THE CONTRIBUTION OF HIV SELF-TESTING ON THE UPTAKE OF HIV SERVICES AND ASSOCIATED FACTORS AMONG ADULT MALES IN GEITA DISTRICT COUNCIL

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DETERMINE THE CONTRIBUTION OF HIV SELF-TESTING ON THE UPTAKE OF HIV SERVICE AMONG ADULT MALES IN THE GEITA DISTRICT COUNCIL

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October 2024

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the **Muhimbili University of Health and Allied Sciences**, a dissertation titled "***Determine the contribution of HIV self-testing on the uptake of HIV services and associated factors among adult males in the Geita District Council*"** in fulfillment of the requirements for the degree of Master of Sciences (Project Management, Monitoring, and Evaluation in Health)

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DEDICATION

This work is dedicated to my beautiful mother Ashura Adam Makombe

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ABSTRACT

Background: Notably, men are less likely than women to know their HIV status, be on treatment, and achieve viral suppression. WHO recommended HIV self-testing as an approach for improving men's uptake of HTS.

Objectives: To determine the contribution of HIV self-testing on the uptake of HIV service among adult males in Geita DC focusing on individual, community, and health system-related factors influencing HIVST.

Materials and methods: A pre- and post-evaluation study design using mixed methods (qualitative and quantitative) employed. Qualitative data were collected using in-depth interviews and focus group discussions. Quantitative data information on adult males who reported HIV testing between 2017 and 2022 in Geita DC were collected from the client's medical records using an abstraction form from the Ministry of health-DHIS2 database. Thematic and descriptive analysis were employed for qualitative and quantitative data respectively.

Results: HIV testing uptake among adult males in 2017 to 2022 were 13.1% and 16.3% respectively, 2021 and 2022, testing rates were 11.9% and 16.3% respectively, HIVST accounts for 1.9% in 2021 and 21.97% in 2022. The positivity rates were 5.4% in 2017 and 3.6% in 2022 and linked to CTC service were 56.8% in 2017 and 94.0% in 2022, HIVST accounts for 21.97% of all positive linkage in 2022. Low level of awareness, availability of HIVST supplies, misconception and stigma are factors deterring the use of HIVST.

Conclusion and Recommendations: The study findings suggest that scaling up HIVST could improve the proportion of men reached with HIV self-testing services and improve HIV testing rates among men where uptake of HIV testing remains low. To scale up HIVST the government in collaboration with implementing partners to develop effective HIVST strategies should directly target males independently using peers and their romantic partners.

Keywords: *HIV self-testing, Linkage to care, HIV positivity rate, adult male*

ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral treatment
CTC	Care and treatment clinic
DHS	Demographic and Health Survey
GoT	Government of Tanzania
HIV	Human immunodeficiency virus
HIVST	HIV Self-Testing
HTS	HIV Testing Service
IPs	Implementing Partners
MOHCDGEC	Ministry of Health Community Development, Gender, Elderly and Children
MSM	Men who have Sex with Men
MUHAS	Muhimbili University of Health and Allied Sciences
NACP	National AIDS Control Program
PITC	Provider-Initiated Testing and Counselling
PLHIV	People Living with HIV
PMMEH	Project Management, Monitoring, and Evaluation in Health
R/CHMTs	Regional /Council Health Management Teams
SSA	Sub-Sahara Africa
THIS	Tanzania HIV Impact Survey
UNAIDS	United Nations Program on HIV/AIDS
WHO	World Health Organization
VCT	Voluntary Counselling and Testing

DEFINITION OF KEY TERMS

HIV self-testing (HIVST)

The World Health Organization (WHO) defines **HIVST** as a process in which a person collects their specimen (oral fluid or blood), performs the test, and interprets the result in their own home or other private settings either alone or with someone he or she trusts. HIVST is considered a screening test and does not provide a definitive diagnosis; thus, it requires confirmatory testing [6,10,52]. However, for the study, HIVST refers to only oral HIV self-test kits as the only ones allowed in the country for self-testing [14].

Linkage to Care

Defined as patient entry into specialized HIV care after diagnosis, measured as the time between the HIV diagnosis date and one of the following markers: either the first clinic attendance date, first $CD4^+$ cell count or viral load date, or HIV treatment start date, depending on data availability; Linkage is considered prompt if within 3 months of diagnosis. [18]

The adult male is a male aged 18 years and above [14].

Uptake of HIV testing: the proportion of males offered HIV testing who underwent HIV testing [25, 52].

HIV positivity: the proportion of males who underwent HIV testing and whose results were HIV positive [25, 52].

Linkage to ARV treatment: the proportion of diagnosed HIV-positive participants who were subsequently enrolled in ARV treatment at any time after testing [25,52].

CHAPTER ONE

1.0 INTRODUCTION

1.1 Overview

This chapter provides the background of the study, including a presentation of the problem statement, the conceptual framework, research questions, and objectives. Also, the significance of the study is presented.

1.2 Research Background

Countries have made significant progress towards arching the global goal of 95% of people with HIV knowing their status by 2030 [1]. As of 2021, an estimated 38.4 million people globally were living with HIV with 85% reported to know their status, 75% were accessing treatment, and 68% were virally suppressed [2]. HIV testing services (HTS) are vital for individuals to learn their HIV status and begin antiretroviral therapy (ART) [3]. However, despite significant expansion in HTS over the last decade, uptake remains suboptimal, especially among certain groups. Notably, men are less likely than women to know their HIV status, be on treatment, and achieve viral suppression [4].

In sub-Saharan Africa, 73% of men living with HIV aged 15 years and older are aware of their status compared to 83% of women in the same age group [4]. Among those aware, 86% of men reported using ART, and 84% of those on ART were virally suppressed [5]. Barriers to HIV testing among men include stigma and discrimination, misconceptions about HIV risk, perceived lack of privacy, distance to testing sites, long waiting times, and concerns about confidentiality [6,7,8,20]. Existing conventional HTS have not achieved universal access, particularly among men and other high-risk groups [9]. To address these gaps, the WHO has recommended HIV self-testing (HIVST) as a complementary strategy to existing HTS [10]. Research indicates that HIVST can significantly increase the number of men getting tested for HIV, including first-time testers, older men, vulnerable populations, men who have sex with men (MSM), commercial sex workers, and transgender people [6,10,11,13,20]. HIVST offers advantages such as accessibility, privacy, anonymity, rapid results, and ease of use, and can overcome barriers like stigma and fear of being identified as having HIV [8,10,12,13,17].

Following WHO's 2016 guidelines on HIVST [10], Tanzania adopted HIVST as a national strategy to increase HIV service uptake, especially among men and other hard-to-reach populations. In 2018, Tanzania began piloting HIVST programs implemented by the National AIDS Control Programme (NACP) and donors [6]. Also, in 2019, the government introduced new legislation supporting HIV self-testing licenses around World AIDS Day [14]. The Government of Tanzania (GoT) distributes HIV oral test kits free of charge in collaboration with implementing partners through community-based HTS interventions. These interventions include mobile, home-based, and venue-based testing via an index client approach. Individuals presenting for an HIV test at a facility receive three OraQuick tests: one for themselves, one for their immediate sexual partner, and one for a peer, allowing for independent testing in private. Clients are encouraged to self-report by returning to the test site or visiting an HTS or care and treatment clinic for confirmatory testing if needed. Test results are tracked using unique identifying numbers to monitor reporting, confirmation, and linkage to treatment.

This study aimed to determine whether HIV self-testing (HIVST) increases the uptake of HIV testing, the yield of new HIV-positive diagnoses, and linkage to antiretroviral treatment among men in Geita DC.

1.3 Statement of the Problem

To meet the global targets of 95% of HIV-positive individuals being diagnosed, 95% of those on ART, and 95% of those with viral suppression, HIV testing is essential. Tanzania has developed numerous HIV testing strategies to make HTS more accessible to a variety of people, including men. Despite these investments such as facility testing, community outreach and public campaigns, there are still gaps in our understanding of HIV status, with variations across various populations. THIS 2016-2017 reported that males are continuously less likely to know their HIV status than fictitious females living with HIV (46% versus 57%) and less likely, upon knowing their status, to initiate antiretroviral therapy (ART) (86% versus 92%) [5].

In high HIV burden environments, such as the Geita region with an HIV prevalence of 5.0% above the national average of 4.7% [30]. THIS 2016-2017 reported that fewer men aged 15 and older had ever had their HIV test (59.5%) compared to women of the same age (68.7%), which is lower than the national average of (65.2%) [5]. However, adult males are less likely

to utilize HTS due to several issues, including misunderstanding, stigma, socioeconomic activity, distance to healthcare facilities, hours of operation, and worries about privacy at healthcare facilities [6,7,8,20].

Scaling up HIV prevention, care, and treatment programs in line with the UNAIDS' 95-95-95 target has been challenging due to low HIV testing uptake among adult males [1]. HIV self-testing was recommended by WHO [10,13] to close this gap along with other strategies already in place for increasing males' use of HTS, and Tanzania adopted this strategy in 2019 [71].

HIVST as new interventions raise the potential for expanding access to HIV testing [1,13]. However, little has been known on the contribution of HIVST on the uptake of HIV service among men. To fill that gap of knowledge this study evaluated the contribution of HIV Self-Testing (HIVST) on the uptake of HIV service among adult males and associated factors in the Geita District Council.

1.4 Rationale of the Study

HIVST is widely recognized as an innovative approach that complements traditional facility-based HIV testing by addressing barriers like stigma, privacy concerns, and logistical challenges for men [6,7,10,46,47].

To achieve the 95-95-95 global targets, HIV testing service (HTS) is crucial as early detection opens the door for early treatment initiation and, eventually, control of new infections among individuals [1]. Despite the expansion of HTS over the past decade, the uptake remains suboptimal across various groups. Notably, men are less likely than women to know their HIV status, be on treatment, and achieve viral suppression [1,5,13]

Examining the contribution of HIV self-testing on the uptake of HIV service among adult males in Geita District Council will provide evidence of whether HIV self-testing (HIVST) increases the uptake of HIV testing, the yield of new HIV-positive diagnoses, and the linkage to antiretroviral treatment among adult male in Geita District Council in relation towards archiving the first and second UNAIDS 95-95-95 global targets. Besides, the study will determine factors associated with the uptake of self-testing to help local health authorities (R/CHMTs) and implementing partners in Geita District Council to prioritize the best strategies on the scale up HIVST interventions, particularly among male clients

1.5 Conceptual Framework

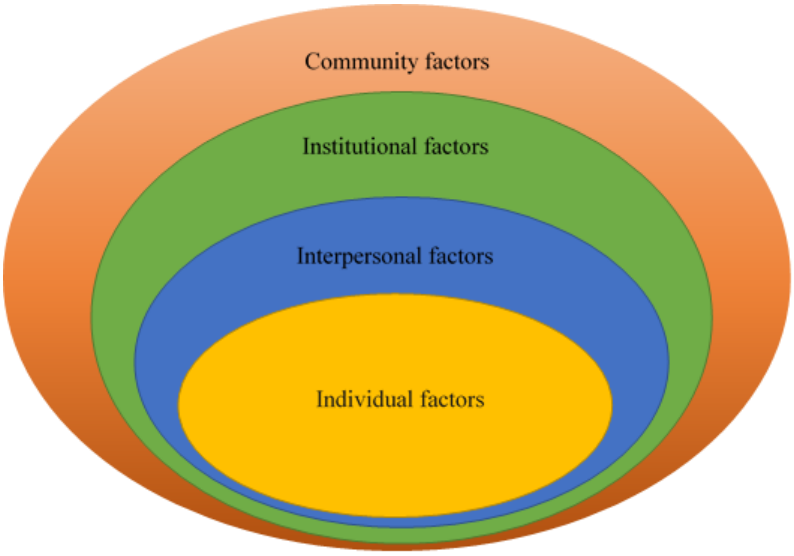
1.5.1 Theoretical Literature Review

This current study reviewed the Social-Ecological Model as it relates to the utilization of healthcare among individuals. To acknowledge the fact that people are both impacted by and affected by a wide variety of social influences and nested environmental interactions, psychologist Urie Bronfenbrenner created the socio-ecological paradigm in the latter 1970s [43].

