., Singh, B., Laeyendecker, O., Quinn, T. C., . . . Auvert, B. (2010). Can HIV incidence testing be used for evaluating HIV intervention programmes? A reanalysis of the Orange Farm male circumcision trial (ANRS-1265). *BMC Infectious Diseases*, *10*, 137. doi:10.1186/1471-2334-10-137

Flynn, D., Johnson, C., Sands, A., Wong, V., & Baggaley, R. (2015). *An analysis of 48 national HIV testing and counselling policies. In: consolidated guidelines on HIV testing services: 5Cs: consent, confidentiality, counselling, correct results and connection 2015*. Geneva: World Health Organization. Retrieved 02 03, 2023, from https://www.ncbi.nlm.nih.gov/books/NBK316018/

Freer, J., & Mudaly, V. (2022). HIV and COVID-19 in South Africa. *BMJ.* doi:10.1136/bmj-2021-069807

Frescura, L., Godfrey-Faussett, P., Feizzadeh, A. A.-S., Syarif, O., & Ghys, P. D. (2022). Achieving the 95 95 95 targets for all: A pathway to ending AIDS. *PLoS ONE*, *17*(8), e0272405. Retrieved 03 04, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9352102/pdf/pone.0272405.pdf

Garcia, L., Mendonça, G., Benedetti, T. R. B., Borges, L. J., Streit, I.A., Christofoletti, M., … & Binotto, M. A. (2022). Barriers and facilitators of domain-specific physical activity: a systematic review of reviews. *BMC Public Health 22*, 1964. doi:10.1186/s12889-022-14385-1

Gazimbi, M. M., Magadi, M. A., & Kruger, C. (2019). The Association between male circumcision and HIV infection in sub-Saharan Africa: A systematic review of the literature. *International Archives of Public Health and Community Medicine*, *3*(1). doi:10.23937/2643-4512/1710022

Geoffroy, E., Schell, E., Jere, J., & Khozomba, N. (2017). Going door-to-door to reach men and young people with HIV testing services to achieve the 90-90-90 treatment targets. *Public Health Action*, *7*(2), 95-99. doi:10.5588/pha.16.0121

Georgeu, D., Colvin, C. J., Lewin, S., Fairall, L., Bachmann, M.O., Uebel, K., Zwarenstein, M., Draper, B., & Bateman, E. D. (2012). Implementing nurse-initiated and managed antiretroviral treatment (NIMART) in South Africa: a qualitative process evaluation of the STRETCH trial. *Implementation Science, 7*(1), 66. doi.org/10.1186/1748-5908-7-66

Gombachika, B. C., Fjeld, H., Chirwa, E., Sundby, J., Malata, A., & Muluwa, A. (2012). A social ecological approach to exploring barriers to accessing sexual and reproductive health services among couples living with HIV in Southern Malawi. *International Scholarly Research Network, 13*. doi:10.5402/2012/825459

Gona, P. N., Gona, C., Ballout, S., Rao, S. R., Kimokoti, R., Mapoma, C. C., & Mokdad, A. H. (2020). Burden and changes in HIV/AIDS morbidity and mortality in Southern Africa development community countries, 1990-2017. *BMC Public Health, 20*(1), 867. doi:10.1186/s12889-020-08988-9

Google Maps. (2023). *Orange Farm map*. Retrieved 18 01, 2023, from https://www.google.com/maps/place/Orange+Farm,+1805/@-26.4729905,27.8657445,13z/data=!3m1!4b1!4m6!3m5!1s0x1e95ab178daa65d1:0xb125f7b60163e674!8m2!3d-26.459383!4d27.8604472!16zL20vMDR5c2My

Gousse, Y., Wilson, T. E., McFarlane, D., Browne, R. C., Fraser, M., Yusim, D., . . . Joseph, M. A. (2021). HIV testing correlates: U.S. and foreign born high-risk black heterosexual men. *Journal of Immigrant and Minority Health, 23*(6), 1145-1151. doi:10.1007/s10903-021-01140-8

Govender, K., George, G., Mucheuki, C., & Strauss, M. (2013). Voluntary medical male circumcision in South Africa: challenges and opportunities. *Health Economics and HIV and AIDS Research Division, 2013/2014*(1). doi:10.10520/EJC161444

Govindasamy, D., Meghij, J., Negussi, E. K., Baggaley, R. C., Ford, N., & Kranzer, K. (2014). Interventions to improve or facilitate linkage to or retention in pre-ART (HIV) care and initiating of ART in low- and middle-income settings – a systematic review. *Journal of the International AIDS Society, 17*.

Grbich, C. (2013). *Qualitative Data Analysis: An Introduction (2nd ed.)*. New York: Sage.

Green, L. W., & Allegrante, J. P. (2011). Healthy people 1980-2020: raising the ante decennially or just the name from public health education to health promotion to social determinants? *Health Education Behavior, 38*(6), 558-62. doi:10.1177/1090198111429153

Gustafsson, J. (2017). Single case studies vs. multiple case studies: A comparative study. *Academy of Business, Engineering and Science*. Retrieved 25 07, 2023, from https://hh.diva-portal.org/smash/get/diva2:1064378/FULLTEXT01.pdf

Hamilton, A., Shin, S., Taggart, T., Whembolua, G. L., Martin, I., Budhwani, H., & Conserve, D. (2020). HIV testing barriers and intervention strategies among men, transgender women, female sex workers and incarcerated persons in the Caribbean: a systematic review. *Sexually Transmitted Infections, 96*(3), 189-196. doi:10.1136/sextrans-2018-053932

Harding, J. (2013). *Qualitative data analysis from start to finish*. New York: Sage.

Heath, K., Levi, J., & Hill, A. (2021). The Joint United Nations Programme on HIV/AIDS 95– 95–95 targets: worldwide clinical and cost benefits of generic manufacture. *AIDS, 35* (Supplement 2), S197-S203. doi:10.1097/QAD.0000000000002983

Hensen, B., Baggaley, R., Wong, V. J., Grabbe, K. L., Shaffer, N., LO, Y. J., & Hargreaves, J. (2012). Universal voluntary HIV testing in antenatal care setting: a review of the contribution of provider-initiated testing & counselling. *Tropical Medicine and International Health*, *17*(1), 59-70. doi:10.1111/j.1365-3156.2011.02893.x

Hensen, B., Lewis, J. J., Schaap, A., Tembo, M., Mutale, W., Weiss, H. A., . . . Ayles, H. (2015). Factors associated with HIV-testing and acceptance of an offer of home-based testing by men in rural Zambia. *AIDS Behavior*, *19*(3), 492–504. doi:10.1007/s10461-014-0866-0

Hensen, B., Taoka, S., Lewis, J., Weiss, H. A., & Hargreaves, J. (2014). Systematic review of strategies to increase men's HIV-testing in sub-Saharan Africa. *AIDS*, *28*(14). doi:10.1097/QAD.0000000000000395

Higa, D. H., Marks, G., Crepaz, N., Liau, A., & Lyles, C. M. (2012). Interventions to improve retention in HIV primary care: a systematic review of U.S. studies. *Current HIV/AIDS Reports*, *9*(4), 313-325. doi:10.1007/s11904-012-0136-6

Hittner, J. B., Owens, E. C., & Swickert, R. J. (2016). Influence of social settings on risky sexual behavior. *SAGE Open, 6*. doi:10.1177/2158244016629187

Hlongwa, M., Jama, N. A., Mehlomakulu, V., Pass, D., Basera, W., & Nicol, E. (2022). Barriers and facilitating factors to HIV treatment among men in a high-HIV-burdened District in KwaZulu-Natal, South Africa: A qualitative study. *American Journal of Men's Health, 16*(5). doi:10.1177/15579883221120987

Hlongwa, M., Mashamba-Thompson, T., Makhunga, S., & Hlongwana, K. (2019). Mapping evidence of intervention strategies to improving men's uptake to HIV testing services in sub-Saharan Africa: A systematic scoping review. *BMC Infectious Diseases, 19*. doi:10.1186/s12879-019-4124-y

HPCSA. (2021). *Guidelines for good practice in the healthcare professions*. Health Professionals Council of South Africa. Retrieved 10 10, 2023, from https://www.hpcsa.co.za/Uploads/professional_practice/ethics/Booklet_5_Confidentiality_Protecting_and_Providing_Information_vDec_2021.pdf

Huerga, H., Venables, E., Ben-Farhat, J., van Cutsem, G., Ellman, T., & Kenyon, C. (2017). Higher risk sexual behaviour is associated with unawareness of HIV-positivity and lack of viral suppression – implications for treatment as prevention. *Scientific Research*, *7*, 4-10. doi:10.1038/s41598-017-16382-6

Jardim, C., Zamani, R., & Akrami, M. (2022). Evaluating the impact of the COVID-19 pandemic on accessing HIV services in South Africa: A systematic review. *International Journal of Environmental Research and Public Health*, *19*, 11899. doi:10.3390/ijerph191911899

Javadi, M., & Zarea, K. (2016). Understanding thematic analysis and its pitfall. *Journal of Client Care*, *1(1),* 34-40. doi:10.15412/J.JCC.02010107

Jewell, B., Smith, J. A., & Hallett, T. B. (2020). Understanding the impact of interruptions to HIV services during the COVID-19 pandemic: A modelling study. *EClinical Medicine*, *26*. doi:10.1016/j.eclinm.2020.100483

Jiang, H., Zhou, Y., & Tang, W. (2020). Maintaining HIV care during the COVID-19 pandemic. *The Lancet HIV*, *7*.

Jin, F., Jansson, J., Law, M., Prestage, G. P., Zablotska, I., Imrie, J. C., . . . Wilson, D. P. (2010). Per-contact probability of HIV transmission in homosexual men in Sydney in the era of HAART. *AIDS*, *24*, 907-913. doi:10.1097/QAD.0b013e3283372d90

Johns Hopkins Bloomberg School of Public Health. (2012). Provider-initiated HIV testing & counseling. Baltimore: Johns Hopkins School of Public Health. Retrieved 21 07, 2023, from https://www.jhsph.edu/research/centers-and-institutes/research-to-prevention/publications/pitc.pdf

Johnson, C. C., Kennedy, C., Fonner, V., Siegfried, N., Figueroa, C., Dalal, S., . . . Baggaley, R. (2017). Examining the effects of HIV self-testing compared to standard HIV testing services: a systematic review and meta-analysis. *International AIDS Society*, *20*.

Johnson, L. F., van Rensburg, C., Govathson, C., & Meyer-Rath, G. (2019). Optimal HIV testing strategies for South Africa: a model-based evaluation of population-level impact and cost-effectiveness. *Science Reports*, *9*. Retrieved 27 11, 2023, from https://doi.org/10.1038/s41598-019-49109-w

Johnston, L., O'Bra, H., Chopra, M., Mathews, C., Townsend, L., Sabin, K., . . . Kendall, C. (2010). The associations of voluntary counseling and testing acceptance and the perceived likelihood of being HIV-infected among men with multiple sex partners in a South African township. *AIDS Behaviour*, *14*(4), 922-931. doi:10.1007/s10461-010-9680-5

Jooste, S., Mabaso, M., Taylor, M., North, A., Tadokera, R., & Simbayi, L. (2020). Trends and determinants of ever having tested for HIV among youth and adults in South Africa from 2005- 2017: Results from four repeated cross-sectional nationally representative household-based HIV prevalence, incidence, and behaviour surveys. *PLoS One*, *15*(5), e0232883. doi:10.1371/journal.pone.0232883

Jooste, S., Mabaso, M., Taylor, M., North, A., Shean, Y. L., & Simbayi, L. C. (2021). Determinants of gender disparities in scaling up the first 90 towards the UNAIDS 90-90-90 targets in South Africa: findings from the 2017 household-based national cross-sectional survey. *AIDS Research and Therapy*, *18*(1), 24. doi:10.1186/s12981-021-00346-y

Joseph Davey, D. L., Wall, K. M., Naidoo, N., Naidoo, D., Xaba, G., Serao, C., . . . Dovel, K. (2022). HIV testing and linkage to ART following secondary distribution of HIV self-test kits to male partners of women living with HIV: a pilot randomized control trial in Mpumalanga, South Africa. *Journal of International AIDS Society*, *25*, e25937. doi:10.1002/jia2.25937

Katamba, C. (2020). Healthcare providers' perspective on barriers to optimal HIV index testing: an interview-based study [version 1; peer review: 1 approved with reservations]. *F1000Research*, *9* (1258). doi:10.12688/f1000research.26378.1

Katirayi, L., Tchendjou, P., Tchounga, B., Mbunka, M., Wicks, M., & Conserve, D. F. (2023). Changing attitudes towards HIV testing and treatment among three generations of men in Cameroon: a qualitative analysis using the Fogg Behavior Model. *BMC Public Health*, *23*(1), 501. doi:10.1186/s12889-023-15139-3

Kennedy, C. E., Fonner, V. A., Sweat, M. D., A, O. F., Baggaley, R., & R, O. K. (2013). Provider-initiated HIV testing and counseling in low- and middle-income countries: a systematic review. *AIDS Behavior, 17*(5), 1571-1590. doi:10.1007/s10461-012-0241-y

Kesmodel, U. S. (2018). Cross-sectional studies – what are they good for? *Acta Obstetricia et Gynecologica Scandinavica, 97*(4), 388-393. doi:10.1111/aogs.13331

Khuzwayo, N., & Taylor, M. (2018). Exploring the socio-ecological levels for prevention of sexual risk behaviours of the youth in uMgungundlovu District Municipality, KwaZulu-Natal. *Africa Journal of Primary Health Care and Family Medicine, 10*(1), a1590. doi:10.4102/phcfm. v10i1.1590

Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical Teacher, 42*(8), 846-854. doi:10.1080/0142159X.2020.1755030

Kilanowski, J. (2017). Breadth of the socio-ecological model. *Journal of Agromedicine, 22*(4), 295-297. doi:10.1080/1059924X.2017.1358971

Kirakoya-Samadoulougou, F., Jean, K., & Maheu-Giroux, M. (2017). Uptake of HIV testing in Burkina Faso: an assessment of individual and community-level determinants. *BMC Public Health*, *17*(1), 1-11. doi:10.1186/s12889-017-4417-2

Kranzer, K., Govindasamy, D., Ford, N., Johnston, V., & Lawn, S. D. (2012). Quantifying and addressing losses along the continuum of care for people living with HIV infection in Sub- Saharan Africa: A systematic review. *Journal of the International AIDS Society*, *15*, 7383. doi:10.7448/IAS.15.2.17383

Langa, M. (2015). The impact of the community work programme on violence in Orange Farm. Braamfontein: Centre for the Study of Violence and Reconciliation. Retrieved 21 01, 2023, from https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/55267/IDL-55267.pdf

Leichliter, J. S., Paz-Bailey, G., Friedman, A. L., Habel, M. A., Vezi, A., Sello, M., . . . Lewis, D. A. (2011). Clinics aren't meant for men': sexual health care access and seeking behaviours among men in Gauteng province, South Africa. *SAHARA Journal, 8*(2), 82-88. doi:10.1080/17290376.2011.9724989

Levesque, J.F., Harris, M.F., & Russell, G. (2013). Patient-centred access to health care: conceptualizing access at the interface of health systems and populations. *International*

Journal for Equity in Health, *12*(1), 18. doi: 10.1186/1475-9276-12-18

Lilian, R. R., Rees, K., McIntyre, J. A., Struthers, H. E., & Peters, R. P. (2020). Same-day antiretroviral therapy initiation for HIV-infected adults in South Africa: Analysis of routine data. *PLoS ONE*, *15*(1), e0227572. doi:10.1371/journal.pone.0227572

Lippman, S. A., El Ayadi, A. M., Grignon, J. S., Puren, A., Liegler, T., Venter, W. D., . . . Shade, S. B. (2019). Improvements in the South African HIV care cascade: findings on 90–90-90 targets from successive population-representative surveys in North West Province. *Journal of the International AIDS Society*, *22*(6), e25295. Retrieved 27 11. 2023, from https://doi.org/10.1002/jia2.25295.