According to the paradigm, there are four levels: institutional or organizational, community, interpersonal, and intrapersonal or individual elements [44]. Intrapersonal or individual factors include demographic characteristics, socioeconomic status, knowledge and perceived need for HIV service, trust in the health system, and decision-making autonomy. Also, interpersonal factors include social networks and support, for instance stigma and discrimination, partners/family influence, and support systems. Institutional or policy factors refer to health system-related factors like the accessibility of health facility infrastructure and availability of medical equipment, medical staff, availability of clear policy, and proper HIVST mechanisms. Community factors are the relationships between organizations and social institutions like sociocultural issues and appearances, religious beliefs, perceived quality of care/ acceptability of service, stigma, and discrimination [44].

Concerning this study, the social-ecological model is important because it gives focus on factors influencing HIVST uptake among adult males. Figure 1.1 shows that no single factor can explain factors influencing HIVST uptake among adult males and tells the importance of individuals' interactions with their physical environments in determining their health behaviors [44]. The model tries to show the interaction between individuals, the health system, and environmental factors that affect healthcare uptake among individuals. The center and immediate outer cycle of the model connote individual factors while the institutional factors refer to health systems factors and community factors.

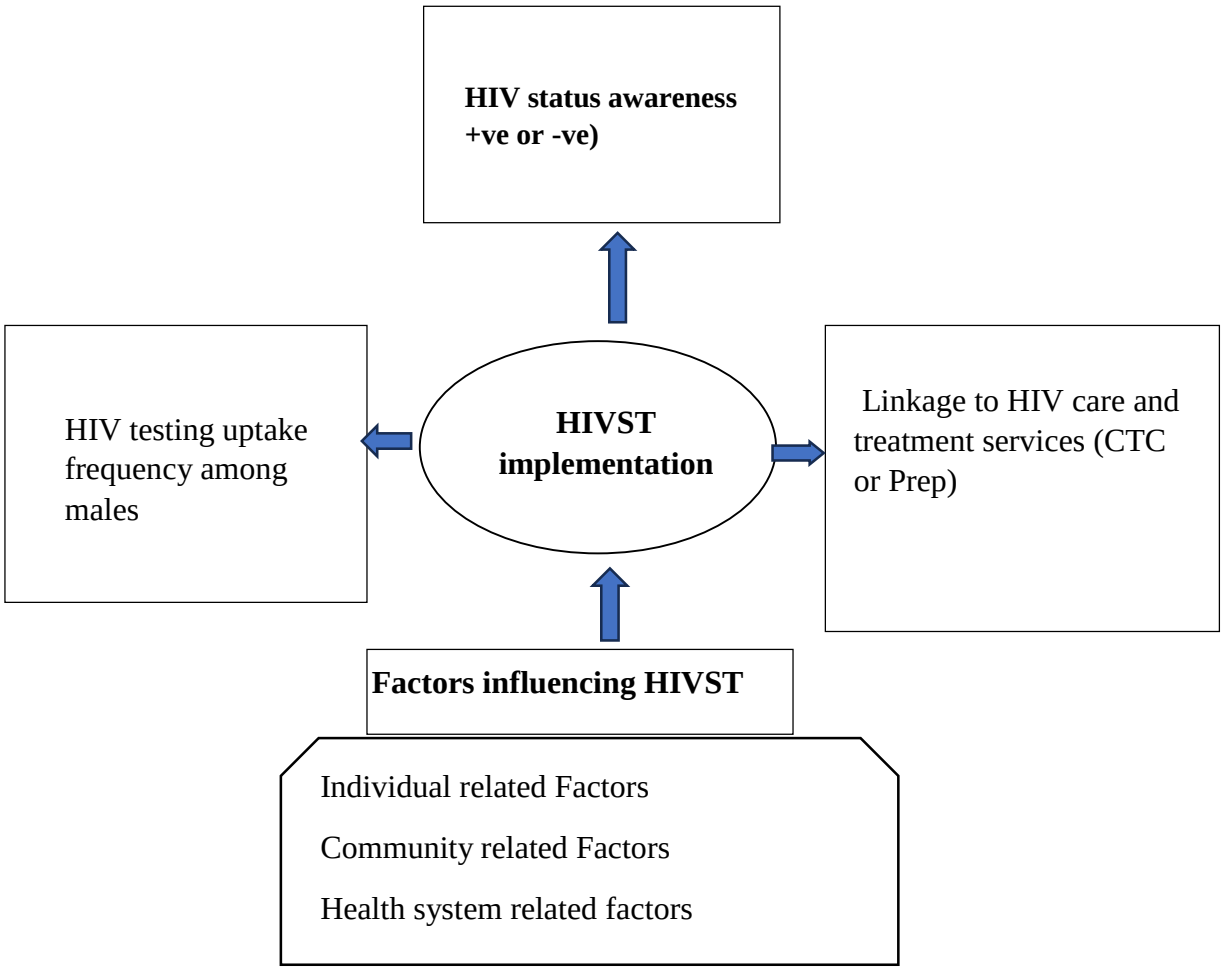
`Figure 1: Modified Bronfenbrenner's Social-Ecological Model [44].



1.5.2 Conceptual Framework

Understanding the implementation of HIVST and its contribution to the uptake of HIV services including HIV testing uptake, knowledge of HIV status (positivity rate) and the linkage into care and treatment (CTC or prep service) among adult males in Tanzania is critical to designing strategies that are specifically targeting males. This current study to inform the decision makers on effective strategies to scale up the implementation of HIVST acknowledge that HIVST impacted by and affected by a wide variety of factor by linking with social-ecological model on figure 1.1. The model tries to show the interaction of individuals, the health system, and environmental factors that affect healthcare uptake of HIVST kits among individuals.

Figure 2. Conceptual Framework to show the contribution of HIVST on the uptake of HIV service and associated factors among adult males



Source: Researcher's own modifications

Independent Variable: HIVST

Dependent (The outcome variables); Uptake of HIV service (HIV testing, yield of HIV positive and linkage to care) among adult males in Geita DC

1.6 Research Questions

1.6.1 Main Research Question

What is the contribution of HIV self-testing on the uptake of HIV service among adult males and associated factors in Geita DC?

1.6.2 Specific Research Questions

1. What is the change in HIV service coverage among adult males in Geita DC after the introduction of HIVST?
2. What are individual factors influencing HIVST uptake among adult males in Geita DC?
3. What are community-related factors influencing HIVST uptake among adult males in Geita DC?
4. What is health system-related factors influencing HIVST uptake among adult males in Geita DC?

1.7 Research Objectives

1.7.1 Main Objective

To determine the contribution of HIV self-testing on the uptake of HIV service among adult males and associated factors in Geita DC.

1.8 Specific Objectives

1. To examine the change in HIV service coverage among adult males in Geita DC after the introduction of HIVST.
2. To assess individual factors influencing HIVST uptake among adult males in Geita DC.
3. To assess community-related factors influencing HIVST uptake among adult males in Geita DC.
4. To assess health system-related factors influencing HIVST uptake among adult males in Geita DC.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

This chapter focuses on a review of available works of literature to gain an understanding of HIVST on the uptake of HIV service and getting information from what other Scholars have studied to establish the knowledge gap of this study.

2.1.1 HIV testing uptake Among Adult Males

UNAIDS reported that in 2021 only 88% of men aged 15+ years living with HIV were aware of their HIV status compared to 93% of women of the same age In Easten and Sothern Africa [73]. In Tanzania THIS 2016-2017 reported that only 45% of men living of HIV were aware of their HIV status [5].

Existing research suggests that by allowing people to test discreetly and conveniently, HIVST may increase the uptake of HIV testing among people not reached by other HIV testing service particularly males, HIVST provides the opportunity for HIV test to first-time testers [6]. One study conducted in Cambodia among key populations indicated that the Uptake of HIVST was high whereby many individuals (72%) who had never previously accessed HIV testing service participated in HIVST, with high rates of reactivity [21].

Systematic reviews from SSA revealed that the HIVST approach has an increased potential for more testers when associated with some intervention implementation concern [41]. For example, the comparison of two Meta-analyses in an RCT among MSM showed that testing frequency with HIVST doubled compared to routine based HCT services [42].

HIVST is highly acceptable among men [71], as reported by various studies. A study examined the acceptability of HIV Self-testing in sub-Saharan Africa, the two trials conducted in Kenya, reported that where women distributed HIVST kits to their male partners, HIVST increased uptake of couples testing compared with the approach of giving male partners invitation letters or vouchers for free HTS [23]. This suggests that men may be more likely to prefer HIVST than facility base HTS [23]. Also, a study of truck drivers

concluded that oral HIVST can be administered independently if the opportunity to ask questions was provided before self-testing [24].

2.1.2 Yield of New HIV-Positive

Globally as more people living with HIV(PLHIV) are diagnosed, finding those who are undiagnosed becomes increasingly difficult, particularly for men. WHO recommended HIVST as additional approach to increase the uptakes of HIV testing services among hard-to-reach populations including men [3,10,13]. The convenient and private nature of HIVST, have the potential to increase uptake and frequency of testing among those less likely to test through standard approaches by overcoming structural and individual barriers including direct and opportunity costs, as well as fear of stigma and discrimination. By attracting those hard-to-reach population such as men and first-time testers, HIVST may lead to the detection of higher numbers of previously undiagnosed infections when compared to standard approaches [13, 52].

HIVST is an important approach to reaching the global target of reaching 95% of people living with HIV being diagnosed [20]. A Nigerian study conducted on the Uptake of HIV self- testing and linkage to treatment among men who have sex with men (MSM), reported an HIV positivity rate of 5.6% among study participants who never tested and contributed to HIV prevalence in the study population [20].

A systematic review of randomized controlled trials (RCTs) which compared HIVST to standard HIV testing in key populations reported that HIVST for MSM and trans people had no effect on HIV positivity among those tested attributed to increased testing frequencies and early diagnosis among previous untested populations [52]. However, in those randomized HIVST doubled the rate of positivity compared to SoC [52].

2.1.3 Linkage into Care and treatment

HIV testing is very important to receive the health care you deserve [3]. In addition, the earlier someone finds out that they are living with HIV, the sooner they can start treatment and have access to assistance programs to help them lower their viral load and are less likely to transmit HIV unknowingly**.**

To fully realize the public health benefits of HIVST programs on the achievements of 95-95-95 global targets, the linked to care and treatment among individuals identified with HIV and without HIV must promptly be linked to HIV prevention services. Research suggests that although free distribution of HIVST kits can overcome the barriers to facility-based testing it may not be sufficient to overcome the challenges of linkage for prevention care and treatment services [80].

There is little evidence on linkage to care rates among HIV self-testers, numerous RCTs studied HIVST detected difference in HIV testing and did not compare linkage to care rates [49]. Few trials did look at the linkage of care reported reduced linkage rates among those who tested HIV-positive in the HIVST arm compared to traditional facility base testing. One RCT conducted in Uganda among female sex workers offered HIVST kits directly by peer educator reported lower risk of linkage rate to care than those in the SOC [78]. Similarly, a study in Kenya, among the eight male partners in the intervention group and four in the SOC who tested HIV-positive reported linkage to care was lower in the HIVST group (0.2% versus 0.7%) at three months [79].

There is also little research on ways to link those who self-test HIV-negative to appropriate preventive services, such as risk reduction counseling and pre-exposure prophylaxis (PrEP) [49]. While risk reduction counseling is included in pre and post-test counseling in traditional HIV testing programs, ensuring that this information is transmitted when people self-test may be more difficult [49].

Studies conducted on the contribution of HIVST and linkage into care suggest that, for HIVST to tackle the current barriers of facility testing including long distance to health facilities and confidentiality should provide an option of home-based confirmatory testing and initiation for ART. One study conducted in Malawi examined the effects of Optional Home Initiation of HIV Care Following HIV Self-testing on Antiretroviral Therapy Initiation Among Adults in Malawi, reported that participants tested from home with HIVST with optional home-based confirmatory testing and initiation of ART were significantly more likely to report a positive result than participants from home-based HIVST with facility-based HIV care [25].

Research suggests that, if HIVST if offered with optional home base care and treatment will increase HIV positivity and linkage to antiretroviral treatment [26]. A systematic review and meta-analysis study conducted in Tanzania revealed that, compared to standard HIV testing service if HIVST will be offered with optional home base care and treatment will increase HIV positivity and linkage to antiretroviral treatment [26].

HIVST to be highly acceptable by users, linkage to HIV treatment can be achieved with active follow-up and by promoting access to health facilities [17]. Further HIV care assessments and ART initiation interventions could be put into place to encourage linkage to confirmatory testing, particularly among those who report positive HIV test results [27].

2.2 Factors Influencing HIVST Uptake Among Adult Males

Several factors have been identified to influence the uptake of HIVST among adult males such as individual factors, community-level factors, facility-level factors, and policy-level factors. These factors may be termed as motivators and barriers to HIVST.

2.2.1 Individual Factors Influencing HIVST Uptake Among Adult Males

Men were more likely than women to be aware of self-testing, and this likelihood also rose with an individual's degree of education and wealth [35], age and health seeking behavior are individual factors associated with the use of HIVST kit [74]. A study conducted among men who attended clinics in Rwanda found that condom use after using drugs or alcohol and awareness of HIV as well as attitude toward HIV testing were indicators of HIV acceptance [12]. Moreover, a study among university students in the Democratic Republic of the Congo found that knowledge of the test's significance, attitude toward pre- and post-test counseling, and a willingness to take the test with a partner were all connected with the HIV test [37].

In Tanzania a study conducted among medical students in Kilimanjaro, indicated five characteristics associated with the acceptance of HIVST, including age group, sexual experience, age of sexual debut, number of lifetime partners, and condom use during the most recent sexual act [38].

2.2.2 Community-Related Factors Influencing HIVST Uptake Among Adult Males

Community-related factors include stigma, perception of the community and attitude, level of community awareness, and nature of economic activities that play a great role in influencing the uptake of HIVST testing either directly or indirectly.

Research have reported that reason why people do not test for HIV among which are fear of stigma and discrimination, perceived low susceptibility, low awareness and access to the testing centers [75, 77]. The introduction of HIV self-testing presents an opportunity to address these barriers, and studies have shown that the acceptability of HIV self-testing is high [74]. Also, there is a significant community readiness to embrace this alternative testing method [76]. However, the extent of awareness and use of HIV self-testing is less understood at a population level [74].

At the community level, misconceptions about HIV care, alongside stigma, can prevent men from seeking testing. Addressing these social determinants is crucial for increasing HIVST uptake. One study from Sub Saharan Africa on men's perception of HIVST reported that men may have realistic assessments that they are at risk, but they may avoid testing because they believe HIV is a death sentence and fear treatment side effect [41]. To complement this another study conducted in South Africa indicated that men perceived public health facilities are unwelcome and assumed that seeking care is more comfortable for women [42].

The uptake of HIVST among men is associated with socioeconomic status, a study conducted in In Botswana reported higher acceptance of HIVST at community level among higher-Socioeconomic Status Men as it perceived to overcome barriers to HIV testing associated with facility based approach, Including masculinity-related concerns such as fear of losing status if they accessed testing or tested for HIV-positive and subject them to shame, gossip, rejection, and loss of their partner and others' respect [40].

The low uptake of HIV testing service among men is also associated with men's nature of economic activities and location of residence [12]. A study conducted in Rwanda among sex workers, fishermen and mainland community members reported that both sex worker and fishermen prefer HIVST due to fear of attending health care clinic and preferred HIVST will

enable them to obtain preliminary results without visiting clinics which were less common in responses from mainland participants [12].

HIVST integrated into community-based HTC offering discreet and convenient testing is highly acceptable among men unlike facility-based testing [7]. One study conducted in Tanzania on Increasing the Uptake of HIV Testing among Men Bar Patrons in the Kilimanjaro region reported that in high HIV burden settings, HIVST is potential for identifying first timer tester and identification of new HIV infections among men [7].

2.2.3 Health System Related Factors Influencing HIVST Uptake Among Adult Males

WHO in one of its policy briefs on improving men's uptake of HIV testing and linkage to service indicated that structural factors such as clinic operating hours, locations of clinics are inconvenient for men who work, and the direct or indirect opportunity costs of obtaining service, such as time lost from work and concerns about confidentiality in health care settings are barriers to testing for men's [13].

The lower cost of HIVST kits and accessibility seems to attract more young people. A study in Nigeria on Young people's preferences for HIV self-testing service identified that one of the HIV self-testing preferences among Nigerian youth appeared to be the lower cost of the test kit and access to the location most of the youth preferred to obtain kits from the peer friendly, pharmacy, private clinic and online [39].

Another study conducted in South Africa, Kenya, and Malawi assessed the constraints and opportunities for HIVST scale-up in Africa and reported that upon scale HIVST testing stakeholders showed interest in introducing HIVST as a method to increase access to testing for hard-to-reach, high-risk populations such as men, MSM, couples and young people, who typically don't access facility-based HTC concerned with stigma, confidentiality and the inconvenience of facility-based HTC [22]. One study assessed the effects of HIV self-testing kits in increasing the uptake of male partner testing among pregnant women attending antenatal clinics in Kenya and reported that providing ANC mothers test kits and improved male invitation letters increased the likelihood of male partner testing by twelve times [8].

These results demonstrate that HIV self-test kits could complement routine HIV testing methods in the general population.

Also, various research was conducted in Tanzania on the uptake of HIVST among males, one study namely 'Mate Yako Afya Yako' described that Men preferred HIVST over facility tests due to privacy, confidentiality, and saving time concerns [6]. Unlike many studies, one study conducted in Tanzania among students in higher learning institutions revealed that there were no exact predictors of HIVST identified due to multicollinearity [36].

Moreover, the availability of HIVST kits to available in public places as reported in the study that men preferred HIVST test kits to be placed in public spaces for pick-up and used in private as an alternative to barriers of facility HTS [40].

2.3 Research Gap

The present study literature review has revealed that several studies have recommended HIV self-testing as a promising intervention for improving adult male uptake of HTS, which was adopted in 2019 in Tanzania, by addressing barriers to facility-based HIV testing service including fear of confidentiality, stigma, and long distance to health facilities; Cassell et al. (2022); Madut et al. (2021); WHO (2021); Kelvin et al. (2018); and Van Rooyen et al. (2015). However, there is limited knowledge of adult males' preferences for HIVST service and potential factors that may influence the uptake of HIVST among this population. According to my best search there was no study conducted in Geita DC. Therefore, this study aims at contributing to fill that gap of knowledge.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Overview

This chapter outlines the research design, setting, population, sampling techniques, and data collection methods employed in the study. Also, the chapter presents data analysis procedures as well as ethical issues.

3.2 Study Design

A pre-and post-evaluation design was used [83], incorporating both qualitative and quantitative methods [84]. The qualitative approach helps gain in-depth information about individual, community, and health system-related factors influencing HIVST uptake among adult males.

A quantitative research approach was used to gather retrospective information based on secondary source records of adult males aged 18 years or above who reported HIV testing in Geita DC from 2017-2022. These are routinely numerically collected data in nature. Only males aged 18 years or older were included, as HIV self-testing is restricted to adults within this age range. The record of adult males was extracted from DHIS2 database monthly summary forms aggregated by facilities information was assessed on the uptake of HIV testing among adult males, the yield of HIV positivity, and linkage into care and treatment.

3.3 Study Area

The study was conducted in the Geita Region, comprises five districts and six councils, one of which is the town council. The region is home to Tanzania's largest Gold Mining industries, Other major sectors in the region are agriculture and fishing. The region has a high HIV prevalence of 5.0% which is above the national average of 4.7% [30]. Also, the region has low viral suppression, 32.4%, and a low percentage 63.9 % of those ever tested for HIV and received their test results which are below the national average of 51.9 % and 65.2% respectively. The study focused on Geita DC as it had the highest percentage (36.9%) of newly diagnosed HIV cases between 2016 and 2022 within the Geita Region (Table 1).

Table 1: Distribution of Newly Tested People Found Infected with HIV Between 2016 and 2022 in Geita Region by Council

Council	Newly Tested People and Found Infected with HIV; 2016 - 2022	
	Total Number	Total Percent
Total	**75076**	**100.0**
Bukombe District	8684	11.6
Chato District	17321	23.1
Geita District	27672	36.9
Geita Town	7868	10.5
Mbogwe District	9913	13.2
Nyang'hwale District	3618	4.8

Source: T-DHIS (2023)

3.4 Study Population

To be able to respond to the objectives of the study, for the secondary data the study population was all adult males aged 18 years or above, who reported HIV testing between 2017 and 2022. For this group, service statistics to determine the proportion of HIV service uptake after the introduction of HIVST among adult males within the specified period in Geita DC were assessed. Also, other targeted populations were healthcare workers providing care and treatment service at the CTC unit and adult males aged 18 years or above living with HIV enrolled in an ongoing ART program and attending care and treatment clinics at selected healthcare facilities. For these groups, factors influencing HIVST uptake among adult males in Geita DC were assessed. It was assumed that healthcare providers at the CTC units and adult males living with HIV enrolled in an ongoing ART program and attending CTCs based on their work experience can easily know the factors influencing HIVST uptake among adult males because they are the ones who interact with clients at the CTCs.

3.5 Inclusion and Exclusion Criteria

Only records of adult males aged 18 years or above who reported HIV self-testing between 2017 and 2022, ART adult males attending CTCs, and healthcare providers at the CTC units in the selected health facilities in Geita DC were included in this study. Records of adult males aged 18 years or above who did not report HIV testing between 2017 and 2022 in Geita DC with missing information were excluded from the study.

3.6 Variables and measurements

3.6.1 Variables

In this study the outcome variable HIV services uptake was measured by assessing the HIV testing coverage among male as the proportion of males offered HIV testing who underwent HIV testing, HIV positivity as the proportion of males who underwent HIV testing and whose results were HIV positive and Linkage to ARV treatment as the proportion of diagnosed HIV-positive participants who were subsequently enrolled in ARV treatment at any time after testing. An independent variable HIVST uptake among male as the proportion of total male reported self-tested for HIV.

3.6.2 Measurements

HIVST uptake among males: the proportion of total male self-tested for HIV

HIV testing coverage among males: the proportion of males offered HIV testing who underwent HIV testing.

HIV positivity: the proportion of males who underwent HIV testing and whose results were HIV positive.

Linkage to ARV treatment: the proportion of diagnosed HIV-positive participants who were subsequently enrolled in ARV treatment at any time after testing.

3.7 Sampling Procedures

3.7.1 Quantitative sampling

To obtained quantitative data, the researcher sampled all records of adult males aged 18 years or above who reported HIV testing in Geita DC between 2017 and 2022.

3.7.2 Qualitative Sampling

To obtain qualitative information, a list of health facilities providing care and treatment service among ART adult males in Geita DC were obtained from the Geita District Executive Director's office. From the list, the researcher used a purposive sampling technique to select four (4) health facilities with the highest volume of ART adult males attending HIV care and treatment service. Then, a purposive sampling technique was employed to obtain healthcare providers working in the selected facilities providing care and treatment service among adult

males living with HIV for interviews. Specifically, the researcher selected healthcare service providers from CTC units preferably CTC in-charges.