Ma, P. H., Chan, Z. C., & Loke, A. Y. (2017). The socio-ecological model approach to understanding barriers and facilitators to the accessing of health services by sex workers: A systematic review. *AIDS and Behaviour*, *21*, 2412-2438. doi:10.1007/s10461-017-1818-2

Mabuto, T., Hansoti, B., Kerrigan, D., Mshweshwe-Pakela, N., Kubeka, G., Charalambous, S., & Hoffman, C. (2019). HIV testing services in healthcare facilities in South Africa: a missed opportunity 2019. *Journal of the International AIDS Society*, *22*, 1-5. doi:10.1002/jia2.25367

Mafune, P. (2015). Poverty and HIV/AIDS in Africa: Specifying the connections. *Social Theory and Health*, *13*, 1-29. doi:10.1057/sth.2014.14

Majam, M., Conserve, D. F., Zishiri, V., Haile, Z. T., Tembo, A., Phiri, J., . . . Venter, F. (2021). Implementation of different HIV self-testing models with implications for HIV testing services during the COVID-19 pandemic: study protocol for secondary data analysis of the STAR initiative in South Africa. *BMJ Open*. Retrieved 10 11, 2022, from https://bmjopen.bmj.com/content/bmjopen/11/5/e048585.full.pdf

Makhunga-Ramfolo, N., Chidarikire, T., Farirai, T., & Matji, R. (2011). Provider-initiated counselling and testing (PICT): an overview: overview. *Southern African Journal of HIV Medicine*, *12*(2), 6-11. Retrieved 27 11, 2023, from https://sajhivmed.org.za/index.php/hivmed/article/view/190/321

Malaza, A., Smith, J., Mdaka, N., Haynes, R., Shezi, S., & Trust, H. S. (2016). *The 90-90-90 Compendium*. 1. Durban: Health Systems Trust. Retrieved 08 13, 2023, from https://www.hst.org.za/publications/HST%20Publications/90-90-90%20Vol%201(web)%202019.pdf

Mann, K., & MacLeod, A. (2015). *Constructivism: Learning theories and approaches to research*. Researching Medical Education, 49-66. doi:10.1002/9781118838983.ch6

Manoto, S. L., Lugongolo, M., Govender, U., & Mthunzi-Kufa, P. (2018). Point of Care diagnostics for HIV in resource limited settings: An overview. *Medicina* (Kaunas, Lithuania), *54*(3). Retrieved 02 03, 2023, from https://doi.org/10.3390/medicina54010003

Maraux, B., Lissouba, P., Rain-Taljaard, R., Taljaard, D., Bouscaillou, J., Lewis, D., . . . Auvert, B. (2017). Women's knowledge and perception of male circumcision before and after its roll-out in the South African township of Orange Farm from community-based cross-sectional surveys. *PLoS ONE, 12*(3), e0173595. doi:10.1371/ journal.pone.0173595

Mark, R. (1996). *Research made simple: A handbook for social workers*. Thousand Oaks, CA: SAGE.

Marsh, K., Eaton, J. W., Mahy, M., Sabin, K., Autenrieth, C. S., Wanyeki, I., . . . Ghys, P. D. (2019). Global, regional and country-level 90-90-90 estimates for 2018: assessing progress towards the 2020 target. *AIDS, 33* (Suppl 3), S213-S226. doi:10.1097/QAD.0000000000002355

Marshall, E., Rain-Taljaard, R., Tsepe, M., Monkwe, C., Hlatswayo, F., Tshabalala, S., . . . Auvert, B. (2016). Sequential cross-sectional surveys in Orange Farm, a township of South Africa, revealed a constant low voluntary medical male circumcision uptake among adults despite demand creation campaigns and high acceptability. *PLOS One, 11*(7), e0158675. doi:10.1371/journal.pone.0158675

Marshall, E., Rain-Taljaard, R., Tsepe, M., Monkwe, C., Taljaard, D., Hlatswayo, F., . . . Auvert, B. (2017). Obtaining a male circumcision prevalence rate of 80% among adults in a short time an observational prospective intervention study in the Orange Farm township of South Africa. *Medicine Baltimore, 96*(4). doi:10.1097/MD.0000000000005328

Massyn, N., Barron, P., Day, C., Ndlovu, N., & Padarath, A. (2020). *District Health Barometer 2018/19.* Durban: Health Systems Trust. Retrieved 10 10, 2022, from https://hst.org.za/publications/Pages/DISTRICT-HEALTH-BAROMETER-201819.aspx

Massyn, N., Day, C., Ndlovu, N., & Padayachee, T. (2020). *District Health Barometer 2019/2020.* Durban: Health Systems Trust. Retrieved 02 05, 2023, from https://www.hst.org.za/publications/District%20Health%20Barometers/DHB%202019-20%20Complete%20Book.pdf

Matuku, S., & Kaseke, E. (2014). The role of stokvels in improving people's lives: The case in orange farm, Johannesburg, South Africa. *Social Work, 50*(4), 504-515. doi:10.15270/50-4-388

Mbilizi Chimwaza, Y. R., Dadabhai, S. S., Nyondo Mipando, A. L., Mbeda, C., Panchia, R., Lucas, J. P., . . . Sandfort, T. G. (2022). HIV risk perception and sexual behaviour among HIV-uninfected men and transgender women who have sex with men in sub-Saharan Africa: Findings from the HPTN 075 qualitative sub-study. *PLoS Global Public Health, 2*(12). doi:10.1371/journal.pgph.0001408

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programmes. *Health Education Quarterly, 15*(4), 351–377. doi:10.1177/109019818801500401

Mhango, M., Chitungo, I., & Dzinamarira, T. (2020). COVID-19 Lockdowns: Impact on facility based HIV testing and the case for the scaling up of home based testing services in sub Saharan Africa. *AIDS and Behavior, 24*, 3014-3016. Retrieved 04 04, 2023, from https://link.springer.com/content/pdf/10.1007/s10461-020-02939-6.pdf

Mohlabane, N., Tutshana, B., Peltzer, K., & Mwisongo, A. (2016). Barriers and facilitators associated with HIV testing uptake in South African health facilities offering HIV counselling and testing. *Journal of the International AIDS Society, 21*, 86-95. doi:10.1002/jia2.25367

Mokhele, I., Sineke, T., Vujovic, M., Ruiter, R. A., & Onoya, D. (2023). Who is providing HIV testing services? The profile of lay counsellors providing HIV testing services in South Africa in the treat-all era. doi:10.21203/rs.3.rs-2880863/v1

Morojele, N. K., Kachieng'a, M. A., Mokoko, E., Nkoko, M. A., Parry, C. D., Nkowane, A. M., Moshia, K. M., & Saxena, S. (2006). Alcohol use and sexual behaviour among risky drinkers and bar and shebeen patrons in Gauteng province, South Africa. *Social Science & Medicine, 62*(1), 217-227. doi: 10.1016/j.socscimed.2005.05.031

Mugavero, M. J., Amico, K. R., Horn, T., & Thompson, M. A. (2013). The state of engagement in HIV care in the United States: from cascade to continuum to control. *Clinical Infectious Diseases, 57*(8), 1164-1171. doi:10.1093/cid/cit420

Mulqueeny, D. M., & Taylor, M. (2017). Patients' recommendations for a patient-centred public antiretroviral therapy programme in eThekwini, KwaZulu-Natal. *South African Journal of HIV Medicine, 18*(1), 677. doi:10.4102/sajhivmed.v18i1.677

Musheke, M., Ntalasha, H., Gari, S., Mckenzie, O., Bond, V., Martin-Hilber, A., & Merten, S. (2013). A systematic review of qualitative findings on factors enabling and deterring uptake of HIV testing in Sub-Saharan Africa. *BMC Public Health, 13*.

Mutambo, C., & Hlongwana, K. (2019). Healthcare providers' perspective on barriers to providing HIV services to children in sub-Saharan Africa. *AIDS Research and Treatment*. doi:10.1155/2019/8056382.

Muwanguzi, P. A., Nelson, L. E., Ngabirano, T. D., Kiwanuka, N., Osingada, C. P., & Sewankambo, N. K. (2022). Linkage to care and treatment among men with reactive HIV self-tests after workplace-based testing in Uganda: A qualitative study. *Frontiers in Public Health, 10*, 650719. doi:10.3389/fpubh.2022.650719

Mwisongo, A., Mehlomakhulu, V., Mohlabane, N., Peltzer, K., Mthembu, J., & Van Rooyen, H. (2015). Evaluation of the HIV lay counselling and testing profession in South Africa. *BMC Health Services Research, 15*, 1-7. doi:10.1186/s12913-015-0940-y

Myburgh, H., Reynolds, L., Hoddinott, G., Van Aswegen, D., Grobbelaar, N., Gunst, C., . . . Bock, P. (2021). Implementing 'universal' access to antiretroviral treatment in South Africa: a scoping review on research priorities. *Health Policy and Planning, 36*(6), 923-938. doi:10.1093/heapol/czaa0

Nachega, J. B., Sam-Agudu, N. A., Mofenson, L. M., Schechter, M., & Mellors, J. W. (2018). Achieving viral suppression in 90% of people living with human immunodeficiency virus on antiretroviral therapy in low- and middle-income countries: progress, challenges, and opportunities. *Clinical Infectious Diseases, 66*(10), 1487-1491. doi:10.1093/cid/ciy008

Nangendo, J., Katahoire, A. R., Armstrong-Hough, M., Kabami, J., Obeng-Amoako, G. O., Muwema, M., . . . Kalyango, J. N. (2020). Prevalence, associated factors and perspectives of

HIV testing among men in Uganda. *PLoS One, 18*(8), e0237402. doi:10.1371/journal.prone.0237402

Ncama, B., Mngqibisa, R., Muzigaba, M., Pillay, S., & Nadesan-Reddy, N. (2017). Upskilling nursing students and nurse practitioners to initiate and manage patients on ART: An outcome evaluation of the UKZN NIMART course. *African Journal of Health Professions Education*, *9*(3), 153-158.

Ndlovu, Z., Massaquoi, L., Bangwen, N. E., Batumba, J. N., Bora, R. U., Mbuaya, J., ... Ellman, T. (2020). Diagnostic performance and usability of the VISITECT CD4 semi-quantitative test for advanced HIV disease screening. *PLoS One*, *15*(4), e0230453. doi:10.1371/journal.pone.0230453

NDoH. (2016). National HIV testing services: Policy 2016. *National Department of Health.* Retrieved 05 08, 2022, from https://sahivsoc.org

NDoH. 2023. *The national strategic plan for HIV, TB, and STIs 2023-2028*. Retrieved 03 11, 2023, from https://bhekisisa.org/wp-content/uploads/2023/03/NSP-HIV-TB-STIs-2023-2028-MARCH20_23-PRINT2.pdf

NDoH), Statistics South Africa (Stats SA), South African Medical Research Council (SAMRC) & ICF. (2016). *South Africa Demographic and Health Survey 2016: Key Indicator Report*. Pretoria: Statistics South Africa. Retrieved 02 03, 2023, from https://www.statssa.gov.za/publications/Report%2003-00-09/Report%2003-00-092016.pdf?source=post_page---------------------------

Ngangue, P., Gagnon, M., & Bedard, E. (2017). Challenges in the delivery of public HIV testing and counselling (HTC) in Douala, Cameroon: providers' perspectives and implications on quality of HTC services. *BMC International Health and Human Rights, 17*(9).

Nglazi, M. D., Kranzer, K., Lawn, S. D., Wood, R., & Bekker, L. G. (2012). An incentivized HIV counseling and testing programme targeting hard-to-reach unemployed men in Cape Town, South Africa. *Journal of Acquired Immune Deficiency Syndrome, 59*(3), e28-34. doi:10.1097/QAI.0b013e31824445f0

Nowell, L., Norris, J., White, D., & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*. doi:10.1177/1609406917733847

Olakunde, B. O., Adeyinka, D. A., Olawepo, J., & Pharr, J. R. (2020). HIV testing among men in Nigeria: a comparative analysis between young people and adults. *AIDS Care, 32*(2), 155-162. doi:10.1080/09540121.2019.1622642

Onwuegbuzie, A. J., Leech, N. L., & Collins, K. M. (2008). Interviewing the interpretive researcher: A method for addressing the crises of representation, legitimation, and praxis. *International Journal of Qualitative Methods, 7*(4), 1-17. doi:10.1177/160940690800700401

OFHRAC. (2016). Orange Farm Human Rights Advice Centre. Retrieved 21 01, 2023, from https://www.orangefarmadvicecentre.org.za/about/background

Pace, D. S. (2021). Probability and non-probability sampling - An entry point for undergraduate researchers. *International Journal of Quantitative and Qualitative Research Methods, 9*(2), 1-15. Retrieved 17 02, 2023, from https://ssrn.com/abstract=3851952

PAHO. (2023). *HIV testing services.* Pan American Health Organization. Retrieved 03 01, 2023, from https://www3.paho.org/hq/index.php?option=com_content&view=article&id=10328:hiv-testing-services&Itemid=0&lang=en#gsc.tab=0

Patel, L. (2015). *Social welfare and social development in South Africa*. Cape Town: Oxford University Press.