To obtain HIV-positive adult males for discussions, the researcher used a convenient sampling technique where an ART adult male visited the unit for ART service as per schedule on the day of the study visit. Therefore, the researcher selected HIV-positive adult males who were easily accessible at the health facility on the day of the study visit. Some HIV-positive adult males whose contacts were available at the facility but are not able to come to the clinic were contacted to come for discussions with the help of client locator forms and adherence support workers. In the beginning, the researcher started with one (1) focus group discussion (FGD) and two (2) in-depth interviews (IDIs) per selected health facility. Then, focus group discussions and interviews at the same facilities continued until the level of saturation of information was reached. Participation in this study was voluntary. In that case, the potential participant was free to accept or refuse to participate in the study by signing a consent form.

3.8 Data Collection Methods

In this study, both primary and secondary data were gathered. The researcher employed in-depth interviews, focus group discussion and abstraction form methods to acquire detailed and sufficient data for analysis and report writing.

3.8.1 In-Depth Interviews

A face-to-face in-depth interview (IDI) approach was employed, targeting healthcare service providers working in the CTC units and ART adult male attended CTC service at selected health facility. The researcher encouraged participants to share their experiences and views on care and treatment service among ART adult males at their health facilities. IDIs were chosen for their flexibility, which facilitates the collection of detailed information on both individual and health facility factors influencing HIVST uptake among adult males. The interviews were conducted in private spaces to ensure participants felt comfortable sharing information. An interview guide was used to ensure systematic and comprehensive data collection. Each interview lasted an average of 45 minutes and was conducted in Swahili to avoid language barriers. The researcher took notes of the main responses, and, with

participants' permission, audio recorded the interviews to capture exact responses. After data collection, the audio recordings were transcribed into word documents for data analysis.

3.8.2 Focus Group Discussion

The focus group discussions (FGDs) were conducted to gather information in a group setting whereby participants can build on each other's contributions using the dynamics of a conversational setting. FGDs were used to complement and triangulate information obtained from in-depth interviews. CTCs health personnel helped the researcher to invite the ART adult males who come for CTC service at the selected health facilities to join the FGDs. Each FGD session had six (6) to 12 participants, plus the moderator and a note taker. The FGD guide was used during group discussions to ensure the same information is obtained systematically and comprehensively.

The FGDs sessions were held in the health facility, in a venue free from distractions and interruptions. The moderator and the note taker introduced themselves, explained to the group the purpose of the discussion, and asked the participants to introduce themselves when all the participants arrived. Then, the participants were assigned identifier numbers to observe anonymity. The FGDs seating setting was a circle. Swahili was used as a discussion language to avoid language barriers. The discussion started with general questions, then on individual and health facility-related factors influencing HIVST uptake among adult males in Geita DC.

Throughout the FGD session, the moderator remained neutral while encouraging everyone to participate in the discussion. With permission from the participants, the FGDs sessions were audio recorded to capture the information as accurately as possible. The FGD session took an average of one hour. After data collection, the audio recorded files were transcribed verbatim to make word document. The transcripts were translated into English ready for analysis.

3.8.3 Abstraction Form

Information on adult males aged 18 years or above who reported HIV testing between 2017 and 2022 in Geita DC were collected from the client's medical records using an abstraction form from the DHIS2 database.

Data on the uptake of HIV testing among adult males collected, were the proportion of adult males aged 18 years or above tested in Geita DC. The yield of new HIV-positive diagnoses among males includes the percentage of newly tested males found HIV-positive. The proportion of males tested and found HIV-positive who are undergoing HIV care and treatment service were collected for linkage purposes. The abstraction form mirrored information from the DHIS2 reporting forms. The forms were directly filled out on excel software. The Geita District Medical Officer was informed about the study to allow voluntary participation and informed consent.

3.9 Validity, Reliability and trustworthiness of the Study

3.9.1 validity and reliability of the study in quantitative data

To ensure the validity and reliability of the study in quantitative data, the researcher extracted secondary data from DHIS2 database and client facility register. Also, methodical validation is used by employing IDIs and FGDs methods. All aggregated data was validated using HIV testing service summary reports for both community and facility-based HIV testing. Also, the researcher completed a desk review of clients' information obtained from the DHIS2 database in editing any inconsistencies.

3.9.2 Trustworthiness of the qualitative findings

According to Lincoln and Guba (1989), ensuring trustworthiness is crucial in establishing the credibility and reliability of qualitative findings by focusing on the four elements such as credibility, transferability, dependability, and confirmability [81]. Credibility was ensured through prolonged engagement by spending adequate time in the field and building rapport with participants. To ensure transferability the researcher provides detailed contextual information to enable readers to assess the transferability of findings by describing the research context, participants, and methods. To ensure dependability of the finding's researcher detail the research procedures and decisions made during the study by documenting each step of the research process. Researchers engage colleagues and experts to review interpretations and findings and keeping records of personal thoughts and reflection throughout the study to minimize bias and ensure confirmability of the data.

3.10 Data Management and Analysis

Data management and analysis were conducted separately for qualitative and quantitative data.

3.10.1 Quantitative Data

Data was edited through a review of both the DHIS2 database and the client summary register. The data was first collected on excel software and later imported to IBM Statistical Package for Social Sciences (SPSS) Version 25 for further cleaning, verification, validation, and tabulation to ensure precise and accurate data for analysis. Then, descriptive statistics analysis was done to determine the frequencies and percentage proportions among variables.

3.10.2 Qualitative Data

The researcher transcribed all the audio from interviews and discussions to create narrative text transcripts. Then, read and re-read the transcripts to be familiar with the data. After being familiar with the data, the researcher allocated preliminary codes to the data to generate the themes from the codes by joining similar themes. The study objectives served as the foundation for the creation of early codes that act as a framework for text coding. Every section that was related to the important aspects was assigned a tentative thematic code. The researcher then reviews, defines, refines, and names the themes to generate different study themes from the common themes showing similarity among categories. The main themes were used to describe the findings along with the objectives of the study. The researcher further comprehends the quotes that arose during the interviews and discussions.

Table 2. Data Reduction Matrix

Code	Sub-theme	Theme
● Married males prefer HIVST because it gives a room for privacy during testing ● Other male afraid to use HIVST for fear of being discriminated against by their spouse and family members if results are positive. ● Low uptake of HIVST at home and facility due to lack of trust among partners in marriage	Demographic features of the adult males	Individual-related factors influencing HIVST uptake among adult males
● Lack of time to seek for HIVST tools ● There is low uptake of HIVST among men because they are busy with work and don't have time to attend HIVST campaigns compared to women.	Socioeconomic status of the adult males	
● Adult males hear about HIVST from the radio and other male attend CTC for ART.	Media exposure	
● Adult male with multiple sexual partners uses HIVST to have unprotected sex.	Number of sexual partners	

3.11 Protocol and Ethical Consideration

The researcher observed all the important procedures. Approval with Ref. No. DA.2821298101.Cl 17 93 to conduct the study was sought and granted by the Muhimbili University of Health and Allied Sciences (MUHAS), Institutional Review Body (IRB). The researcher obtained a permit to conduct the research in the Geita DC from the District Executive Director (DED) informed the District Medical Officer (DMO) to allow the researcher to collect information on adult males aged 18 years or above who reported HIV testing between 2017 and 2022 in the district from the client's medical records using an abstraction form from DHIS-2 database and patient register and request the selected healthcare facilities' authorities to permit the researcher to conduct research at their respective healthcare facilities. Thereafter, the researcher requested respective healthcare facilities' authorities to permit the study to be conducted in their healthcare facilities.

Participants were informed about the study to allow voluntary participation and informed consent. To ensure confidentiality, patient records were assigned unique identifying numbers to maintain anonymity.

3.12 Study Limitation and Mitigation

3.12.1 Study Limitation

Since the study gathered secondary data, there may be missing data on the DHIS2 database. To minimize this limitation, a desk review of clients' files to account for any missing data from the DHIS2 database was deployed.

HIVST due to its self-reported nature is subjected to social disability bias, participants may have over-reported HIVST uptake thus overestimate the uptake and underestimate HIV positivity rates.

In addition, the findings cannot be generalized beyond the Geita region due to different settings and populations.

3.12.2 Study Mitigation

To minimize the limitation of missing data, a desk review of clients' files to account for any missing data from the DHIS2 database was deployed.

The researcher, to minimize the social disability biases, reviewed only the data recorded through self-test register or logbook. Since HIV self-testing is only a screening test only returned kits and confirmatory tests are including as diagnostic testing.

Though the findings of this current study cannot be generalized to other settings and population, the findings can be utilized to enhance and inform future studies.

CHAPTER FOUR

4.0 RESULTS

4.1 Overview

This chapter presents the results of the study that assessed the contribution of HIV self-testing (HIVST) on the uptake of HIV service and associated factors among adult males in Geita District Council (DC). It presents the statistical data of the proportion of HIV service uptake after the introduction of HIVST among adult males in Geita District Council compared to before. Also assessed the factors influencing the uptake of HIVST, four themes emerged from the analysis of in-depth interviews (IDIs) and focus group discussions (FGDs) that influenced HIVST uptake. These are individual, community, and health system-related factors, as well as barriers to HIVST uptake among adult males as summarized in Table 4.1.

4.2 HIV Service Uptake After Introduction of HIVST Among Adult Males in Geita Dc Compared to before.

This section presents the proportion of HIV service uptake following the introduction of HIV self-testing (HIVST) among adult males in Geita District Council (DC). While HIVST is available to individuals aged 18 and above, this analysis focused on adult males aged 20 and above. This is because the DHIS-2 database records individuals aged 18 and 19 within a broader age group of 15-19, making it impossible to isolate specific data for those ages. Although HIVST was introduced nationwide in Tanzania in 2019, there are no HIVST records for Geita DC for the years 2019 and 2020 in the DHIS-2 database. The following subsections detail the uptake of HIV testing among adult males, the proportion of adult males who tested positive for HIV, and the linkage to care among those who tested positive in Geita DC.

4.2.1 HIV Testing Among Adult Males

Figure 3, illustrates the percentage distribution of adult males tested for HIV from 2017 to 2022. The data shows that HIV testing rates were notably high in 2019 and 2020, at 22.7% and 26.0% respectively, with a significant drop to 10.0% in 2020. Following the implementation of HIVST, there was a slight increase in testing rates among adult males, reaching 16.3% in 2022 whereby HIVST accounts for 2.41% in 2021 and 4.3% in 2022 of

all testing. Further, the study reveals that nearly all adult males received counseling before and after HIV testing throughout the years, with the counseling rates ranging from 99.1% in 2017 to 100.0% in 2021, and 99.4% in 2022.

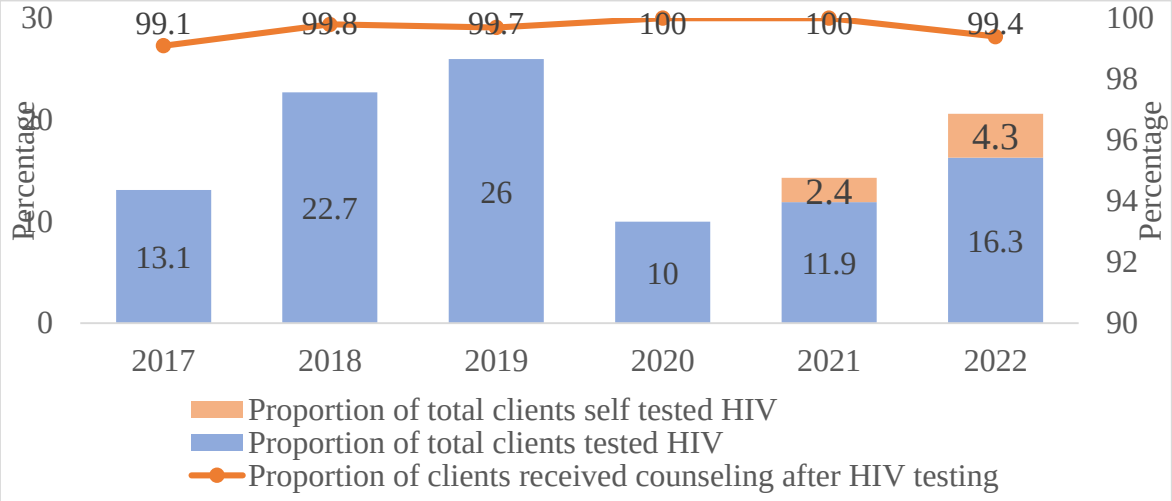


Figure 3.: Percentage of Adult Males Tested for HIV and Proportion of Clients that Received Counselling after HIV Testing Between 2017 and 2022. Source: (DHIS2-2023)

4.2.2 Proportion of Adult Males Who Tested HIV Positive

The study results show a rapid increase in the proportion of adult males who tested positive for HIV before the implementation of HIVST, rising from 3.4% in 2018 to 10.9% in 2020. However, after the introduction of HIVST, the proportion of adult males who tested positive for HIV significantly dropped, reaching 6.2% in 2021 and 3.6% in 2022 whereby HIVST account for 1.9% in 2021 and 21.97 of all positive tested results (Figure 4).

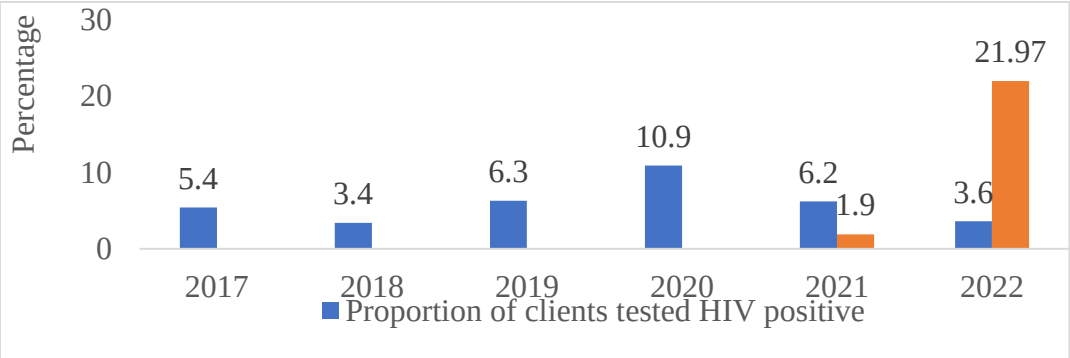


Figure 4: Proportion of Clients Tested HIV Positive Between 2017 and 2022(DHIS 2, 2023)

4.2.3 Linkage into Care Among Adult Males Who Test Positive

The study results, depicted in Figure 4.3, show the proportion of clients who tested HIV positive and linked to CTC service before and after implementing HIVST between 2017 and 2022. Initially, the proportion was low, particularly in 2017 and 2018, at 56.8% and 75.0%, respectively. However, there was a significant increase in the proportion of clients linked to CTC service, rising from 56.8% in 2017 to 91.5% in 2019. Notably, the highest proportion of clients linked to CTC service was observed in the second year after implementing HIVST, reaching 94.0% in 2022 whereby HIVST accounts for 21.97% of all positive linkage in 2022.

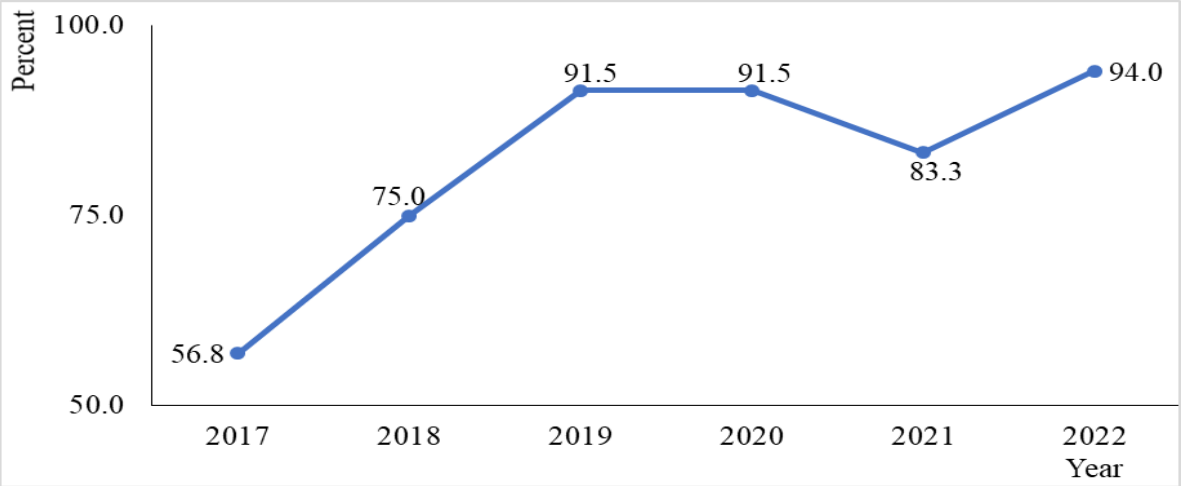


Figure 5. The Proportion of Clients Tested HIV Positive and Linked to CTC Between 2017 and 2022 Source: Field Survey (2022)

Table 3: HIV Service Uptake After Introduction of HIVST Among Adult Males in Geita Dc compared to before.

HIV Testing Service Among Adult Males Aged 20+	Year						Total	
	2017		2018	2019	2020	2021	2022	% of Adult Males	Number
Proportion of new clients tested HIV	13.8	22.6		27.8	10.6	10.9	14.3	100	152079
Proportion of new clients received counselling after HIV testing	99.3	99.8		99.7	100	100	99.5	99.8	151765
Proportion of new clients who tested HIV positive	6.3	3.9		7	11.4	6.7	3.7	6.2	9359
Proportion of clients for second visits	11.6	23		22.1	8.6	14	20.7	100	72136
Proportion of 2nd time clients received counseling after HIV testing	98.5	99.9		99.6	99.9	99.3	99.2	99.4	71737
Proportion of 2nd time clients who tested HIV positive	3.1	2.3		4.6	9.8	5.5	3.4	4.2	3027
Proportion of total clients tested HIV	13.1	22.7		26	10	11.9	16.3	100	224215
Proportion of total clients received counseling after HIV testing	99.1	99.8		99.7	100	100	99.4	99.7	223502
Proportion of total clients tested HIV positive	5.4	3.4		6.3	10.9	6.2	3.6	5.5	12386
Proportion of total clients tested HIV positive and linked to CTC	56.8	75		91.5	91.5	83.3	94	84	10401
Proportion of total clients self-tested HIV						2.4	4.3	2.5	1577
Proportion of clients self-tested HIV positive after confirmatory test						1.9	21.97	10.7	318

4.3 Individual related factors influencing HIVST uptake among adult males

Four sub-themes emerged under this theme. These include marital status, socio-economic status, media exposure and number of sexual partners.

4.3.1 Martial status

Participants revealed that marital status influencing HIVST uptake among adult males. Most married men expressed fear of discrimination by their spouses and family members if their test results were positive. This fear significantly deters them from opting for HIV facility base testing. One ART participant highlighted this concern, emphasizing the stigma and potential family repercussions associated with a positive HIV diagnosis.

> *"Some married males use HIVST fearing to be noticed by their spouses if they go to the facility for an HIV test. Therefore, they secretly find the HIVST tools and test themselves secretly without informing their spouses. Many married males use HIVST more than those who are not married because they fear being discriminated against by their spouses and families when they are noticed to be going to the facility for HIV testing. So, they opt to do it secretly by using the HIVST" [IDI with ART Adult Male]*

4.3.2 Socio-economic Status

In Geita district, most adult men primarily engage in mining, fishing, and agricultural activities. Participants noted that these men often lack time to seek HIVST kits due to their demanding economic activities. In addition, the uptake of HIVST among adult men is low because HIVST kits are not readily available in their working environment. This suggests that more targeted efforts are needed to reach this group, particularly by making HIVST kits more accessible in their work environments.

> *"Many adult males are busy with economic activities, and they don't have time to find HIVST tools. Some are in the mines for mining activities, and some are on the islands busy with fishing activities. Therefore, some of them don't have time to find the HIVST tools. I believe more males would be using HIVST if the tools are provided to the place where they work" [IDI with ART Adult Male]*

4.3.3 Media Exposure

Media exposure plays a crucial role in influencing the uptake of HIV self-testing (HIVST) among adult men (32). Findings indicate that adult males often learn about HIVST from radio broadcasts and during visits to Care and Treatment Clinics (CTCs) for antiretroviral therapy (ART) service. One interviewee stated;

> *"Most males go for HIVST after they hear about it through the media, like radio, or from other people. When ART males come to the CTC, they are educated about HIVST. Thus, when they return to their communities, they spread that knowledge to other males. Many males get information about HIVST through other males who have already used it, and many like it" [IDI with ART Adult Male].*

4.3.4 Number of sexual partners

The impact of the number of sexual partners on HIVST is multifaceted and significant. Most of the participants revealed that adult men with multiple sexual partners use HIVST to know their HIV status because they often have unprotected sex, and they obtain the HIVST kits from pharmacies as reported by one of ART participants.

> *"Some males with multiple sexual partners are not sure about their HIV status. Many of them often use HIVST to know their HIV status. Most of males who buy the HIVST tools from the pharmacies are those with multiple sexual partners especially if they have unprotected sex" [IDI with ART Adult Male]*

4.4 Community-related factors influencing HIVST uptake among adult males

Four sub-themes emerged in this theme. These are: stigma and discrimination; community perceptions and attitudes; misperception of HIV care and treatment; and level of community health literacy on HIV.

4.4.1 Stigma and Discrimination

Stigma and discrimination remain significant barriers to the uptake of HIV self-testing (HIVST). These social challenges impact individuals' willingness to seek testing, disclose their status, and access necessary care [32, 33, 37]. In this study, participants revealed that people, especially adult men, refuse to test HIV for fear of disclosing their health status to

the public, afraid of being stigmatized and discriminated against and marriage breakup if they are HIV positive as explained in two different focus group discussions (FGDs).

> *"Some men don't test for fear of being stigmatized and discriminated against in society when they are found to be HIV positive. Some community members have the habit of stigmatizing PLHIV and disclosing their HIV status in public. This is why some men don't come for HIVST" [FGD with ART Adult Males]*

4.4.2 Community Perception and Attitude

Community perceptions and attitude towards HIVST are influenced by awareness, perceived benefits, concerns about accuracy, stigma, cultural and gender dynamics, the role of healthcare providers, and economic considerations [32]. This study reveals that most men are not aware of HIVST, and those who are aware often do not trust it because it involves swabbing saliva instead of drawing blood. Also, there is a misconception that men are less susceptible to HIV infection compared to women. Overall, these factors suggest a low awareness of the importance of HIV testing among men. This can be addressed through targeted education, community engagement, stigma reduction, and economic support that can significantly improve the acceptance and uptake of HIVST in the region.