Pillay, P., Pienaar, S., Barron, P., & Zondi, T. (2021). Impact of COVID-19 on routine primary healthcare services in South Africa. *South African Medical Journal, 111*(8). doi:10.7196/SAMJ.2021.v111i8.15786

Ponticiello, M., Mwanga-Amumpaire, J., Tushemereirwe, P., Nuwagaba, G., King, R., & Sundararajan, R. (2020). "Everything is a mess": How COVID-19 is impacting engagement with HIV testing services in rural Southwestern Uganda. *AIDS Behavior, 24*(11), 3006-3009. Retrieved 04 02, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7246959/pdf/10461_2020_Article_2935.pdf

Pope, C., & Mays, N. (2020). The role of theory in qualitative research. *Qualitative Research in Health Care*, 15-26. doi:10.1002/9781119410867.ch2

Priya, A. (2021). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin, 70*(1), 94-110. doi: 10.1177/0038022920970318 1177/0038022920970318

Probst, C., Parry, C. D., & Rehm, J. (2016). Socio-economic differences in HIV/AIDS mortality in South Africa. *Tropical Medicine and International Health, 21*(7), 846-55. doi:10.1111/tmi.12712.05140191113

Puleni, P. C., & Nyondo-Mipando, A. L. (2022). Strategies for optimising uptake of assisted partner notification services among newly diagnosed HIV-positive adults at Ndirande health centre, Malawi. *Health System Reform, 8*(1), 2151697. doi:10.1080/23288604.2022.2151697

Qiao, S., Zhang, Y., Li, X., & Menon, J. A. (2018). Facilitators and barriers for HIV-testing in Zambia: A systematic review of multi-level factors. *PLoS One, 13*(2), e0192327. doi:10.1371/journal.pone.0192327

Ramesh, S., Mehrotra, P., Mahapatra, B., Ganju, D., Nagarajan, K., & Saggurti, N. (2014). The effect of mobility on sexual risk behaviour and HIV infection: a cross-sectional study of men who have sex with men in southern India. *Sexually Transmitted Infections, 90*(6), 49-497. doi:10.1136/sextrans-2013-051350

Redman-MacLaren, M., Mills, J., & Tommbe, R. (2014). Interpretive focus groups: a participatory method for interpreting and extending secondary analysis of qualitative data. *Global Health Action, 7*, 25214. doi:10.3402/gha.v7.25214

Rehman, A. A., & Alharthi, K. (2016). An introduction to research paradigms. *International Journal of Educational Investigations, 3*(8), 51-59. Retrieved 06 06, 2023, from https://files.eric.ed.gov/fulltext/EJ1154775.pdf

Republic of South Africa. (2003). *National Health Act 61 of 2003*. Pretoria: Government Printing Works.

Republic of South Africa. (2033). *Protection of Personal Information Act (POPI Act) of 2013*. Retrieved 27 11, 2023, from https://www.gov.za/documents/protection-personal-information-act

Richards, K. (2003). *Qualitative inquiry in TESOL*. New York, NY: Palgrave Macmillan.

Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research, 10*, 281-305. doi:10.1007/s40685-017-0045-z

Roura, M., Watson-Jones, D., Kahawita, T. M., Ferguson, L., & Ross, D. A. (2013). Provider-initiated testing and counselling programmes in sub-Saharan Africa: a systematic review of their operational implementation. *AIDS, 27*(4), 617-626. Retrieved 05 03, 2023, from https://www.ncbi.nlm.nih.gov/books/NBK290710/

Rural Health Information Hub. (2023). Rural health information hub. *Ecological Models.* Retrieved 14 08, 2023, https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/ecological

Ryan, G. (2018). Introduction to positivism, interpretivism and critical theory. *Nurse Researcher, 25*(4), 41-49. Retrieved 03 03, 2023, from https://oro.open.ac.uk/49591/17/49591ORO.pdf

Ryan, S., Hahn, E., Rao, A., Mwinnyaa, G., Black, J., Maharaj, R., . . . Hansoti, B. (2020). The impact of HIV knowledge and attitudes on HIV testing acceptance among patients in an emergency department in the Eastern Cape, South Africa. *BMC Public Health, 20*, 1066. doi:10.1186/s12889-020-09170-x

Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behavior. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice*, 465-485. San Francisco, CA: Jossey-Bass.

Saunders, B., Sim, J., Kingstone, T., Baker, S., J, W., Bartlam, B., . . . Jinks, C. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality and Quantity, 52*, 1893-1907. doi:10.1007/s11135-017-0574-8

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., . . . Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity, 52*(4), 1893-1 907. doi:10.1007/s11135-017-0574-8

Schneider, H., Sanders, D., Besada, D., Daviaud, E., & Rohde, S. (2018). Ward-based primary health care outreach teams in South Africa: developments, challenges and future directions. *South African Health Review, 2018*(1), 59-65.

Shand, T., Thomson-de Boor, H., Berg, W., Peacock, D., & Pascoe, L. (2014). The HIV blind spot: Men and HIV testing, treatment and care in sub-Saharan Africa. *IDS Bulletin, 45*. doi:10.1111/1759-5436.12068

Sharma, M., Barnabas, R. V., & Celum, C. (2017). Community-based strategies to strengthen men’s engagement in the HIV care cascade in sub-Saharan Africa. *PLoS Medicine, 14*(4). doi:10.1371/journal.pmed.1002262

Sharma, M., Ying, R., Tarr, G., & Barnabas, R. (2015). Systematic review and meta- analysis of community and facility-based HIV testing to address linkage to care gaps in sub-Saharan Africa. *Nature, 528*(7580), S77-S85. doi:10.1038/nature16044

Sharma, S., Reimer-Kirkham, S., & Cochrane, M. (2009). Practicing the awareness of embodiment in qualitative health research: methodological reflections. *Qualitative Health Research, 19*(11), 1642-1650. doi:10.1177/1049732309350684

Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information Journal, 22*, 61-75. doi: 10.3233/EFI-2004-22201

Sileo, K. M., Fielding-Miller, R., Dworkin, S. L., & Fleming, P. J. (2018). What role do masculine norms play in men’s HIV testing in sub-Saharan Africa?: a scoping review. *AIDS Behavior, 22*(8), 2468-2479. doi:10.1007/s10461-018-2160-z

Simelela, N. P., & Venter, W. D. F. (2014). A brief history of South Africa's response to AIDS: history of HIV in SA-Progress towards the Millennium Development Goals. *South African Medical Journal*, *104*(3), 249-251. doi:10.7196/SAMJ.7700

Siu, G. E., Wight, D., & Seeley, J. A. (2014). Masculinity, social context and HIV testing: an ethnographic study of men in Busia district, rural eastern Uganda. *BMC Public Health*, *14*(1), 33. doi:10.1186/1471-2458-14-33

Skovdal, M., Campbell, C., Madanhire, C., Mupambireyi, Z., Nyamukapa, C., & Gregson, S. (2011). Masculinity as a barrier to men's use of HIV services in Zimbabwe. *Global Health, 7*(1). doi:10.1186/1744-8603-7-13.

South African Government. (2022). Minister Joe Phaahla: SA satellite on 90-90-90 progress and recovery from COVID-19. Department of Health. Retrieved 30 05, 2023, from https://www.gov.za/speeches/: https://www.gov.za/speeches/health-minister%E2%80%99s-speaker-notes-sa-satellite-90-90-90-progress-and-recovery-covid-19-29-jul#:~:text=In%20terms%20of%20the%2090,implemented%20in%20all%20health%20facilities

South African Human Rights Commission. (2016). *Access to health care. South African Human Rights Commission*. Retrieved 13 02, 2023, from https://www.sahrc.org.za/home/21/files/FINAL%20Access%20to%20Health%20Care%20Educational%20Booklet.pdf

Southern African HIV Clinicians Society, Treatment Action Campaign, SECTION27, Wits Reproductive Health & HIV Institute (WRHI), iTEACH, HIVSA, Children's Rights Centre, the Yezingane Network, Society for Family Health, & MSF (Doctors Without Borders). (2012). *How can we improve HIV testing and counselling*. Retrieved 15 10, 2022, from https://sahivsoc.org/Files/CounsellingAndTestingConsensus_final.pdf

Stats SA. (2011). *Census 2011 Statistical release – P0301.4*. Pretoria: Statistics South Africa. Retrieved 02 02, 2023, from https://www.statssa.gov.za/publications/P03014/P030142011.pdf

Stevenson, O. (1998). *Neglected children: issues and dilemmas (working together for children, young people and their families)*. Oxford: Blackwell Science Ltd.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion, 10*, 282-298.

Stuart, R. M., Fraser-Hurt, N., Kerr, C. C., Mabusela, E., Madi, V., Mkhwanazi, F., . . . Wilson, D. P. (2018). The City of Johannesburg can end AIDS by 2030: modelling the impact of achieving the Fast-Track targets and what it will take to get there. *Journal of the International AIDS Society, 21*(1), e25068. doi:10.1002/jia2.25068

Sulat, J., Prabandari, Y., Sanusi, R., Hapsari, E., & Santoso, B. (2017). The impacts of community-based HIV testing and counselling on testing uptake: A systematic review. *Journal of Health Research, 32*. doi/10.1108/JHR-01-2018-015

Suthar, A. B., Ford, N., Bachanas, P. J., Wong, V. J., Rajan, J. S., Saltzman, A. K., . . . Baggaley, R. C. (2013). *PLOS Medicine, 10*. doi:10.1371/journal.pmed.1001496

Tafuma, T., Mahachi, N., Dziwa, C., Moga, T., Baloyi, P., Muyambo, G., . . . Lew, K. (2018). Barriers to HIV service utilisation by people living with HIV in two provinces of Zimbabwe: Results from 2016 baseline assessment. *South African Journal of HIV Medicine, 19*(1), 721. doi:10.4102/hivmed.v19i1.721

Tenny, S., Brannan, J. M., & Brannan, G. D. (2023). *Qualitative study*. Treasure Island (FL): StatPearls Publishing. Retrieved 10 10, 2022, from https://www.ncbi.nlm.nih.gov/books/NBK470395/

The Open University. (2023). *4.2 The social ecological perspective: advantages and limitations*. Retrieved 22 07, 2023, from https://www.open.edu/openlearn/mod/oucontent/view.php?id=99099&section=4.2

Tladi, L. S. (2006). Poverty and HIV/AIDS in South Africa: an empirical contribution. SAHARA-J. *Journal of Social Aspects of HIV/AIDS, 3*(1), 369-381. doi:10.1080/17290376.2006.9724863

Treves-Kagan, S., El Ayadi, A. M., Pettifor, A., MacPhail, C., Twine, R., Maman, S., . . . Lippman, S. A. (2017). Gender, HIV testing and stigma: The association of HIV testing behaviors and community-level and individual-level stigma in rural South Africa differ for men and women. *AIDS Behaviour, 21*(9), 2579-2588. doi:10.1007/s10461-016-1671-8

Tsai, A. C., & Siedner, M. J. (2015). The missing men: HIV treatment scale-up and life expectancy in sub-Saharan Africa. *PLoS Medicine, 12*(11), e1001906. doi:10.1371/journal.pmed.1001906

Tshuma, N., Muloongo, K., Setswe, G., Chimoyi, L., Sarfo, B., Burger, D., & Nyasulu, P. (2015). Potential barriers to rapid testing for human immunodeficiency virus among a commuter population in Johannesburg, South Africa. *HIV/AIDS - Research and Palliative Care, 7*, 11-19. doi:10.2147/HIV.S71920

UNAIDS. (2004). *UNAIDS/WHO Policy Statement on HIV testing.* Retrieved 08 06, 2023, from https://data.unaids.org/una-docs/hivtestingpolicy_en.pdf

UNAIDS. (2014). *90-90-90 An ambitious treatment target to help end the AIDS epidemic*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 08 08, 2023, from https://www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf

UNAIDS. (2016). *Male engagement in the HIV response —a Platform for action*. Geneva: Joint United Nations Programme on HIV/AIDS Retrieved 08 06, 2023, from https://www.unaids.org/sites/default/files/media_asset/JC2848_en.pdf

UNAIDS. (2017a). *Addressing a blind spot in the response to HIV: reaching out to men and boys*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 24 01, 2023, from https://www.unaids.org/sites/default/files/media_asset/blind_spot_en.pdf

UNAIDS. (2017b). *A snapshot of men and HIV in South Africa*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 14 01, 2023, from https://www.unaids.org/sites/default/files/snapshot-men-hiv-south-africa_en.pdf

UNAIDS. (2019). *UNAIDS Data 2019*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 07 08, 2023, from http://www.unaids.org/sites/default/files/media_asset/unaids-data-2018_en.pdf/

UNAIDS. (2020). *UNAIDS Data 2020*. UNAIDS. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 02 04, 2023, from https://www.unaids.org/sites/default/files/media_asset/2020_aids-data-book_en.pdf

UNAIDS. (2021a). UNAIDS Data 2021. Retrieved 07 04, 2023, from https://www.unaids.org/sites/default/files/media_asset/JC3032_AIDS_Data_book_2021_En.pdf

UNAIDS. (2021b). UNAIDS Data 2021. Retrieved 28 01, 2023, from https://www.unaids.org/en/regionscountries/countries/southafrica

UNAIDS. (2022a). *Global AIDS update*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 10 01, 2023, from https://www.unaids.org/sites/default/files/media_asset/2022-global-aids-update_en.pdf

UNAIDS. (2022b). *Male engagement in HIV testing, treatment and prevention in the Eastern and Southern Africa: A framework for action*. UNAIDS. Retrieved 14 11, 2022, from https://reliefweb.int/report/world/male-engagement-hiv-testing-treatment-and-prevention-eastern-and-southern-africa

UNAIDS. (2023). *The path that ends AIDS*. Geneva: Joint United Nations Programme on HIV/AIDS. Retrieved 09 10, 2023, from https://www.unaids.org/sites/default/files/media_asset/2023-unaids-global-aids-update_en.pdf

Uwishema, O., Taylor, C., Lawal, L., Hamiidah, N., Robert, I., Nasir, A., . . . Onyeaka, H. (2022). The syndemic burden of HIV/AIDS in Africa amidst the COVID-19 pandemic. *Immunity, Inflammation and Disease, 10*(1), 26-32. doi:10.1002/iid3.544

Van Staden, Q., Laurenzi, C. A., & Toska, E. (2022). Two years after lockdown: reviewing the effects of COVID-19 on health services and support for adolescents living with HIV in South Africa. *Journal of International AIDS Society, 25*, e25904. doi:10.1002/jia2.25904

Vocabulary.com. (2023). Health care provider. *Vocabulary.com Dictionary*. Retrieved 11 04, 2023, from https://www.vocabulary.com/dictionary/health%20care%20provider

WHO. (2007). *Guidance on provider-initiated HIV testing and counselling in health facilities*. Geneva: WHO. Retrieved 22 04, 2023, from https://apps.who.int/iris/bitstream/handle/10665/43688/9789241595568_eng.pdf?sequence=1&isAllowed=y

WHO. (2016). From mandatory HIV testing for access to work to voluntary testing and counselling at work. International Labour Organisation. Retrieved 08 06, 2023, from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-beijing/documents/publication/wcms_532909.pdf

WHO. (2019). *Public health services*. Geneva: WHO. Retrieved 10 10, 2022, from http://www.euro.who.int/en/health-topics/Health%02systems/public-health-services/public-health-services

WHO. (2021a). *Improving men's uptake of HIV testing and linkage to services: Policy Brief*. Geneva: WHO. Retrieved 11 12, 2022, from https://www.who.int/publications/i/item/9789240018938

WHO. (2021b). *Updated recommendations on service delivery for the treatment and care of people living with HIV*. Geneva: WHO. Retrieved 12 01, 2023, from https://www.who.int/publications/i/item/9789240023581

WHO. (2021c). *Consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring: recommendations for a public health approach*. Geneva: WHO Retrieved 02 11, 2023, from https://www.who.int/publications/i/item/9789240031593

Wiles, R., Crow, G., Heath, S., & Charles, V. (2008). The management of confidentiality and anonymity in social research. *International Journal of Social Research Methodology, 11*(5), 417-428. doi:10.1080/13645570701622231

Willig, C. (2016). Constructivism and 'the real world': Can they co-exist? *QMiP Bulletin, 21*. Retrieved 06 07, 2023, from https://openaccess.city.ac.uk/id/eprint/13576/1/

Wilson, J. (2010). *Essentials of business research: A guide to doing your research project*. London: Sage Publications.

Wise, J. M., Ott, C., Azuero, A., Lanzi, R. G., Davies, S., Gardner, A., . . . Kempf, M. C. (2019). Barriers to HIV testing: Patient and provider perspectives in the deep South. *AIDS Behavior, 23*(4). doi:10.1007/s10461-018-02385-5

Yakob, B., & Ncama, B. P. (2016). A socio-ecological perspective of access to and acceptability of HIV/AIDS treatment and care services: a qualitative case study research. *BMC Public Health, 25*(3), 258-78. doi:10.1186/s12889-016-2830-6

Zaidi, Z., & Larsen, D. (2018). Commentary: Paradigms, axiology, and praxeology in medical education research. *Academic Medicine, 93*(11S), S1-S7. doi:10.1097/ACM.0000000000002384

Appendices

Appendix A1: Patient recruitment form – English

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Dear Sir,

A researcher from the University of the Free State is undertaking a research study on *barriers to male uptake of HIV testing services in Orange Farm, Gauteng*. The research team would like to interview male patients like you, attending this clinic to ask them some questions about:

- their background,
- experience with HTS,
- barriers to HIV testing services at this clinic, and
- their views on what can be done to improve access to HIV testing services at this clinic.

The interview will last approximately 45 minutes to an hour. Before, during and after the interviews, all COVID-19 safety and precautionary measures will be adhered to. Interviews will be conducted outdoors or in a well-ventilated room in the clinic, and the research team will supply masks and sanitiser.

Your participation is voluntary, and you will have the right to withdraw at any stage in the process without any consequences. Your responses will not be linked in any way with your name and your name will not be recorded or appear in any reports.

If you are interested in participating in this study, the research team will meet with you to explain more about the study and answer any questions that you may have.

Yes, I ____ agree to meet with the researcher.

_____________________ _____________________

Signature **Date**

Patient screening information

The patient…	**Tick (√) all that applies**	
	Yes	**No**
is an 18 – 35 years old male		
is a 36-54 years old male		
is a male 55 years and older		
has experienced HIV testing services at this clinic		
has never experienced HIV testing services at this clinic		

Appendix A2: Ifomu lokuqasha isiguli – IsiZulu

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Sawubona Mnumzana,

Umcwaningi waseNyuvesi yaseFreyistata wenza ucwaningo locwaningo ngezithiyo ekuthathweni kwabesilisa ezinsizeni zokuhlolela i-HIV e-Orange Farm, eGauteng. Ithimba labacwaningi bangathanda ukuxoxisana neziguli zesilisa/ezindala njengawe, ezihambela lo mtholampilo ukuze azibuze imibuzo mayelana nalokhu:

- isizinda sabo,
- ulwazi nge-HTS,
- izithiyo ezinsizeni zokuhlolelwa i-HIV kulo mtholampilo, kanye
- imibono yabo ngokuthi yini engenziwa ukuthuthukisa ukutholakala kwezinsiza zokuhlolelwa i-HIV kulo mtholampilo.

Inhlolokhono izothatha cishe imizuzu engama-45 kuya kwehora. Ngesikhathi senhlolokhono, zonke izindlela zokuphepha nezokuphepha ze-COVID-19 zizolandelwa. Izingxoxo zizoqhutshwa ngaphandle noma egumbini elinomoya ohlanzekile emtholampilo, futhi ithimba labacwaningi bazohlinzeka ngemaski nama-sanitiser.

Ukubamba kwakho iqhaza kungokokuzithandela futhi uzoba nelungelo lokuhoxa kunoma yisiphi isigaba senqubo ngaphandle kwemiphumela. Izimpendulo zakho ngeke zixhunywe nganoma iyiphi indlela negama lakho futhi igama lakho ngeke liqoshwe noma livele kunoma yimiphi imibiko.

Uma unentshisekelo yokubamba iqhaza kulolu cwaningo, uzohlangana nethimba labacwaningi ukuze bakuchazele kabanzi ngocwaningo futhi ngiphendule noma yimiphi imibuzo ongase ube nayo.

Yebo, mina u ____ ngiyavuma ukuhlangana nethimba labacwaningi.

____________________   ____________________

Siginesha Usuku

Ulwazi lokuhlolwa kwesiguli

Isiguli…	**Phawula (√) konke okusebenzayo**	
	Yebo	**Cha**
Ungowesilisa oneminyaka engu-18 - 35 ubudala		
Ngowesilisa oneminyaka engama-36-54 ubudala		
Ngowesilisa oneminyaka engama-55 nangaphezulu		
Uthole izinsiza zokuhlolelwa i-HIV kulo mtholampilo		

Appendix A3: Foromo ea ho hira mokuli – Sesotho

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Monghali ea khabane,

Mmatlisisi go tswa kwa Yunibesithing ya Foreisetata o dira patlisiso ya dipatlisiso ka ga dikgoreletsi tse di thibelang banna go tsaya ditirelo tsa tlhatlhobo ya HIV kwa Orange Farm, Gauteng. O rata ho buisana le bakuli ba banyane ba batona/ba baholo joalo ka uena, ba eang tleliniking ena ho ba botsa lipotso tse ling mabapi le:

- semelo sa bona,
- boiphihlelo ka HTS,
- litšitiso litšebeletsong tsa tlhahlobo ea HIV tleliniking ena, le
- maikutlo a bona mabapi le se ka etsoang ho ntlafatsa phihlello ea litšebeletso tsa tlhahlobo ea HIV tleliniking ena.

Puisano e tla nka metsotso e ka bang 45 ho isa ho hora. Nakong ea lipuisano, mehato eohle ea ts'ireletso le boits'ireletso ea COVID-19 e tla lateloa. Lipuisano li tla tšoareloa ka ntle kapa ka phaposing e nang le moea o pholileng oa tleliniki, 'me sehlopha sa lipatlisiso ba tla fana ka limaske le sanitiser.

Ho nka karolo ha hau ke ka boithatelo 'me u tla ba le tokelo ea ho ikhula nakong efe kapa efe ts'ebetsong ntle le ditlamorao. dikarabo tsa hau di ke ke tsa amahanngoa ka tsela efe kapa efe le lebitso la hau mme lebitso la hau le ke ke la rekotoa kapa la hlaha ditlalehong life kapa life. Haeba u thahasella ho nka karolo thutong ena, o tla kopana le sehlopha sa lipatlisiso ho u hlalosetsa haholoanyane ka thutopatlisiso ena le ho araba lipotso life kapa life tseo u ka bang le tsona.

Ee, ke ____ ke dumela ho kopana le sehlopha sa lipatlisiso.

______________________   ______________________

Tshaeno Letsatsi

Lintlha tsa tlhahlobo ea mokuli

Mokuli …	**Tšoaea (√) tsohle tse sebetsang**	
	Ee	**Che**
Ke monna ea lilemo li 18 – 35		
Ke monna ea lilemo li 36-54		
Ke monna ea lilemo li 55 ho ea holimo		
O bile le litšebeletso tsa tlhahlobo ea HIV tleliniking ena		
Ha a so bone litšebeletso tsa tlhahlobo ea HIV tleliniking ena		

Appendix B: Nurse/lay counsellor recruitment form

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Good day,

A researcher from the University of the Free State is undertaking a research study on *barriers to male uptake of HIV testing services in Orange Farm, Gauteng*. She would like to interview NIMART trained professional nurses and lay counsellors with RTCQI training, working in this clinic to ask them some questions about:

- their views on what hinders younger, middle-aged, and older male patients to access HTS in this facility, and
- their views on what can be done to improve access to HTS for younger, middle-aged, and older male patients at this clinic.

The interview will last approximately 45 minutes to an hour. During the interview, all COVID-19 safety and precautionary measures will be adhered to. Interviews will be conducted outdoors or in a well-ventilated room in the clinic, and the researcher will supply masks and sanitiser.

Your participation is voluntary, and you will have the right to withdraw at any stage in the process without any consequences. Your responses will not be linked in any way with your name and your name will not be recorded or appear in any reports.

If you are interested in participating in this study, the researcher will meet with you to explain more about the study and answer any questions that you may have. Also, I request permission to share your name and contact details with the researcher so you can communicate about your availability and arrange when and where to meet to participate in the study.

Yes, I ____ agree to meet with the researcher.

______________________ ______________________

Signature **Date**

Healthcare provider screening information

The healthcare provider …	**Tick (√) all that applies**	
	Yes	**No**
is Male		
is Female		
is trained in RTCQI		
is NIMART trained		
has been referring for HTS at this clinic		
has been offering HIV testing services at this clinic		
has never offered HIV testing services at this clinic		

Appendix C1: Patient Information Sheet - English

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Project: Barriers to male uptake of HIV testing services in Orange Farm, Gauteng: patient and provider perspectives.

Good day

I am ______________________. I am a research assistant. I invite you to voluntarily take part in my research project seeking to explore barriers to male uptake of HIV testing services in Orange Farm, Gauteng. The project is targeting both male patients (younger, middle-aged, and older) and healthcare providers at clinics in Orange Farm.

If you decide to take part in the project, you will be asked questions about:

- your background,
- possible barriers to HIV testing services at this clinic, and
- your views on what can be done to improve access to HTS in PHC facilities.

Your participation in this study is completely voluntary and will be highly appreciated. If you decide not to participate in the study, your decision will not affect the health services you get at this facility. You may also choose not to answer any specific questions if you do not wish to do so. You will be required to sign a form indicating consent to participate in the study. The interview will last for approximately an hour and will be audio recorded. Everything we discuss in this interview will be kept between us. However, in accordance with legal requirements, we are required to report to authorities any information that comes to our attention that concerns child abuse or neglect or potential harm to you or others. No identifiable information such as your namewill be used during the interview. You will be referred to using a pseudonym such as interviewee 1, interviewee 2, and so forth. The audio tape together with the consent form with your name will be kept safely in a locked cabinet. The interview will be transcribed and stored on a password-protected computer. You will not be paid to participate in this study.

However, the information you provide will be important for designing programmatic interventions to improve access to HTS. The Gauteng Department of Health and the clinics will be served with reports, and I will be available for personal feedback and clarification if required. It is important to note that no harm is anticipated in this research. However, you may experience some discomfort or psychological distress as a result of the questions asked in this interview. Should you feel that you would like to talk to someone after the interview, I will refer you to the social worker affiliated with the clinic. The social worker is Thobeka Mdiya, and she can be contacted at telephone: 083 965 3451/email: Stretford.chc@gauteng.gov.

If you would like to inquire more about the study, you are welcome to contact the study supervisors; Prof Gladys Kigozi at telephone: 051 401 3333/email: kigozign@ufs.ac.za or Prof Christo Heunis at telephone: 051 401 3407/email: heunisj@ufs.ac.za. I can also be contacted at telephone: 071 388 1918/email: 2020901589@ufs4life.ac.za.

The research has been approved by the Health Sciences Research Ethics Committee, University of the Free State and has been authorised by the Gauteng Department of Health.

If you have any questions related to ethics, you may contact: The Chair: Health Science Research Ethics Committee
Prof A Sherriff
Block D, Deans Division, Room D104 PO Box 339 (Internal Box G40) Bloemfontein
Tel: 051 – 401 7387
E-mail: Ethicsfhs@ufs.ac.za

Appendix C2: Ishidi Lolwazi Lwesiguli - IsiZulu

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Umklamo: Izithiyo ekuthathweni kwabesilisa ezinsizeni zokuhlolela i-HIV e-Orange Farm, e-Gauteng: imibono yesiguli kanye nabahlinzeki.

Usuku oluhle,

NginguNyeleti Chauke, owenza iziqu ze-master emkhakheni we-Health System Studies eNyuvesi yaseFreyistata. Njengengxenye yalezi ziqu, kudingeka ngiqedele iphrojekthi yocwaningo ngesihloko engithakaselayo. Ngiyakumema ukuthi uhlanganyele ngokuzithandela kuphrojekthi yami yocwaningo ngifuna ukuhlola izithiyo ekuthathweni kwabesilisa ezinsizeni zokuhlolela i-HIV e-Orange Farm, eGauteng. Lo msebenzi uqondise iziguli zesilisa (ezincane, ezineminyaka ephakathi, nangaphezulu) kanye nabahlinzeki bezempilo emitholampilo yase-Orange Farm.