> *"Most males don't know about HIVST in this community. They know about the traditional method that involves drawing blood from the fingers. A few males have knowledge about HIVST in this community. So, most males don't use it because they don't trust it because it only involves saliva test and blood" [FGD with ART Adult Males] [FGD with ART Adult Males]*

4.4.3 Misperception of HIV Care and Treatment

Misperceptions about HIV care and treatment can significantly impact the acceptance and use of HIV self-testing (HIVST). These misconceptions often stem from a lack of accurate information and prevailing stigma [40]. Participants in this study revealed that the community does not trust HIVST, believing it produces false results because it tests saliva

rather than blood. Further to that, some people believe that traditional healers can cure HIV, or that there is no need to test for HIV because, if infected, they will be cured through prayer.

> "Society *doesn't trust HIVST. People perceive that the HIVST doesn't provide the correct results because it doesn't involve drawing blood from the finger." [FGD with ART Adult Males]*

4.4.4 Level of Community Health Literacy on HIV

The level of community health literacy on HIV has a significant impact on the uptake and effectiveness of HIV self-testing (HIVST). The higher the level of health literacy the more awareness and knowledge of HIVST as an option, and the more likely to understand how to use self-test kits correctly, interpret results accurately, and know the next steps to take based on their results [39]. Participants of this study revealed low awareness of HIVST, limited time to visit health facilities and willingness to test for HIV which leads to low uptake of HIVST among adult males. This suggests a low level of community health literacy on HIV.

> *"Education on HIVST isn't well received by everyone in this community, especially men. Most males think that they must go to the facility to test HIV status and not all have the time and willingness to come to the facilities. This is why the number of HIVST uptake among males is still low because only a few are aware of HIVST in the community. Education on HIVST should be emphasized" [FGD with ART Adult Males]*

4.5 Health system-related factors influencing HIVST uptake among adult males in the facility

Four sub-themes emerged from this theme including distance to a health facility, availability of HIVST essential supplies, level of privacy and confidentiality at the facility, and Waiting time (hours).

4.5.1 Distance to a Health Facility

Distance to a health facility can significantly influence the uptake of HIV self-testing (HIVST), as individuals living far from health facilities are more likely to adopt HIVST due

to its convenience and privacy compared to traditional facility-based testing [36]. In this study, participants assert that some people prefer HIVST because health facilities are located very far, making it easy and convenient to self-test. This implies that transport costs hinder individuals from accessing health facilities for testing.

> *"Some people opt for HIVST just because the health facilities are located far away from their areas. They think it is better to test themselves because it is easy and convenient for them. So, what they do is just to come, take the HIVST tools, and be told […] how to use them by themselves. For example, sometimes we visit communities and screen people, but it becomes difficult to bring them to the facility because of transport, so we provide them with HIVST essential supplies for them to test themselves at home." [KII with CTC In-Charge]*

On the other hand, some individuals do not prefer HIVST due to the lack of essential supplies, especially in remote areas, as exemplified in one of the key informant interviews.

> *"Some people don't use HIVST because the essential supplies aren't easily accessible, especially in remote areas. Some dispensaries in rural areas don't get the HIVST essential supplies. This means that most people in those areas don't use HIVST because the supplies aren't available." [KII with CTC In-Charge]*

4.6 Availability of HIVST Essential Supplies

The availability of essential supplies for HIV self-testing (HIVST) plays a critical role in its uptake and effectiveness [51]. Participants in this study indicated that health workers distribute HIVST kits during community visits, but the kits often get depleted before reaching their intended destinations. Consequently, only individuals who live nearby can access these essential supplies. This suggests a significant inadequacy in the provision of HIVST supplies. One key informant participant said this:

> *"Other adult males fail to use HIVST because the essential supplies are not easily accessible to them. Some males live in remote places that aren't easily accessible. Sometimes some HIVST essential supplies perish on the way to those places because*

it takes a long time to get there. This is why you find that most adult males who use HIVST or come to the facility for HIV testing are those who live near the health facilities because the HIVST essential supplies are easily accessible to them" [KII with CTC In-Charge]

4.6.1 Level of Privacy and Confidentiality at the Facility

Privacy and confidentiality concerns at health facilities can significantly influence the uptake of HIV self-testing (HIVST) [34]. In this study, participants indicated that some individuals do not prefer HIVST over health facility testing due to fears that known health workers might discuss their results with others, suggesting a low level of privacy and confidentiality. This concern was emphasized in one of the focus group discussions with ART adult men.

"I think some people don't use HIVST because the service providers don't care about confidentiality. For example, most of us don't like to be served by service providers who know us because they may spread information about our HIV status. So, if a person knows that the service provider knows him, he opts not to go because he doesn't trust them to keep it confidential." [FGD with ART Adult Males]

4.6.2 Waiting Time

Long waiting times can deter individuals from seeking facility-based testing, making HIVST a more attractive option due to its convenience and immediacy [49]. Most participants in the current study revealed that poor internet connections and prolonged waiting time discourage individuals from seeking HIVST at health facilities as exemplified in one of FGD sessions held with ART adult men.

"I think currently, other people decide not to come to the facility because they don't want to stay there for a long time. In the past, the service was provided on time. The waiting time was reasonable. Currently, you may get there and be told that there is a network problem because the biometric equipment requires the network" [FGD with ART Adult Males]

4.7 Barriers to HIVST uptake among adult Males in the Community

Participants in this study pointed out main the barriers to HIVST uptake include lack of awareness and knowledge, spouses refuting their male partners taking HIVST perceiving by doing so are unfaithful, and some men deny taking HIVST because are already using ART and have not informed their spouses for fear to break their marriages.

> *"Some couples have no understanding of HIVST. Some males are rejected by their spouses to use HIVST. Some women believe that their spouses are not faithful in their marriages when they see them opting to use HIVST and not going to the health facility. Some males are even using ART medicines secretly without informing their spouses because disclosing their HIV status may break their marital relationships" [IDI with ART Adult Male]*

Participants in this study identified several key barriers to the uptake of HIV self-testing (HIVST) among adult males. These barriers include: first, lack of awareness and knowledge as many participants indicated that there is a general lack of understanding about HIVST, its benefits, and how it works. This lack of information significantly hinders its adoption. Second, spouse rejection. Some men face resistance from their wives when they attempt to use HIVST kits. This resistance often stems from a perception that opting for self-testing indicates infidelity. Women may suspect that their husbands are unfaithful if they choose HIVST over visiting a health facility. Third, secrecy and fear of marital disruption. Some men who are already on antiretroviral therapy (ART) use HIVST kits secretly because they have not disclosed their HIV status to their spouses. They fear that revealing their status may jeopardize their marriages

CHAPTER FIVE

5.0 DISCUSSION

5.1 Overview

This chapter discusses the impact of HIV self-testing (HIVST) on HIV service uptake and factors influencing its adoption among adult males in Geita District Council. The discussion is guided by results of the changes in the uptake of HIV service after the introduction of HIVST and the themes that emerged from the results. These are derived from individual, community and health system factors influencing HIVST uptake among adult males, among adult males in Geita District Council.

5.1.1 Uptake of HIV Testing

After the introduction of HIVST, there was a notable increase in the uptake of HIV testing among adult males in 2021 and 2022 at 11.9% and 16.3% respectively this is corresponding with a study conducted in Malawi found that community-based HIVST interventions led to higher HIV testing rates even though not only HIVST attributed to the increase [33].

The HIV testing rates peaked at 22.7% in 2018 and 26.0% in 2019, following an increase from 13.1% in 2017. However, this trend reversed in 2020, dropping to 10.0%. The increase was associated with the GoT efforts to increase HIV testing uptake among men following low uptake of HIV testing among men as reported by THIS 2016-2017. In response to that Got lunched a Test and treat campaign in June 2018 aimed on reaching men and developed the 2018-2020 Male Catch-Up plan. The campaign outcome resulted in higher HIV testing between 2018 & 2019 [58].

Results show that despite the increase in uptake of HIV testing still the uptake of HVIST is accounting for only 2.4% in 2021 and 4.3% in 2022 of all tests. Similarly, a study conducted in Malawi and Zimbabwe reported 1.0% and 1.2% respectively having ever taken HIVST in a population-based survey [42] comparatively a study conducted in Kenya reported 4.0% reported having ever had HIVST among survey respondents [70]. This implies that regardless of the promising future of HIVST to doubling the results [10] and higher taking uptake of HIVST kit reported during randomized control trials [6,7,11,47] still there is the

need to invest in more research on which strategies effective for scaling up the use HIVST kits and to reach its ended objective of doubling the result.

5.2 Knowledge of HIV status among adult males

HIVST perceived for being an innovative and high-impact strategy to increase HIV-case identification [10]. The study findings reveal that the HIV positivity trend was 5.4% to 3.6% from 2017 to 2022 respectively whereby HIVST accounts for 1.9% in 2021 and 21.97% in 2022 of all positivity. The positivity rate is highly associated with testing uptake when the testing rate is higher, the lower the positivity as observed in 2018 and the lower testing rate the higher positivity rate as observed in 2020 reached 10.9% positivity rate.

The current study shows that the proportion of adult males testing HIV-positive decreased after the introduction of HIVST significantly dropped from 10.9% in 20220, reaching 6.2% in 2021 and 3.6% in 2022. This is in line with the systematic review and meta-analysis comparing the effects of HIV self-testing to standard HIV testing for key populations found that the introduction of HIVST was associated with a reduction on the proportion of individuals testing HIV-positive attributed to increased testing frequencies and early diagnosis among previous untested populations, particularly men [52]. The lower yield observed might be related to several factors such as testing might not be able to target key populations, due to stigma [82] or despite the relatively low timeframe, this could reflect a general reduction of HIV incidence in Tanzania, as described for SSA [4].

5.3 Increase Linkage Rates to CTC Services

Initial linkage rates to CTC services were low, but there was a significant increase with the introduction of HIVST in 2019. The highest proportion of clients linked to CTC services was observed in 2022, reaching 94.0% and HIVST accounts for 10.7%. Similar trends were observed in the STAR initiative in Malawi reveled notably 27% increase in ART initiations after the introduction of HIVST [36] and the SEARCH study in Uganda and Kenya. These findings suggest that HIVST initiatives can significantly improve testing rates and linkage to care among adult males, aligning with literature that emphasizes the importance of targeted interventions, media campaigns, and community-based approaches to increase HIVST uptake and reduce HIV transmission [69].

5.4 Individual factors influencing the uptake of HIST

This study revealed that Marital status, occupation, media exposure and number of sexual partners are key determinants for HIVST uptake among adult males. Comparatively a Study on randomized controlled trials found that HIVST significantly improved testing uptake among married men by addressing stigma, confidentiality concerns, and the inconvenience of traditional health facilities [49]. Another study conducted in Philippines also reported that employment status significantly impacts HIVST uptake, with permanently employed men more likely to participate in HIVST due to better access to resources and health information [50]. Conversely, those in precarious employment have less time and access to HIVST due to irregular work schedules and economic instability. In regions with high economic activities, such as Geita district, targeted efforts to improve the availability and accessibility of HIVST kits could significantly increase uptake among busy workers.

Adult males often learn about HIVST from radio broadcasts and visits to Care and Treatment Clinics (CTCs). Effective media campaigns on the availability, benefits, and procedures of HIVST help clarify the process and alleviate associated fears. A study on the impact of the media on the HIVST uptake found that media campaigns using television, radio, and social media significantly increased knowledge about HIVST among men, leading to higher testing rates [31].

Adult males with multiple sexual partners often use HIVST to know their HIV status due to the higher perceived risk of HIV infection. Similar studies in Tanzania [62] and Malawi [33] on the uptake of HIST found that people with multiple sexual partners were more likely to use HIVST compared to those with fewer partners, primarily due to heightened awareness of their risk status and the need for regular testing.