Uma unquma ukubamba iqhaza kuphrojekthi, ngizokuxoxisana ngolimi oluthandayo. Uzobuzwa imibuzo mayelana nalokhu:

- isizinda sakho,
- izithiyo ezingaba khona ezinsizeni zokuhlolelwa i-HIV kulo mtholampilo, kanye
- imibono yakho ngokuthi yini engenziwa ukuthuthukisa ukufinyelela ku-HTS ezikhungweni ze-PHC.

Ukuhlanganyela kwakho kulolu cwaningo kungokuzithandela ngokuphelele futhi kuzokwaziswa kakhulu. Uma unquma ukungabambi iqhaza ocwaningweni, isinqumo sakho ngeke siphazamise izinsizakalo zezempilo ozithola kulesi sikhungo. Ungase futhi ukhethe ukungaphenduli noma yimiphi imibuzo ethile uma ungafisi ukwenza kanjalo. Uzodingeka ukuthi usayine ifomu elibonisa imvume yokubamba iqhaza ocwaningweni. Inhlolokhono izothatha cishe ihora futhi izoqoshwa umsindo. Konke esikuxoxayo kule nhlolokhono kuzogcinwa phakathi kwethu. Kodwa-ke, ngokuvumelana nezimfuneko zomthetho, kudingeka sibike kuziphathimandla noma yiluphi ulwazi esinalo oluphathelene nokuhlukunyezwa kwezingane noma ukunganakwa noma ukulimaza okungase kube khona kuwe noma kwabanye.

Alukho ulwazi oluhlonzayo olufana negama lakho oluzosetshenziswa phakathi nenhlolokhono. Uzobhekiselwa kulo kusetshenziswa igama-mbumbulu elifana nomuntu oxoxwa naye 1, okukhulunywe naye 2, njll. Iteyiphu yomsindo kanye nefomu lemvume enegama lakho izogcinwa ngokuphephile kukhabhinethi ekhiyiwe. Inhlolokhono izobhalwa futhi igcinwe kukhompuyutha evikelwe ngephasiwedi. Ngeke ukhokhelwe ngokubamba iqhaza kulolu cwaningo. Nokho, ulwazi olunikezayo luzobalulekile ekuklameni ukungenelela okuhleliwe ukuze kuthuthukiswe ukufinyelela ku-HTS. UMnyango Wezempilo waseGauteng kanye nemitholampilo izonikezwa imibiko futhi ngizotholakala ukuze ngithole impendulo yomuntu siqu kanye nokucaciswa uma kudingeka.

Kubalulekile ukuqaphela ukuthi akukho monakalo olindelwe kulolu cwaningo. Nokho, ungase uzwe ukungakhululeki noma ukucindezeleka kwengqondo ngenxa yemibuzo ebuzwe kule ngxoxo. Uma uzwa sengathi ungathanda ukukhuluma nothile ngemva kwenhlolokhono, ngizokudlulisela kusonhlalakahle osebenzisana nomtholampilo. Usonhlalakahle nguThobeka Mdiya kanti angathintwa kule nombolo: 083 965 3451/email: Stretford.chc@gauteng.gov.
Uma ungathanda ukubuza kabanzi mayelana nocwaningo, wamukelekile ukuthintana nabaphathi bami; UDkt Gladys Kigozi ngocingo: 051 401 3333/e-mail kigozig@ufs.ac.za noma uProf Christo Heunis ngocingo: 051 401 3407/i-imeyili: heunisj@ufs.ac.za. Ngingabuye ngithintwe ngocingo: 071 388 1918/imeyili: 2020901589@ufs4life.ac.za.

Ucwaningo lugunyazwe iKomidi Lokuziphatha Le-Faculty of Health Sciences, eNyuvesi yaseFreyistata futhi lugunyazwe uMnyango Wezempilo waseGauteng.
Uma unanoma yimiphi imibuzo ehlobene nezimiso zokuziphatha, ungathintana: USihlalo: Ikomidi Lezimiso Zokuziphatha Lokucwaninga Kwezempilo

UProf A Sherriff
Block D, Deans Division, Room D104 PO Box 339 (Internal Box G40) Bloemfontein
Ucingo: 051 - 401 7387
I-imeyili: Ethicsfhs@ufs.ac.za

Appendix C3: Leqephe la Boitsebiso ba Mokuli – Sesotho

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SENTRUM VIR GESONDHEIDSISTEEM-NAVORSING EN ONTWIKKELING

Morero: Litšitiso tsa ho fumana litšebeletso tsa tlhahlobo ea HIV ho banna Orange Farm, Gauteng: maikutlo a bakuli le bafani.

Lumela,

Ke Nyeleti Chauke, moithuti oa masters lefapheng la Health System Studies Univesithing ea Free State. Joalo ka karolo ea degree ena, ke kopuoa ho phethela projeke ea lipatlisiso ka sehlooho seo ke se ratang. Ke u mema ho nka karolo ka boithaopo morerong oa ka oa ho batla ho rarolla litšitiso tsa ho hlahloba litšitiso tse thibelang banna ho fumana litšebeletso tsa tlhahlobo ea HIV Orange Farm, Gauteng. Morero ona o shebane le bakuli ba banna (ba banyenyane, ba lilemo tse mahareng le ba baholo) le bafani ba bophelo litleliniking tse Orange Farm.

Haeba u etsa qeto ea ho nka karolo morerong ona, ke tla buisana le uena ka puo eo u e khethileng. U tla botsoa lipotso mabapi le:

- semelo sa hau,
- litšitiso tse ka bang teng litšebeletsong tsa tlhahlobo ea HIV tleliniking ena, le
- maikutlo a hau mabapi le se ka etsoang ho ntlafatsa phihlello ea HTS litsing tsa PHC.

Bonkakarolo ba hau boithutong bona ke ba boithaopo bo felletseng, 'me bo tla ananeloa haholo. Haeba u etsa qeto ea ho se nke karolo phuputsong, qeto ea hau e ke ke ea ama litšebeletso tsa bophelo tseo u li fumanang setsing sena. U ka boela ua khetha ho se arabe lipotso leha e le life tse tobileng haeba u sa batle ho etsa joalo. O tla hlokeha ho saena foromo e bontshang tumello ya ho nka karolo phuputsong. Puisano e tla nka nako e ka etsang hora 'me e tla rekotoa molumo. Ntho e 'ngoe le e 'ngoe eo re e tšohlang puisanong ena e tla bolokoa pakeng tsa rona. Leha ho le joalo, ho latela litlhokahalo tsa molao, re tlameha ho tlalehela ba boholong boitsebiso bofe kapa bofe boo re bo fumanang bo amanang le tlhekefetso ea bana kapa ho hlokomolohuoa kapa kotsi e ka bang teng ho uena kapa ho ba bang. Ha ho lintlha tse tsejoang joalo ka lebitso la hau tse tla sebelisoa nakong ea lipuisano. U tla fetisetsoa ho sebelisa lebitso la boikaketsi le kang la motho 1, eo ho buisanoeng le eena 2, joalo-joalo. Theipi ea molumo hammoho le foromo ea tumello e nang le lebitso la hao li tla bolokoa ka har'a khabinete e notletsoeng. Puisano e tla ngoloa le ho bolokoa khomphuteng e sirelelitsoeng ka password. U ke ke ua lefuoa ho nka karolo phuputsong ena. Leha ho le joalo, tlhahisoleseling eo u fanang ka eona e tla ba ea bohlokoa bakeng sa ho rala litšebetso tsa mananeo ho ntlafatsa phihlello ea HTS. Lefapha la Bophelo bo Botle la Gauteng le litleliniki li tla fuoa litlaleho 'me ke tla ba teng bakeng sa maikutlo a ka le tlhaloso ha ho hlokahala. Haeba u ikutloa hore u ka rata ho bua le motho ka mor'a lipuisano, ke tla u fetisetsa ho mosebeletsi oa sechaba tleliniking ena.

Ho bohlokoa ho hlokomela hore ha ho kotsi e lebelletsoeng phuputsong ena. Leha ho le joalo, u ka 'na ua ba le bothata bo itseng kapa khatello ea kelello ka lebaka la lipotso tse botsitsoeng puisanong ena. Haeba u utloa eka u ka rata ho bua le motho ka mor'a lipuisano, ke tla u fetisetsa ho mosebeletsi oa sechaba ea sebetsanang le tleliniki. Mmaboipelego ke Thobeka Mdiya mme a ka founelwa mogala: 083 965 3451/email: Stretford.chc@gauteng.gov.

Ha o ka rata ho botsa haholoanyane ka thuto ena, o amohelehile ho ikopanya le baokameli ba ka; Ngaka Gladys Kigozi mohaleng: 051 401 3333/email kigozig@ufs.ac.za kapa Mop Christo Heunis ka mohala: 051 401 3407/email: heunisj@ufs.ac.za. Hape nka founeloa ka mohala: 071 388 1918/email: 2020901589@ufs4life.ac.za.

Patlisiso e ananetswe ke Komiti ya Maitshwaro ya Legoro la Saense ya Bophelo bo Botle, Yunibesithing ya Foreisetata mme e dumeletswe ke Lefapha la Bophelo bo Botle la Gauteng.
Haeba u na le lipotso tse amanang le melao ea boitšoaro, u ka ikopanya le: Molula-setulo: Komiti ea Boitšoaro ba Lipatlisiso tsa Saense ea Bophelo bo Botle
Moprofesa A Sherriff
Block D, Deans Division, Room D104 PO Box 339 (Internal Box G40) Bloemfontein
Mohala: 051 – 401 7387
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Appendix D: Healthcare provider Information Sheet

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SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Project: Barriers to male uptake of HIV testing services in Orange Farm, Gauteng: patient and healthcare provider perspectives.

Good day

I am Nyeleti Chauke, a master's student in the field of Health System Studies at the University of the Free State. As part of this degree, I am required to complete a research project on a topic of my interest. I invite you to voluntarily take part in my research project seeking to explore barriers to male uptake of HIV testing services in Orange Farm, Gauteng. The project is targeting both patients and healthcare providers at clinics in Orange Farm.

If you decide to take part in the project, you will be asked questions about:

- your background,
- possible barriers to HIV testing services experienced by younger/older male patients at this clinic, and
- your views on what can be done to improve access to HTS by younger/older male patients in this PHC facility.

Your participation in this study is completely voluntary and will be highly appreciated. If you decide not to participate in the study, your decision will not affect your employment or position at this facility. You may also choose not to answer any specific questions if you do not wish to do so. Be reassured that participation in the study would not jeopardise their employment status in any way. You will be required to sign a form indicating that you consent to participate in the study. The interview will last for approximately an hour and will be audio recorded. Everything we discuss in this interview will be kept between us. However, in accordance with legal requirements, we are required to report to authorities any information that comes to our attention that concerns child abuse or neglect or potential harm to you or others. No identifiable information such as your name will be used during the interview. You will be referred to using

a pseudonym such as interviewee 1, interviewee 2, etc. The audio tape together with the consent form with your name will be kept safely in a locked cabinet. The interview will be transcribed and stored on a password-protected computer. You will not be paid to participate in this study. However, the information you provide will be important for designing programmatic interventions to improve access to HTS. The Gauteng Department of Health and the clinics will be served with reports, and I will be available for personal feedback and clarification if required. It is important to note that no risks are anticipated in this research. However, you may experience some discomfort or psychological distress because of the questions asked in this interview. Should you feel that you would like to talk to someone after the interview, I will refer you to the social worker affiliated with clinic. The social worker is Thobeka Mdiya, and she can be contacted by telephone: 083 965 3451/email: Stretford.chc@gauteng.gov.
If you would like to inquire more about the study, you are welcome to contact my research study supervisors; Prof Gladys Kigozi at telephone: 051 401 3333/email: kigozign@ufs.ac.za or Prof Christo Heunis at telephone: 051 401 3407/email: heunisj@ufs.ac.za. I can also be contacted at telephone: 071 388 1918/email: 2020901589@ufs4life.ac.za.

The research has been approved by the Health Sciences Research Ethics Committee, University of the Free State and has been authorised by the Gauteng Department of Health.

If you have any questions related to ethics, you may contact: The Chair: Health Science Research Ethics Committee
Prof A Sherriff
Block D, Deans Division, Room D104 PO Box 339 (Internal Box G40) Bloemfontein
Tel: 051 – 401 7387
E-mail: Ethicsfhs@ufs.ac.za

Appendix E1: Patient consent form to participate in the study – English

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I the undersigned,
____ confirm that I voluntarily agree to participate in the research study referred to as **barriers to male uptake of HIV testing services in Orange Farm, Gauteng: patient and provider perspectives.**

I, the undersigned Participant, further confirm that–

- the Researcher has explained the nature, procedure, potential benefits, and anticipated inconvenience of my participation in the Study;
- I have read (or had explained to me) and understood the Study as explained in the attached information sheet;
- I have had sufficient opportunity to ask questions and am prepared to participate in the Study;
- I understand that my participation in the Study is entirely voluntary and that I am free to withdraw at any time without penalty (if applicable);
- I voluntarily provide the UFS and the Researcher with my personal information and consent to the UFS and the Researcher collecting, disclosing and processing my personal information in order to conduct the Study and any related activities in relation thereto;
- I hereby acknowledge and confirm that I understand the purpose for which the UFS and the Researcher may collect, store, use, delete, destroy, outsource, transfer or otherwise process, as the context and circumstances may require and as contemplated in terms of POPIA, my personal information as set out herein;
- I am aware that the findings of the Study will be anonymously processed into a research report, journal publications and/or conference proceedings and that my personal information will be aggregated and de-identified at such stage;

- I also give the UFS permission to share, without notification, the collected data with other researchers at the UFS or other Higher Education Institutions. This permission is dependent on the same principles of ethical research practices, anonymity/confidentiality, safekeeping of information, and other issues listed above applying.

I, the Participant, agree to the recording of the interview.
Full Name of Participant: ____
Signature of Participant: _________________________ Date: ___________________
Full Name of Researcher ____
Signature of Researcher: __________________________ Date: __________________

Appendix E2: Ifomu lemvume yesiguli ukuthi libambe iqhazaocwaningweni – IsiZulu

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Mina osayine ngezansi,

____ qinisekisa ukuthi ngivuma ngokuzithandela ukuhlanganyela ocwaningweni locwaningo olubizwa ngokuthi **yizithiyo ekuthatheni kwabesilisa izinsiza zokuhlolela i-HIV e-Orange Farm, e-Gauteng: imibono yesiguli kanye nabahlinzeki**.