5.5 Community factors Influencing the uptake of HIVST

5.5.1 Stigma and Discrimination

Study findings uncover that stigma and discrimination, community perceptions and attitude and the level of community health knowledge of HIV are key determinants for HIVST uptake among men at community level. Adult men often refuse HIV testing due to fears of

public disclosure, stigma, discrimination, and marriage breakup. A Botswana study on HIVST identified stigma, inconvenience, and perceived lack of confidentiality as barriers [40]. Similarly, a study conducted in Zimbabwe found that despite the anonymity of HIVST, fear of social repercussions still affects the willingness to test [36]. Community-based interventions with peer education significantly reduced stigma and increased HIVST uptake.

Many men are unaware of HIVST, and those who are aware often do not trust it because it involves swabbing saliva instead of drawing blood. Another study in Kenya found that while HIVST was generally accepted, there was a need for more education to address gaps in knowledge and improve confidence in self-testing [37]. Others believe traditional healers can cure HIV or that prayer will cure them, negating the need for testing. A systematic review conducted on factors enabling and deterring uptake of HIV self-testing in Africa found common concerns about the reliability of self-testing results despite evidence supporting their accuracy [38].

The rate of HIVST uptake is relatively higher among health-aware adult males. This highlights the importance of improving health awareness to enhance the adoption of HIVST and ultimately improve early detection and treatment outcomes. A study conducted in the Democratic Republic of Congo found that knowledge of HIV testing, attitudes toward pre- and post-test counseling, and a willingness to test with a partner were all connected with the HIV self-test [37] this align with a study by AIDS Care (2017) found that stigma and privacy concerns were bigger obstacles than knowledge itself in a community with high knowledge rates. Conversely, a study conducted in Malawi found that although many men had heard about HIVST, there was a significant gap in understanding how to properly use the kits and interpret the results [40].

5.6 Health-system related factors influencing the uptake of HIVST

This current study reveals that health-system related factors influencing the uptake of HIVST are perceived lack of confidentiality, distance to health facility, clinic long waiting hours and the availability of HIVST essential. HIVST offers greater privacy and confidentiality compared to visiting a healthcare facility some men prefer HIVST due to fears that health workers might discuss their results with others. Similarly, a study in Kenya found that men preferred HIVST over facility-based testing due to the perceived higher privacy and

confidentiality. However, a literature reviews on the attitude and acceptability of HIVST among key populations found that concerns about privacy and the potential for unintended disclosure deterred some people from using HIVST [34].

Some individuals prefer HIVST because health facilities are located very far away, making it easy and convenient to test. The study by in Malawi and Zimbabwe found that individuals residing in remote areas preferred HIVST because it eliminated the need to travel long distances to health facilities [45].

There is a significant inadequacy in the provision of HIVST supplies. This is in line with a study in Malalwi and Zimbambwe found that stockouts and supply chain issues negatively impacted the uptake of HIVST, especially in rural areas where access to healthcare facilities is already limited [45].

Poor internet connections coupled with prolonged waiting times discourage men from seeking HIVST at health facilities. Alternatively, HIVST could provide a quick, private, and convenient option and increase the rate of HIV testing. A study conducted in South Africa Makusha found that long waiting times discouraged individuals from getting tested [51].

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 Overview

The purpose of this study was to determine the contribution of HIV self-testing on the uptake of HIV service among adult males focusing on (i) individual factors influencing HIVST uptake among adult males, (ii) community-related factors influencing HIVST uptake among adult males, (iii) health system-related factors influencing HIVST uptake among adult males, and (iv) proportion of HIV service uptake after the introduction of HIVST among adult males in Geita District Council. This chapter provides conclusions and recommendations.

6.2 Conclusion

In conclusion, this study demonstrates that HIVST can significantly increase the uptake of HIV testing service among adult males. Testing rates rose notably in 2021 and 2022, with rates of 11.9% and 16.3%, respectively; HIVST specifically contributed 1.9% of tests in 2021 and 21.97% in 2022. While Tanzania's HIVST program has made substantial progress, additional efforts are essential to scale up HIVST use among men.

The uptake of HIVST among adult males is influenced by various individual, community, and health system factors. On an individual level, marital status and occupation are key determinants; for example, married men often choose HIVST for its privacy, and men in demanding jobs face time constraints that reduce their testing opportunities. Increased media campaigns and workplace HIVST kit distribution could improve both awareness and access.

Community-level factors, such as stigma and discrimination, pose significant barriers, as men fear societal judgment and public disclosure. Misconceptions about HIVST reliability and the perceived lower risk of HIV infection in men further reduce uptake.

Health system factors, including the distance to health facilities and the availability of HIVST supplies, also affect accessibility. Although HIVST is preferred for its convenience and privacy, particularly in remote areas, inconsistent supply chains restrict its reach.

6.3 Recommendation

To increase HIV testing rates among men, scaling up HIVST could be an effective strategy. However, low uptake of HIVST is influenced by limited awareness, misconceptions about HIVST reliability, a perceived lower risk of HIV among men, and supply chain challenges. To achieve the objective of HIVST doubling HIV testing uptake and increasing early case detection, the following recommendations are proposed for the government, specifically the Ministry of Health, and other implementing partners:

Strengthen HIVST Supply Chains

The Regional and Council Health Management Teams (R/CHMTs) should ensure that HIVST kits are readily available at health facilities, pharmacies, and workplaces for easy access. Integrating HIVST kit distribution with other community outreach services, such as family planning, could further improve accessibility. Additionally, linking HIVST kit distribution to services that offer confirmatory testing, counseling, and care referral would provide a more holistic approach to HIV testing.

Implement Comprehensive Awareness Campaigns

Regular, widespread awareness campaigns at multiple levels are crucial to educating the public on the benefits, processes, and importance of HIVST. These campaigns should aim to reduce stigma and discrimination associated with HIV and HIVST, while enhancing community health literacy to foster acceptance and uptake.

Engage Community Health Workers (CHWs)

Engaging CHWs in awareness-raising activities is essential, as they are trusted sources within communities and can effectively dispel myths and misconceptions surrounding HIVST.

Targeted Strategies for Male Engagement

Future research should explore strategies specifically aimed at increasing HIVST uptake and improving linkage to care among men. This may involve investing in gender-specific campaigns and services that address the unique needs and barriers faced by male populations in accessing HIV services.

7.0 REFERENCESS

1. Frescura, L., Godfrey-Faussett, P., Feizzadeh A, A., El-Sadr, W., Syarif, O., Ghys, P.D. and on and Behalf of the 2025 Testing Treatment Target Working Group, 2022. Achieving the 95 95 95 Targets for all: A Pathway to Ending AIDS. *Plos one*, *17*(8), p.e0272405.

2. https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf, Accessed on 27th December 2022
3. Global Health Sector Response to HIV, 2000–2015: Focus on Innovations in Africa: Progress Report. Geneva: World Health Organization; 2015 (https://www.who.int/hiv/pub/progressreports/2015-progress-report/en/, Accessed 27 December 2022).
4. UNAIDS 2019 data. Geneva: Joint United Nations Programme on HIV/AIDS; 2019 (https://www.unaids.org/sites/default/ files/media_asset/2019-UNAIDS-Data_en.pdf, Accessed Jan 2023).
5. Ministry of Health CD, Gender, Elderly and Children (MoHCDGEC), Tanzania and Ministry of Health, Zanzibar, Tanzania. Tanzania HIV Impact Survey (THIS) 2016–2017: final report. Dar es Salaam, Tanzania; 2018
6. Conserve DF, Muessig KE, Maboko LL, Shirima S, Kilonzo MN, Maman S, et al. (2018) Mate Yako Afya Yako: Formative Research to Develop the Tanzania HIV self-Testing Education and Promotion (Tanzania STEP) Project for Men. PLoS ONE 13(8): e0202521. https://doi.org/10.1371/journal.pone.0202521
7. Madut DB, Manavalan P, Mtalo A, Peter TA, Ostermann J, Njau B, Thielman NM. Increasing the Uptake of HIV Testing among Men in Tanzania: A Novel Intervention for Bar Patrons. AIDS Behav. 2021 Jul;25(7):2014-2022. doi 10.1007/s10461-020-03131-6. Epub 2021 Jan 3. PMID: 33389376; PMCID: PMC8169552.
8. Marwa T, Karanja S, Osero J, Orago A. The effects of HIV Self-Testing Kits in Increasing Uptake of Male Partner Testing Among Pregnant Women Attending Antenatal Clinics in Kenya: A Randomized Controlled Trial. Pan Afr Med J. 2019 Jul 16;33:213. doi: 10.11604/pamj.2019.33.213.14160. PMID: 31692660; PMCID: PMC6814341.
9. Frescura L, Godfrey-Faussett P, Feizzadeh A, El-Sadr W, Syarif O, Ghys PD; on and Behalf of the 2025 Testing Treatment Target Working Group. Achieving the 95 95 95 Targets for All: A Pathway to Ending AIDS. PLoS One. 2022 Aug 4;17(8):e0272405. doi 10.1371/journal.pone.0272405. PMID: 35925943; PMCID: PMC9352102.
10. WHO, Guidelines on HIV Self-Testing and Partner Notification: Supplement to Consolidated Guidelines on HIV Testing Service, World Health Organization, 2016. Report No.: 9241549866.

11. Lippman,S.A., T. Lane, O. Rabede, H. Gilmore, Y.-H. Chen, N. Mlotshwa, et al., High Acceptability and Increased HIV-Testing Frequency After the Introduction of HIV Self-Testing
12. Dzinamarira T, Muvunyi CM, Kamanzi C, Mashamba-Thompson TP. HIV Self-Testing in Rwanda: Awareness and Acceptability Among Male Clinic Attendees in Kigali, Rwanda: A Cross-Sectional Survey. Heliyon. 2020 Mar 1;6(3):e03515
13. World Health Organization, 2021. Improving Men's Uptake of HIV Testing and Linkage to Service: Policy Brief.
14. https://finandlaw.co.tz/2019/12/01/hiv-self-testing-now-allowed-in-tanzania/, Accessed on Jan 2023
15. UNAIDS. Global AIDS Update, Miles to Go Closing Gaps Breaking Barriers Righting Injustices. UNAIDS: Geneva, Switzerland; 2018.
16. Organization WHO. Report on the First International Symposium on Self-Testing For HIV: The Legal, Ethical, Gender, Human Rights and Public Health Implications of HIV Self-Testing Scale-Up: Geneva, Switzerland,8±9 April 2013. 2013.
17. Harichund C, Moshabela M. Acceptability of HIV Self-Testing in Sub-Saharan Africa: Scoping Study. AIDS Behav. 2018 Feb;22(2):560-568. doi 10.1007/s10461-017-1848-9. PMID: 28699017; PMCID: PMC5764831.
18. Croxford S, Raben D, Jakobsen SF, Burns F, Copas A, Brown AE, Delpech VC; OptTEST by HIV in Europe. Defining Linkage to Care Following Human Immunodeficiency Virus (HIV) Diagnosis for European Public Health Monitoring. Euro Surveill. 2018 Nov;23(48):1700858. doi: 10.2807/1560-7917.ES.2018.23.48.1700858. PMID: 30514415; PMCID: PMC6280421.
19. Mahachi N, Muchedzi A, Tafuma TA, Mawora P, Kariuki L, Semo BW, Bateganya MH, Nyagura T, Ncube G, Merrigan MB, Chabikuli ON, Mpofu M. Sustained High HIV Case-Finding Through Index Testing and Partner Notification Service: Experiences from Three Provinces in Zimbabwe. J Int AIDS Soc. 2019 Jul;22 Suppl 3(Suppl 3):e25321. doi 10.1002/jia2.25321. PMID: 31321918; PMCID: PMC6639671.
20. Tun W, Vu L, Dirisu O, Sekoni A, Shoyemi E, Njab J, Ogunsola S, Adebajo S. Uptake of HIV Self-Testing and Linkage to Treatment Among Men Who Have Sex with Men (MSM) in Nigeria: A Pilot Program Using Key Opinion Leaders to Reach MSM. J Int AIDS Soc. 2018 Jul;21 Suppl 5(Suppl 5):e25124. doi 10.1002/jia2.25124. PMID: 30033680; PMCID: PMC6055125.
21. Cassell, M.M., Girault, P., Nith, S., Rang, C., Sokhan, S., Tuot, S., Kem, V., Dork, P., Chheav, A., Sos, M. and Im, C., 2022. A Cross-Sectional Assessment of HIV Self-Testing Preferences and Uptake Among Key Populations in Phnom Penh, Cambodia. Global Health: Science and Practice, 10(3).
22. Van Rooyen H, Tulloch O, Mukoma W, Makusha T, Chepuka L, Knight LC, Peck RB, Lim JM, Muturi N, Chirwa E, Taegtmeyer M. What are the Constraints and Opportunities for HIVST Scale-Up in Africa? Evidence from Kenya, Malawi, and South

Africa. J Int AIDS Soc. 2015 Mar 20;18(1):19445. doi: 10.7448/IAS.18.1.19445. PMID: 25797344; PMCID: PMC4369555.