Mina, uMhlanganyeli osayine ngezansi, ngiyaqinisekisa ukuthi-

- Umcwaningi uluchazile uhlobo, inqubo, izinzuzo ezingaba khona, kanye nokuphazamiseka okulindelekile kokubamba kwami iqhaza Ocwaningweni;
- Ngifundile (noma ngichazile) futhi ngaluqonda uFundo njengoba kuchaziwe ephepheni lemininingwane elinamathiselwe;
- Ngibe nethuba elanele lokubuza imibuzo futhi ngikulungele ukubamba iqhaza esiFundweni;
- Ngiyaqonda ukuthi ukubamba kwami iqhaza Ocwaningweni kungokokuzithandela futhi ngikhululekile ukuhoxa noma nini ngaphandle kwesijeziso (uma kufanele);
- Nginikela ngokuzithandela i-UFS kanye noMcwaningi ngolwazi lwami siqu kanye nemvume ku-UFS kanye noMcwaningi aqoqe, adalule futhi acubungule ulwazi lwami lomuntu siqu ukuze enze Ucwaningo kanye nanoma yimiphi imisebenzi ehlobene ehlobene nalokho;
- Ngalokhu ngiyavuma futhi ngiyaqinisekisa ukuthi ngiyayiqonda injongo i-UFS kanye nomcwaningi abangaqoqa ngayo, bagcine, basebenzise, basuse, bacekele phansi, bakhiphe, badlulise noma benze ngenye indlela inqubo, njengoba umongo nezimo zingase zidinge futhi njengoba kuhlongozwe ngokwemibandela I-POPIA, imininingwane yami siqu njengoba ibekwe lapha;
- Ngiyazi ukuthi okutholwe Ocwaningweni kuzocutshungulwa ngokungaziwa kube umbiko wocwaningo, ukushicilelwa kwejenali kanye/noma izinqubo zengqungquthela nokuthi

ulwazi lwami lomuntu siqu luzohlanganiswa futhi lukhishwe ngaphandle kwegama ngaleso sikhathi;

- Ngiphinde nginikeze i-UFS imvume yokwabelana, ngaphandle kwesaziso, idatha eqoqiwe nabanye abacwaningi e-UFS noma kwezinye Izikhungo Zemfundo Ephakeme. Le mvume incike ezimisweni ezifanayo zezinqubo zocwaningo lwezimiso zokuziphatha, ukungaziwa/ukugcinwa kuyimfihlo, ukugcinwa okuphephile kolwazi, nezinye izindaba ezibalwe ngenhla ezisebenza.

Mina, uMhlanganyeli, ngivumelana nokuqoshwa kwenhlolokhono.

Igama Eliphelele Lombambiqhaza: ____

Isignisha Yobambe iqhaza: ______________________ Usuku: ___________________

Imagama eliphelele lo Mcwaningi: _____________________________________

Isignesha Yomcwaningi: ________________________ Usuku: ___________________

Appendix E3: Foromo ea tumello ea mokuli ho nka karolo thutong - Sesotho

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Ke 'na ea saenneng ka tlase,

____ tiisa hore ke lumela ka boithaopo ho kenya letsoho phuputsong ea lipatlisiso eo ho thoeng ke **litšitiso tse thibelang banna ho kena litšebeletsong tsa tlhahlobo ea HIV Orange Farm, Gauteng: maikutlo a bakuli le bafani**.
'Na, Monkakarolo ea saenneng, ke tiisa hape hore-

- Mofuputsi o hlalositse mofuta, mokhoa, melemo e ka bang teng, le ts'itiso e lebeletsoeng ea ho nka karolo ha ka Thutong;
- Ke balile (kapa ke hlaloselitse) le ho utloisisa Thuto ea ka joalokaha e hlalositsoe leqepheng la tlhahisoleseding le hlomathisitsoeng;
- Ke bile le monyetla o lekaneng oa ho botsa lipotso 'me ke itokiselitse ho nka karolo Thutong;
- Kea utloisisa hore ho nka karolo ha ka Thutong ena ke ka boithaopo ka ho felletseng le hore ke lokolohile ho ikhula neng kapa neng ntle le kotlo (ha ho hlokahala);
- Ke ithaopela ho fa UFS le Mofuputsi litaba tsa ka tsa botho le tumello ho UFS le Mofuputsi ho bokella, ho senola le ho sebetsana le tlhahisoleseding ea ka ea botho e le ho etsa Thuto le mesebetsi leha e le efe e amanang le eona;
- Ka hona ke ananela le ho tiisa hore ke utloisisa morero oo UFS le Mofuputsi ba ka bokellang, ba boloka, ba sebelisa, ba phumula, ba senya, ba fana ka thepa, ba fetisetsa kapa ba etsa ts'ebetso e 'ngoe, joalo ka ha maemo le maemo a ka hloka le joalo ka ha ho nahanoa. POPIA, lintlha tsa ka tsa botho joalo ka ha ho boletsoe mona;
- Kea tseba hore liphetho tsa Boithuto li tla sebetsoa ka mokhoa o sa tsejoeng hore e be tlaleho ea lipatlisiso, likhatiso tsa koranta le/kapa lits'ebetso tsa kopano le hore lintlha tsa ka tsa botho li tla kopanngoa le ho hlakoloa nakong e joalo;
- Hape ke fa UFS tumello ea ho arolelana, ntle le tsebiso, lintlha tse bokeletsoeng le bafuputsi ba bang ba UFS kapa Litsi tse ling tsa Thuto e Phahameng. Tumello ena e ipapisitse le melaoana e ts'oanang ea mekhoa ea lipatlisiso tsa boitšoaro, ho se tsejoe/ho boloka

lekunutu, ho boloka tlhahisoleseling, le litaba tse ling tse thathamisitsoeng kaholimo tse sebetsang.

Nna, Monkokarolo, ke dumela ho rekotwa ha puisano.
Lebitso le felletseng la Morupeluoa: ____
Tshaeno ea Morupeluoa: ______________________ Letsatsi: ____________________
Libitso le felletseng la mubatlisis: ____
Tshaeno ea Mofuputsi: ________________________ Letsatsi: ____________________

Appendix F: Healthcare providers consent form to participate in the study

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I the undersigned ____ confirm that I voluntarily agree to participate in the research study referred to as **barriers to male uptake of HIV testing services in Orange Farm, Gauteng: patient and provider perspectives.**

I, the undersigned Participant, further confirm that–

- the Researcher has explained the nature, procedure, potential benefits, and anticipated inconvenience of my participation in the Study;
- I have read (or had explained to me) and understood the Study as explained in the attached information sheet;
- I have had sufficient opportunity to ask questions and am prepared to participate in the Study;
- I understand that my participation in the Study is entirely voluntary and that I am free to withdraw at any time without penalty (if applicable);
- I voluntarily provide the UFS and the Researcher with my personal information and consent to the UFS and the Researcher collecting, disclosing and processing my personal information in order to conduct the Study and any related activities in relation thereto;
- I hereby acknowledge and confirm that I understand the purpose for which the UFS and the Researcher may collect, store, use, delete, destroy, outsource, transfer or otherwise process, as the context and circumstances may require and as contemplated in terms of POPIA, my personal information as set out herein;
- I am aware that the findings of the Study will be anonymously processed into a research report, journal publications and/or conference proceedings and that my personal information will be aggregated and de-identified at such stage;
- I also give the UFS permission to share, without notification, the collected data with other researchers at the UFS or other Higher Education Institutions. This permission is

dependent on the same principles of ethical research practices, anonymity/confidentiality, safekeeping of information, and other issues listed above applying.

I, the Participant, agree to the recording of the interview.
Full Name of Participant: ____
Signature of Participant: ______________________ Date: _____________________
Full Name of Researcher: ____
Signature of Researcher: _______________________ Date: ____________________

Appendix G1: Patient interview schedule– English

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Age	
Gender	
Race	
Marital status	
Employment status	
Educational level	

Barriers to HIV testing services

- How is the accessibility of HIV, TB, and STI screening at this clinic?
- Can you please describe your experience of accessing HTS at this facility.
- What, if any, are the main challenges you face when obtaining HTS at this facility? (Challenges at the personal, interpersonal, organisational, community and policy levels).
- Please tell me about your most recent HTS experience.
- How long did you wait to get attended for HTS at your most recent HTS visit?
- In what way, if any, do you think the physical layout of the facility affects access to HTS?
- How, if in any way, did/does your family encourage and support you to get tested for HIV, TB and STIs?
- How, if in any way, did/does the community educate and encourage you to know your HIV status?
- What, if any, other challenges did you experience when obtaining HTS?

Improving Access to HTS at PHC Facilities

- What, if anything, do you think male patients should personally do differently to enable themselves to access HTS services at the clinic?
- What, if anything, do you suggest that families should do to support (young, middle-aged and older) male patients in undertaking HTS?
- What, if anything, do you propose that the community (e.g., religious organisations, non-governmental organisations) should do to support undertaking of HTS by (young, middle-aged and older) male patients at public health clinics like this one?
- How, if in any way, can access to HIV counselling, testing, treatment, and care support be improved for (young, middle-aged and older) male patients attending this clinic?
- How do you propose nurses and lay counsellors treat (young, middle-aged and older) male patients in respect to accessing HIV testing services at this clinic?
- What, if any, kind of support do you propose (young, middle-aged and older) male patients should receive when accessing HTS from the lay counsellors and nurses or the facility?
- In what ways can the facility and HTS care providers maintain patients' confidentiality in relation to HIV testing?
- What, if any, changes would you like the Department of Health to make regarding HTS at public health facilities in Orange Farm area?

Appendix G2: Phuma ohlelweni lwenhlolokhono – IsiZulu

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Ubudala	
Ubulili	
Umjaho	
Isimo sakho somshado	
Isimo somsebenzi	
Izinga lezemfundo	

Izithiyo ezinsizeni zokuhlolelwa i-HIV

- Ucabanga ukuthi ukuhlolelwa i-HIV, i-TB, kanye ne-STI kuyafinyeleleka kulo mtholampilo? Kungani?
- Ingabe uke wafinyelela ku-HTS namuhla noma wake? Ngicela uchaze impendulo yakho.
- Yiziphi, uma zikhona, izinselelo ezinkulu ezibhekene neziguli ezincane zabesilisa/abadala lapho zithola i-HTS kulesi sikhungo? (Izinselele emazingeni omuntu siqu, okusebenzelana nabanye abantu, enhlangano, omphakathi nawenqubomgomo).
- Ngitshele mayelana nolwazi lwakho lwakamuva lwe-HTS.
- Ingabe ulinda isikhathi esingaphezu kwemizuzu engu-120 ukuze unakekelwe i-HTS? Uma kunjalo, ulinde isikhathi esingakanani?
- Ucabanga ukuthi ukuma kwesakhiwo sendawo kuthinta kanjani ukufinyelela ku-HTS?
- Ngabe umndeni wakho ukukhuthaze futhi ukusekele kanjani ukuthi uhlolelwe i-HIV kanye nezifo ezithathelwana ngocansi?
- Ngabe umphakathi ukufundise/ukukhuthaze kanjani ukuthi wazi isimo sakho se-HIV?
- Yiziphi, uma zikhona, ezinye izinselele ohlangabezane nazo lapho uthola i-HTS?

Ukwenza ngcono Ukufinyelela ku-HTS Ezikhungweni ze-PHC

- Yini ocabanga ukuthi abesilisa abasha, abaphakathi, nabadala kufanele bayenze ngendlela ehlukile ukuze bakwazi ukuthola izinsiza ze-HTS emtholampilo?
- Yini, uma kukhona, ophakamisa ukuthi imindeni iyenze ukuxhasa ezinye iziguli zesilisa zabasha, abaphakathi, nabadala ekuthatheni i-HTS?
- Yini, uma kukhona, ophakamisa ukuthi umphakathi uyenze ukuxhasa ukwenziwa kwe-HTS yiziguli zabasha, abaphakathi, nabadala zabesilisa emitholampilo yezempilo yomphakathi efana nalena?
- Kungenziwa kanjani ngcono ukuthola ukwelulekwa nge-HIV, ukuhlolwa, ukwelashwa, nokusekelwa ezigulini zabasha, abaphakathi, nabadala zabesilisa eziya kulo mtholampilo?
- Uphakamisa ukuthi abahlengikazi kanye nabeluleki baziphathe kanjani iziguli zesilisa abasha, abaphakathi nabadala?
- Yini, uma kukhona, ongathanda ukuthi abahlengikazi kanye nabeluleki abangabalulekanga bayenze ngendlela ehlukile lapho behlinzeka iziguli zabasha, abaphakathi, nabadala zabesilisa ezine-HIV?
- Iluphi, uma lukhona, uhlobo lokwesekwa ophakamisa ukuthi iziguli zesilisa zabasha, abaphakathi, nabadala zikuthole lapho zifinyelela i-HTS kubahlinzeki bezempilo be-HTS noma isikhungo?
- Yiziphi izindlela isikhungo kanye nabahlinzeki bokunakekelwa kwe-HTS abangagcina ngayo imfihlo yeziguli?
- Yiziphi izinguquko, uma zikhona, ongathanda uMnyango Wezempilo uzenze mayelana ne-HTS ezikhungweni zezempilo zikahulumeni endaweni yase-Orange Farm?

Appendix G3: Tsoa kemiso ea lipuisano – Sesotho

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Lilemo	
Bong	
Lebelo	
Maemo a lenyalo	
Boemo ba mosebetsi	
Boemo ba thuto	

Litšitiso litšebeletsong tsa tlhahlobo ea HIV

1. Na u nahana hore ho etsa tlhahlobo ea HIV, lefuba le mafu a likobo hoa khoneha tleliniking ee? Hobaneng?
2. Na u kile ua kena HTS kajeno kapa neng? Ka kopo hlalosa karabo ea hau.
3. Ke mathata afe, haeba a teng, ao bakuli ba bacha ba banna/ba batona ba tobanang le ona ha ba fumana HTS setsing see? (Liqholotso maemong a botho, a batho, a mokhatlo, sechaba le maano).
4. Mpolelle ka phihlelo ea hau ea morao-rao ea HTS.
5. Na u ema nako e telele ho feta metsotso e 120 ho fumana thuso bakeng sa HTS? Haeba ho joalo, u emetse nako e kae?
6. U nahana hore sebopeho sa setsi se ama phihlello ea HTS ka tsela efe?
7. Lelapa la hau le u khothalelitse le ho u tšehetsa joang ho etsa tlhahlobo ea HIV le mafu a likobo?
8. Sechaba se u rutile le ho u khothaletsa joang ho tseba boemo ba hau ba HIV?
9. Ke mathata afe, haeba a teng, ao u bileng le 'ona ha u fumana HTS?

Ntlafatso ea phihlello ea HTS litsing tsa PHC

1. U nahana hore banna ba bacha, ba lilemo tse mahareng le ba baholo ba lokela ho etsa eng ka tsela e fapaneng ho ba thusa ho fumana litšebeletso tsa HTS tleliniking?
2. Ke eng, haeba ho teng, u fana ka maikutlo a hore malapa a lokela ho etsa eng ho tšehetsa bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba batona ho etsa HTS?
3. Ke eng, haeba ho teng, u sisinya hore sechaba (mohlala, mekhatlo ea bolumeli, mekhatlo e ikemetseng) e lokela ho etsa eng ho tšehetsa tšebetso ea HTS ke bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba banna litleliniking tsa sechaba tse kang ee?
4. Ho ka ntlafatsoa joang phihlello ea tlhabollo ea HIV, tlhahlobo, kalafo, le ts'ehetso ea tlhokomelo ho bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba batona ba tlang tleliniking ee?
5. U etsa tlhahiso ea hore baoki le baeletsi ba ka tšoara bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba batona joang?
6. Ke eng eo u ka ratang hore baoki le baeletsi ba etse ka tsela e fapaneng ha ba fana ka ART ho bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba nang le HIV?
7. Ke ts'ehetso ea mofuta ofe, haeba e teng, eo u khothalletsang bakuli ba bacha, ba lilemo tse mahareng le ba baholo ba banna hore ba e fumane ha ba fumana HTS ho tsoa ho bafani ba bophelo bo botle ba HTS kapa setsing?
8. Setsi le bafani ba tlhokomelo ea HTS ba ka boloka lekunutu la bakuli ka litsela life?
9. Ke liphetoho life, haeba li teng, tseo u ka ratang hore Lefapha la Bophelo le li etse mabapi le HTS litsing tsa bophelo tsa sechaba sebakeng sa Orange Farm?

Appendix H: Professional nurses’ interview schedule - English

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Age	
Gender	
Race	
Marital status	
Educational level	
NIMART trained	

Barriers to HIV testing services

1. What, if anything, hinders young, middle-aged, and older male patients from accessing HTS at this clinic?
2. What criteria do you use to refer male patients for HTS?
3. Please describe the circumstances/conditions in which you do not refer male patients for HTS.
4. How do young male patients typically react when you refer them for HTS?
5. How do middle-aged male patients typically react when you refer them for HTS?
6. How do older male patients typically react when you refer them for HIV testing?
7. What do you think are the challenges, if any, faced by young, middle-aged, and older male patients in accessing HTS?
8. What are your challenges, if any, in making HTS accessible to the young, middle-aged, and older male patients?
9. What challenges, if any, do you face as a healthcare provider when initiating young, middle-aged, and older male patients on ART?
10. How, if any way, do you think the physical layout of the facility affects access to HTS?
11. What, if any, support does the Department of Health offer PHC facilities in providing quality HTS?

Improving access to HTS at PHC facilities

1. What are your views of what, if anything, can be done to improve access to HTS for patients by healthcare providers?
2. What, if anything, do you think (young, middle-aged and older) male patients can do to improve their access to HTS?
3. How, if in any way, do you think families can help young, middle-aged, and older men in improving access to HTS at PHC facilities?
4. What, if anything, do you think PHC facilities should do to improve access to HTS for young, middle-aged, and older men?
5. What, if anything, do you think schools, should do to improve access to HTS for young men?
6. What, if anything, do you think churches and other faith based-organisations should do to improve access to HTS for young, middle-aged, and older men?
7. What, if anything, do you think employers should do to improve access to HTS for young, middle-aged, and older men?
8. What, if any, adjustments do you think the Department of Health should make on the HTS policy to reinforce and improve HTS in PHC facilities?

Appendix I: Lay counsellor interview schedule - English

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CENTRE FOR HEALTH SYSTEMS
RESEARCH AND DEVELOPMENT
SENTRUM VIR GESONDHEIDSISTEEM-
NAVORSING EN ONTWIKKELING

Age	
Gender	
Race	
Marital status	
Educational level	
RTCQI trained	

Barriers to HIV testing services

1. How do you recruit patients to offer them HTS?
2. Is there a Standard Operating Procedure (SOP) you use when recruiting patients to access HTS? Do you follow the SOP? How so?
3. Do you consistently follow the HTS guidelines when offering HTS? Can you elaborate?
4. How long does an HIV testing and counselling session usually take?
5. How, if in any way, do you maintain consent when offering HIV testing and counselling?
6. How, if in any way, do you maintain confidentiality when offering HIV testing and counselling?
7. How, if in any way, does patient diversity affect you as a counsellor when offering HTS?
8. How, if in any way, do you make patients comfortable and free to openly talk to you during HIV testing and counselling sessions?
9. Is there a referral system for psycho-social support for patients in need of the service?
10. Do you think families offer enough support to young, middle-aged, and older male patients to access HTS? Why?
11. Do you think the community offers support to young, middle-aged, and older male patients who acquire HTS? Why?
12. What challenges, if any, do you face when offering HIV testing and counselling to young, middle-aged, and older male patients attending this clinic?

Improving access to HTS at PHC facilities

1. What are your views of what can be done to improve access to HTS for patients by respectively healthcare providers and patients at this PHC facility?
2. How, if in any way, do you think families can help in improving access to HTS at PHC facilities for young, middle-aged, and older male?
3. What, if anything, do you think PHC facilities should do to improve access to HTS for young, middle-aged, and older men?
4. What, if anything, do you think schools, should do to improve access to HTS for young men?
5. What, if anything, do you think churches and other faith based-organisations should do to improve access to HTS for young, middle-aged, and older men?
6. What, if anything, do you think employers should do to improve access to HTS for young, middle-aged, and older men?
7. What adjustments, if any, do you think the Department of Health should make on the HTS policy?

Appendix J: Letter to Gauteng Department of Health

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University of the Free State,Faculty of Humanities
Centre for Health Systems Research &Development
2022

Gauteng Department of Health
51 Klein Str, Hillbrow,
Johannesburg, 2000

Dear Sir/Madam,

Re: Permission to conduct research at primary health care (PHC) facilities in the Orange Farm area.

I am Nyeleti Chauke, an HIV Testing Services (HTS) Coordinator at Anova Health Institute (supporting DoH facilities) and a Master of Health Systems Studies candidate at the University of the Free State. As part of this degree, I am required to complete a research project on a topic of my interest. My research seeks to explore barriers to male uptake of HIV testing services in Orange Farm, Gauteng. The research will target young, middle-aged, and older male patients and healthcare providers (i.e., professional nurses and lay counsellors). The specific objectives of this study will be to:

- explore the specific barriers experienced by young, middle-aged and older men regarding access to HTS at the individual, interpersonal, organisational, community, and policy levels at PHC facilities in the Orange Farm area.
- explore healthcare providers' views of what hinders young, middle-aged and older men from accessing HTS at the individual, interpersonal, organisational, community and policy levels at PHC facilities in the Orange Farm area.
- explore young, middle-aged and older men' views regarding what can be done at the

individual, interpersonal, organisational, community and policy levels to improve access to HTS at PHC facilities in the Orange Farm area.
- explore healthcare providers' views of what can be done at the individual, interpersonal, organisational, community, and policy levels to improve access to HTS by young, middle-aged and older men at PHC facilities in the Orange Farm area.

I request permission to access to the following facilities for fieldwork; Imbalenhle Clinic, Barney Molokoane Clinic and Orange Farm Ext 7 Clinic for about four weeks from the 3rd of May to the 31st of July 2022.

The research has received ethical clearance from the Health Sciences Research Ethics Committee of the University of the Free State (See addendum). Patients will be recruited for the study via their attending nurses. Participation in this study is completely voluntary. Participants will be asked to give their writtenconsent before taking part in the research. For the healthcare providers in particular, to minimise interruption in health service delivery, interviews will be arranged around their availability. Their responses will be treated confidentially, and respondents' identities will be anonymous. Individual privacy will be protected in all published and written data resulting from the study. There are no direct benefits to participants in the study. However, I am hoping to contribute knowledge to inform programmatic interventions done by the public healthcare sector to improve access to HTS for HIV-positive and negative patients.

The study results will be communicated in my research dissertation. The study findings could be particularly helpful for the three clinics to improve their HTS operations and outcomes. The Gauteng Department of Health and the three PHC facilities will be furnished with the findings, and I will be available for personal feedback and clarification if required.

If you would like to inquire more about the study, you are welcome to contact me or my supervisors. Our details are provided below. I look forward to your response.

Yours faithful,
Nyeleti Chauke
071 388 1918
Email: 2020901589@student.ufs.ac.za

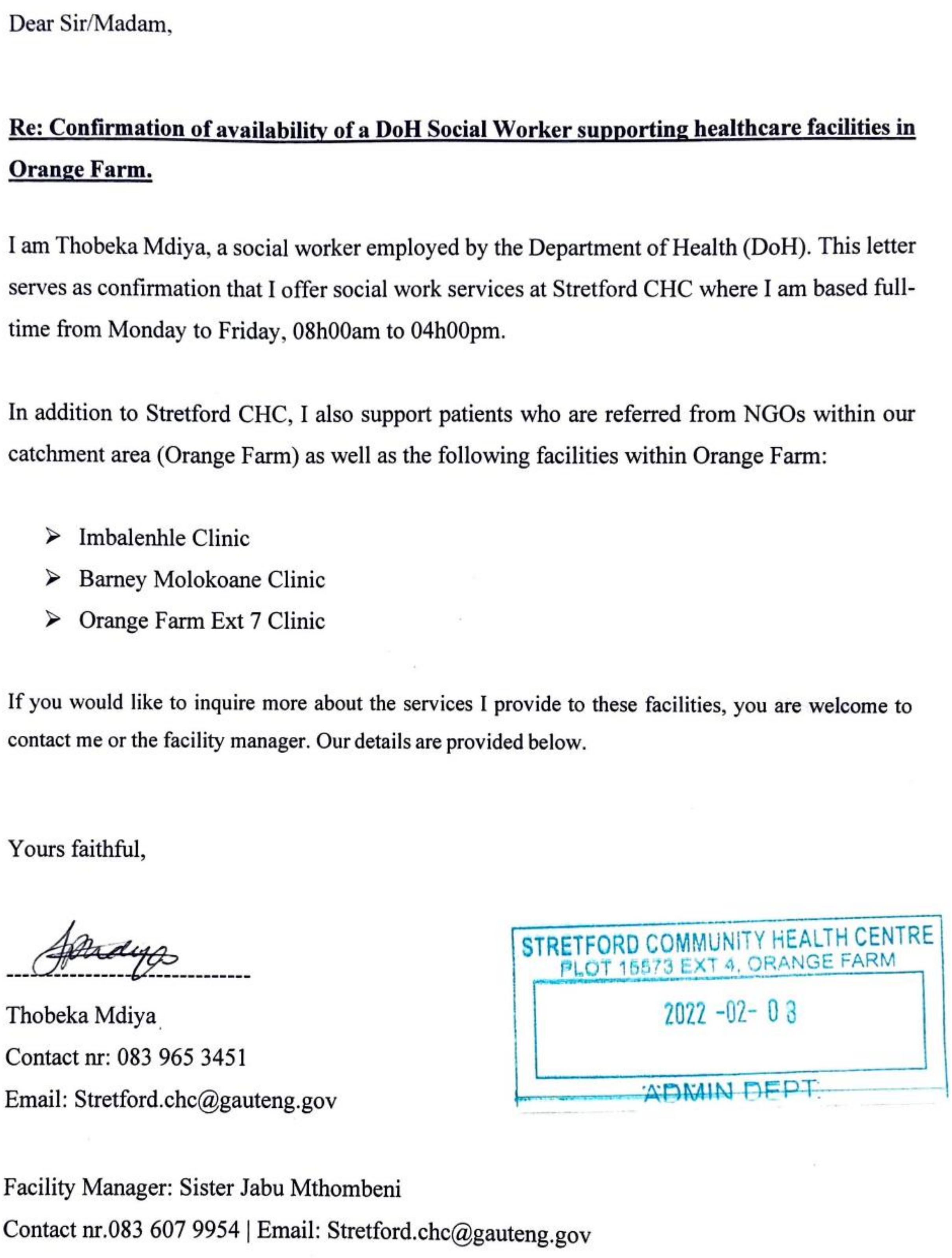
Supervisors:

Prof Gladys Kigozi
Telephone: 051 401 3333
Email: kigozign@ufs.ac.za

Prof Christo Heunis
Telephone: 051 401 3407
Email: heunisj@ufs.ac.za

If you have any questions related to ethics, you may contact: The Chair: Health Science Research Ethics Committee
Prof A Sherriff
Block D, Deans Division, Room D104 PO Box 339 (Internal Box G40) Bloemfontein
Tel: 051 – 401 7387
E-mail: Ethicsfhs@ufs.ac.za

Appendix K: Social worker’s letter



Dear Sir/Madam,

Re: Confirmation of availability of a DoH Social Worker supporting healthcare facilities in Orange Farm.

I am Thobeka Mdiya, a social worker employed by the Department of Health (DoH). This letter serves as confirmation that I offer social work services at Stretford CHC where I am based full-time from Monday to Friday, 08h00am to 04h00pm.

In addition to Stretford CHC, I also support patients who are referred from NGOs within our catchment area (Orange Farm) as well as the following facilities within Orange Farm:

- Imbalenhle Clinic
- Barney Molokoane Clinic
- Orange Farm Ext 7 Clinic

If you would like to inquire more about the services I provide to these facilities, you are welcome to contact me or the facility manager. Our details are provided below.

Yours faithful,

Thobeka Mdiya
Contact nr: 083 965 3451
Email: Stretford.chc@gauteng.gov

STRETFORD COMMUNITY HEALTH CENTRE
PLOT 15573 EXT 4, ORANGE FARM
2022 -02- 03
ADMIN DEPT

Facility Manager: Sister Jabu Mthombeni
Contact nr.083 607 9954 | Email: Stretford.chc@gauteng.gov

Appendix L: Approval from the Scientific Committee

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23 February 2022 Dear Ms Chauke

Barriers to male uptake of HIV testing services in Orange farm, Gauteng: patient and provider perspectives

Your application has been reviewed by the Scientific Committee for Social Sciences. You may proceed to apply for ethical clearance from HSREC.

Yours sincerely

M Engelbrecht

Prof Michelle Engelbrecht
Chairperson: Scientific Committee Social Sciences

205 Nelson Mandela Drive/Rylaan, Park West/Parkwes, Bloemfontein 9301, South Africa/Suid-Afrika
P.O. Box/Posbus 339, Bloemfontein 9300, South Africa/Suid-Afrika, T: +27(0)51 401 9111, www.ufs.ac.za

Appendix M: Approval letter from Research Committee of Johannesburg Health District

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Joburg
a world class African city

Research Committee of Johannesburg Health District

Enquiries: Prof S. Moosa | 0824466825 (WhatsApp) |
shabir@profmoosa.com

DATE: 2nd August 2022

ATT: Ms Nyeleti Chauke

EMAIL:
nyeletipretty0@gmail.com

Dear Sir/Madam

STUDY TITLE: Barriers to male uptake of HIV testing services in Orange Farm, Gauteng:patient and provider perspectives.

NHRD REF. NO.:
GP_202205_005OFFICIAL

APPROVAL

The District Research Committee has reviewed your application. This letter serves as a finalapproval letter for this study.

The following conditions must be observed:

- The facilities in which the research will be conducted are listed below
- These facilities will be visited from: 2022/08/01 to 2023/07/31
- Participants’ rights and confidentiality will be maintained all the time.

- Neither the District nor the facility will incur any additional cost for this study.
- No resources (Financial, material and human resources) from the above facilities will beused for the study.
- The study will comply with Publicly Financed Research and Development Act, 2008 (Act 51 of 2008) and its related Regulations.
- You will submit a copy (electronic and hard copy) of your final report. In addition, you will submit an annual progress report to the District Research Committee.
- If this is academic research then your supervisor and the University will ensure that thesereports are being submitted timeously to the District Research Committee.
- The District must be acknowledged in all the reports/publications generated from the research and a copy of these reports/publications must be submitted to the District Research Committee.
- You will liaise with the manager/s listed below as relevant before initiating the study.

We reserve our right to withdraw our approval, if you breach any of the conditions mentioned above. Please feel free to contact us if you have any further queries.

On behalf of the District Research Committee, we would like to thank you for choosing ourDistrict to conduct such an important study.

Regards,

Prof S. Moosa
Chairperson: District Research
CommitteeJohannesburg Health
District
As delegated by Mrs M.L. Morewane, Chief Director, Johannesburg Health District,
and Mr.Frans Moseane, Acting ED Health, City of Johannesburg

List of Facilities Approved

- Barney Molokoane Clinic
- Bristlecone Clinic
- Orange Farm Ext 7 Clinic

List of Managers

Sub District/ Hospital	Sub District Manager/ Area Manager	Contact No.	Email
ABCEF	Ms Lombuso Matlala	011 440 1259	Lombuso.Matlala@gauteng.gov.za
D	Ms Maria Mazibuko	011 674 1200	Maria.Mazibuko@gauteng.gov.za
G	Mr Peter Mathole	011 213 9603	Peter.Mathole@gauteng.gov.za
CoJ A	Ms Nelly Shongwe	011 237 8010	nellys@joburg.org.za
CoJ B	Ms Zanozuko Mbane	011 718 9656	zanozukom@joburg.org.za
CoJ C	Mr Tebogo Motsepe	011 761 0200	TebogoMot@joburg.org.za
CoJ D	Ms Ntsiki Letsosa	011 986 0106	PriscillaRa@joburg.org.za, NontsikeleloL@joburg.org.za
CoJ E	Mr Vusi Mazibuko	011 582 1504	VusiM@joburg.org.za

CoJ F	Mr M Monyamane	011 681 8130	mathibem@joburg.org.za
CoJ G	Ms Olga Kruger	011 211 8936	olgak@joburg.org.za
Southrand Hospital	Dr N. Maleka	011 681 2002	Nobantu.Maleka@gauteng.gov.za
Bheki Mlangeni Hospital	Mrs MC Makhetha	011 241 5792	Makabedi.Makhetha@gauteng.gov.za
Edenvale Hospital	Dr. ZG Zitha	011 321 6157	Zakhelegoodman.Zitha@gauteng.gov.za

Appendix N: Approval from the Health Sciences Research Ethics Committee

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Health Sciences Research Ethics Committee

01-Aug-2022

Dear **Ms Nyeleti Chauke**

Ethics Clearance: **Barriers to male uptake of HIV testing services in Orange Farm, Gauteng: patient and provider perspectives.**
Principal Investigator: **Ms Nyeleti Chauke**
Department: **Centre for Health Systems Research and Development Department (Bloemfontein Campus)** Submission Page

APPLICATION APPROVED

Please ensure that you read the whole document

With reference to your application for ethical clearance with the Faculty of Health Sciences, I am pleased to inform you on behalf of the Health Sciences Research Ethics Committee that you have been granted ethical clearance for your project.

Your ethical clearance number, to be used in all correspondence is: **UFS-HSD2022/0294/2908**

The ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the HSREC for approval to ensure we are kept up to date with your progress and any ethical implications that may arise. This includes any serious adverse events and/or termination of the study.

A progress report should be submitted within one year of approval, and annually for long term studies.

A final report should be submitted at the completion of the study.

Research conducted in any Department of Health facility: Researchers are required to sign and return the HSREC approval letters to the provincial Department of Health where they applied. It is also a requirement for researchers to submit electronic copies of their final research findings, and/or make a presentation of their findings and recommendations at departmental research days when and where indicated.

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2020); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; International Council for Harmonisation (ICH) Harmonised Guideline, Integrated Addendum to ICH E6(R1), Guideline for Good Clinical Practice (GCP) E6(R2), 2016, SAHPRA Guidelines as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

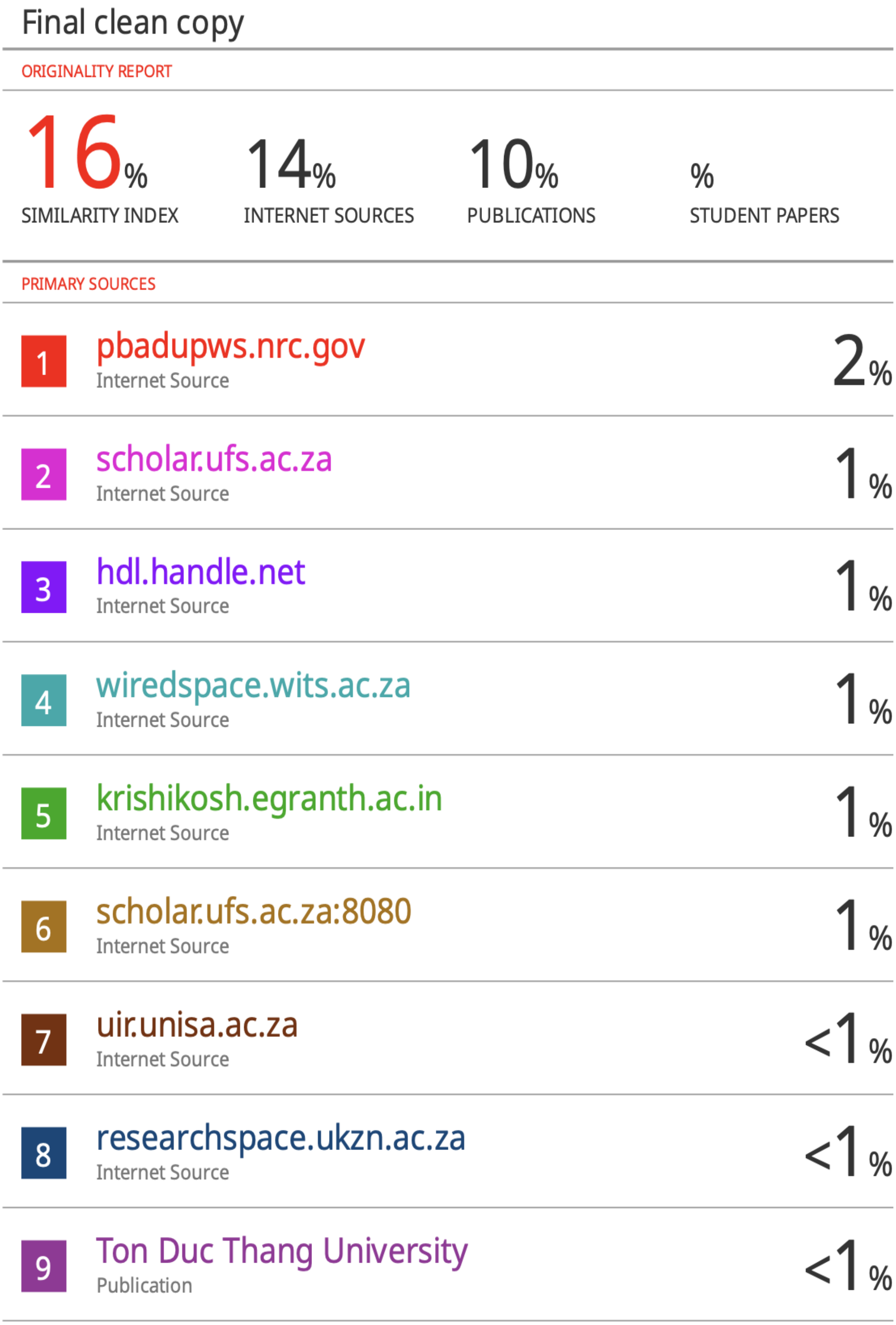
For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Prof. A. Sherriff
Chairperson: Health Sciences Research Ethics Committee
Health Sciences Research Ethics Committee Office of the Dean: Health Sciences
T: +27 (0)51 401 7795/7794 | E: ethicsfhs@ufs.ac.za
IRB 00011992; REC 230408-011; IORG 0010096; FWA 00027947
Block D, Dean's Division, Room D104 | P.O. Box/Posbus 339 (Internal Post Box G40) | Bloemfontein 9300 | South Africa
www.ufs.ac.za

Appendix O: Turnitin report



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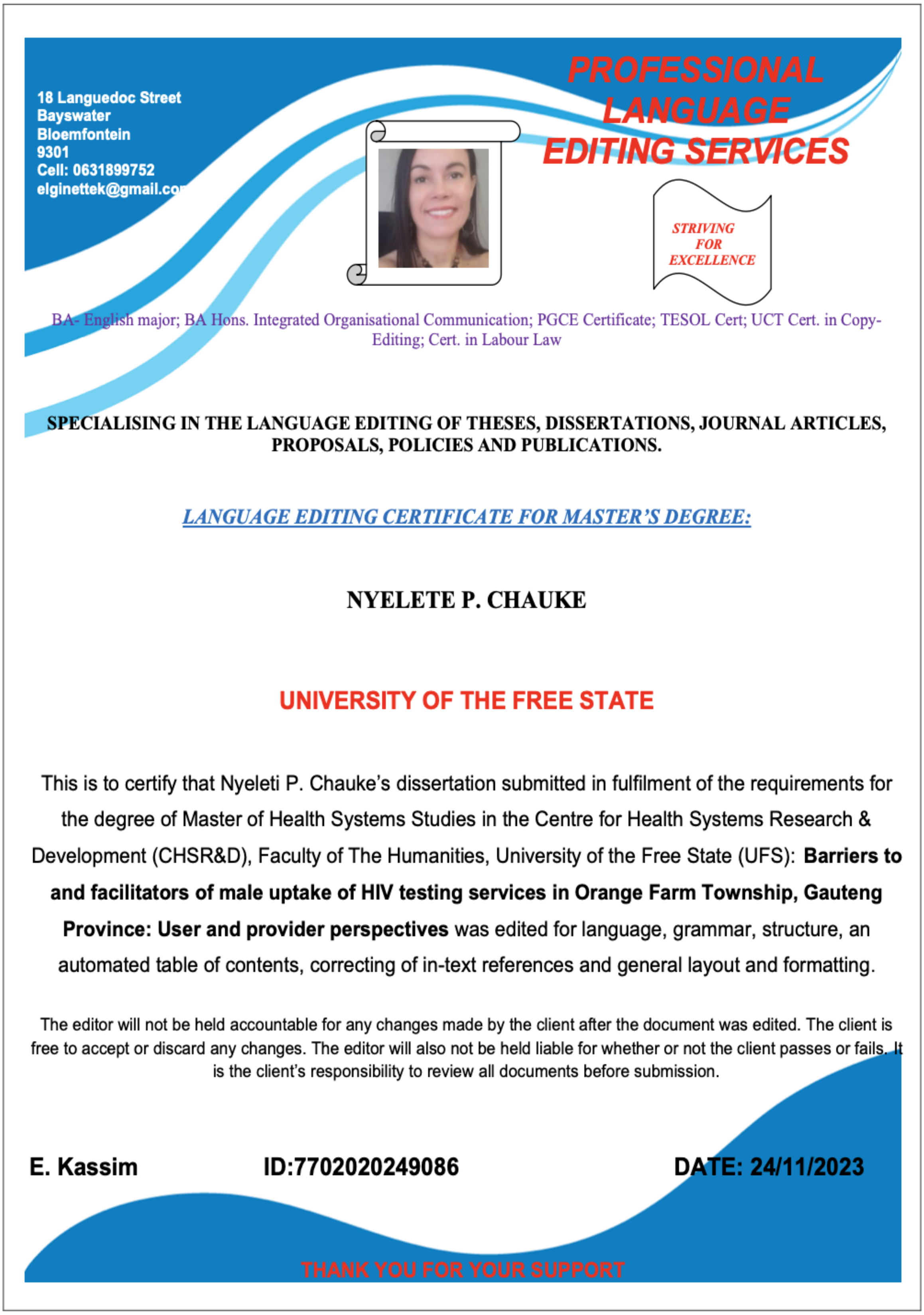
Appendix P: Editing certificate



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elginettek@gmail.co

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LANGUAGE EDITING CERTIFICATE FOR MASTER'S DEGREE:

NYELETE P. CHAUKE

UNIVERSITY OF THE FREE STATE

This is to certify that Nyeleti P. Chauke's dissertation submitted in fulfilment of the requirements for the degree of Master of Health Systems Studies in the Centre for Health Systems Research & Development (CHSR&D), Faculty of The Humanities, University of the Free State (UFS): **Barriers to and facilitators of male uptake of HIV testing services in Orange Farm Township, Gauteng Province: User and provider perspectives** was edited for language, grammar, structure, an automated table of contents, correcting of in-text references and general layout and formatting.

The editor will not be held accountable for any changes made by the client after the document was edited. The client is free to accept or discard any changes. The editor will also not be held liable for whether or not the client passes or fails. It is the client's responsibility to review all documents before submission.

E. Kassim **ID:7702020249086** **DATE: 24/11/2023**

THANK YOU FOR YOUR SUPPORT