23. Kelvin EA, George G, Mwai E, Nyaga E, Mantell JE, Romo ML, Odhiambo JO, Starbuck L, Govender K. Offering Self-Administered Oral HIV Testing to Truck Drivers in Kenya to Increase Testing: A Randomized Controlled Trial. AIDS Care. 2018 Jan;30(1):47-55. doi 10.1080/09540121.2017.1360997. Epub 2017 Aug 21. PMID: 28826229; PMCID: PMC5901679
24. MacPherson P, Lalloo DG, Webb EL, et al. Effect of Optional Home Initiation of HIV Care Following HIV Self-testing on Antiretroviral Therapy Initiation Among Adults in Malawi: A Randomized Clinical Trial. *JAMA.* 2014;312(4):372–379. doi:10.1001/jama.2014.6493
25. Johnson CC, Kennedy C, Fonner V, Siegfried N, Figueroa C, Dalal S, Sands A, Baggaley R. Examining the effects of HIV Self-Testing Compared to Standard HIV Testing Service: A Systematic Review and Meta-Analysis. J Int AIDS Soc. 2017 May 15;20(1):21594. doi: 10.7448/IAS.20.1.21594. PMID: 28530049; PMCID: PMC5515051.
26. Harichund C, Moshabela M. Acceptability of HIV Self-Testing in Sub-Saharan Africa: Scoping Study. AIDS Behav. 2018 Feb;22(2):560-568. doi 10.1007/s10461-017-1848-9. PMID: 28699017; PMCID: PMC5764831.
27. GeitaRegionInvestementGuide.pdf (esrf.or.tz)
28. Sensa ya Watu na Mkazi, Matokeo ya Awali (2022), https://www.nbs.go.tz/nbs/takwimu/Census2022/matokeomwanzooktoba2022.pdf retrieved on 18th Jan 2023
29. International Journal of Environmental Research and Public Health (IJERPH) (2020). "Attitude towards and uptake of HIV self-testing among men who have sex with men in sub-Saharan Africa."
30. BMC Public Health (2020). "Feasibility of an HIV self-testing intervention: a formative qualitative study among individuals, community leaders, and HIV testing experts in northern Tanzania."
31. Kelvin, E. A., George, G., Mwai, E., Nyaga, E. N., Mantell, J. E., Romo, M. L., ... & Bekker, L. G. (2018). The Impact of Media on HIV Self-Testing Uptake.
32. BMC Infectious Diseases. (2020). Media Campaigns and HIV Self-Testing in Brazil
33. Indravudh, P. P., Fielding, K., Sakala, D., Kumwenda, M. K., Nzawa, R., Chilongosi, R., ... & Corbett, E. L. (2020). HIV self-testing: community-based distribution of HIV self-test kits in Malawi. *BMJ Global Health*, 5(7), e002774. https://doi.org/10.1136/bmjgh-2020-002774
34. Figueroa, C., Johnson, C., Verster, A., & Baggaley, R. (2015). Attitude and acceptability on HIV self-testing among key populations: a literature review. *AIDS and Behavior*, 19(11), 1949-1965. https://doi.org/10.1007/s10461-015-1097-8
35. Kelvin, E. A., George, G., Mwai, E., Nyaga, E. N., Mantell, J. E., Romo, M. L., ... & Odhiambo, J. O. (2016). Offering self-administered oral HIV testing as a choice to truck

drivers in Kenya: Predictors of uptake and experiences from a cluster randomized trial. *BMC Public Health*, 16, 833. https://doi.org/10.1186/s12889-016-3543-5

36. Sibanda, E. L., Neuman, M., Tumushime, M., Sibanda, M., Mangenah, C., Gudukeya, S., ... & Cowan, F. M. (2016). Community-based HIV self-testing: a pragmatic randomized controlled trial in Zimbabwe. *Conference on Retroviruses and Opportunistic Infections*. https://doi.org/10.1093/infdis/jiy012
37. Ngure, K., Heffron, R., Curran, K., Vusha, S., Mugo, N., Bukusi, E., & Baeten, J. M. (2017). Preferences for HIV self-testing kits distribution service among men and women in Kenya: A discrete choice experiment. *AIDS and Behavior*, 21(12), 3468-3476. https://doi.org/10.1007/s10461-017-1670-1
38. Njau, B., Covin, C., Lisasi, E., Damian, D., Mushi, D., Boulle, A., & Mathews, C. (2019). A systematic review of qualitative evidence on factors enabling and deterring uptake of HIV self-testing in Africa. *BMC Public Health*, 19, 1289. https://doi.org/10.1186/s12889-019-7671-7
39. Musheke, M., Bond, V., & Merten, S. (2013). Individual and contextual factors influencing patient attrition from antiretroviral therapy care in an urban community of Lusaka, Zambia. *Journal of the International AIDS Society*, 16(1), 17366. https://doi.org/10.7448/IAS.16.1.17366
40. Choko AT, MacPherson P, Webb EL, Willey BA, Feasy H, Sambakunsi R, Mdolo A, Makombe SD, Desmond N, Hayes R, Maheswaran H. Uptake, accuracy, safety, and linkage into care over two years of promoting annual self-testing for HIV in Blantyre, Malawi: a community-based prospective study. PLoS medicine. 2015 Sep 8;12(9): e1001873.
41. Hlongwa M, Mashamba-Thompson T, Makhunga S, Muraraneza C, Hlongwana K. Men's perspectives on HIV self-testing in sub-Saharan Africa: a systematic review and meta-synthesis. BMC Public Health. 2020 Dec;20:1-3.
42. Johnson C, et al. Use and awareness of and willingness to self-test for HIV: An analysis of cross-sectional population-based surveys in Malawi and Zimbabwe. BMC Public Health. 2020; 20:779.
43. Kohi, T. W., Leyna, G. H., & Moshiro, C. S. (2016). Addressing misconceptions about HIV and AIDS among religious leaders in Dar es Salaam, Tanzania. *AIDS Care*, 28(4), 435-438. https://doi.org/10.1080/09540121.2015.1114985
44. Skinner, D., Mfecane, S., Moyer, E., & Trinitapoli, J. (2016). Religious responses to HIV and AIDS in sub-Saharan Africa: Implementing HIV and AIDS interventions through faith-based organizations. *AIDS Care*, 28(4), 501-504. https://doi.org/10.1080/09540121.2016.1146216
45. Gibbs, A., Witzel, T., McWalter, K., & Chirwa, E. (2018). HIV self-testing: A practical approach to increase the uptake of testing. *BMJ Global Health*, 3(2), e000687. https://doi.org/10.1136/bmjgh-2017-000687
46. Hatzold, K., Gudukeya, S., Mutseta, M. N., Chilongosi, R., Nalubamba, M., Nkhoma, C., ... & Corbett, E. L. (2019). HIV self-testing: breaking the barriers to uptake of testing

among men and adolescents in sub-Saharan Africa, experiences from STAR demonstration projects in Malawi, Zambia and Zimbabwe. *Journal of the International AIDS Society*, 22(S1), e25244. https://doi.org/10.1002/jia2.25244

47. Lépine, A., Terris-Prestholt, F., Vickerman, P., Choko, A., & Corbett, E. (2018). Understanding the uptake of HIV self-testing in low-income countries: A systematic review of the literature. *BMC Public Health*, 18(1), 1230. https://doi.org/10.1186/s12889-018-6134-5
48. Kelvin EA, Akasreku B. The Evidence for HIV Self-Testing to Increase HIV Testing Rates and the Implementation Challenges that Remain. Curr HIV/AIDS Rep. 2020 Aug;17(4):281-289. doi: 10.1007/s11904-020-00504-3. PMID: 32519185; PMCID: PMC8915955.
49. Gohil, J., Baja, E.S., Sy, T.R. et al. Is the Philippines ready for HIV self-testing? BMC Public Health 20, 34 (2020). https://doi.org/10.1186/s12889-019-8063-8
50. Makusha, T., Knight, L., Taegtmeyer, M., Tulloch, O., Davids, A., Lim, J., ... & Richter, L. (2015). HIV self-testing could "revolutionize testing in South Africa, but it has got to be done properly": Perceptions of key stakeholders. *PloS one*, 10(3), e0122783. https://doi.org/10.1371/journal.pone.0122783
51. Witzel, T.C., Eshun-Wilson, I., Jamil, M.S. *et al*. Comparing the effects of HIV self-testing to standard HIV testing for key populations: a systematic review and meta-analysis. *BMC Med* **18**, 381 (2020). https://doi.org/10.1186/s12916-020-01835-z
52. Ministry of Health, Community Development, Gender, Elderly, and Children, Tanzania National Accelerated Action Plan on HIV Testing Service; NACP; 2018
53. Suthar, A. B., Ford, N., Bachanas, P. J., Wong, V. J., Rajan, J. S., Saltzman, A. K., ... & Negussie, E. K. (2013). Towards universal voluntary HIV testing and counselling: a systematic review and meta-analysis of community-based approaches. *PLOS Medicine*, 10(8), e1001496. https://doi.org/10.1371/journal.pmed.1001496
54. T-DHIS2(2023), https://dhis.moh.go.tz/dhis-web-commons/security/login.action
55. Setia, M.S., 2016. Methodology series module 3: Cross-Sectional Studies. Indian Journal of Dermatology, 61(3), p.261.
56. Msabila, D.T. and Nalaila, S.G., 2013. Research Proposal and Dissertation Writing: Principles and Practice. Dar es Salaam: Nyambari Nyangwine Publishers.
57. Conserve, D.F., Issango, J., Kilale, A.M. et al. Developing national strategies for reaching men with HIV testing services in Tanzania: results from the male catch-up plan. BMC Health Serv Res 19, 317 (2019). https://doi.org/10.1186/s12913-019-4120-3
58. Awopegba OE, Ologunowa TO, Ajayi AI. HIV Testing and Self- Testing Coverage Among Men and Women in South Africa: An Exploration of Related Factors. Tropical Medicine & International Health. 2021 Feb;26(2):214-27.
59. Mabula AL. Awareness and Willingness to Use HIV Self-Testing Among Students in Higher Learning Institutions in Dodoma City, Tanzania (Doctoral Dissertation, Muhimbili University of Health and Allied Sciences).

60. Izizag BB, Situakibanza H, Mbutiwi T, Ingwe R, Kiazayawoko F, Nkodila A, Mandina M, Longokolo M, Amaela E, Mbula M. Factors Associated with Acceptability of HIV Self-Testing (HIVST) Among University Students in a Peri-Urban Area of the Democratic Republic of Congo (DRC). Pan African Medical Journal. 2018 Dec 27;31(1).
61. Vara PA, Buhulula LS, Mohammed FA, Njau B. Level of knowledge, Acceptability, And Willingness to Use Oral Fluid HIV Self-Testing Among Medical Students in Kilimanjaro Region, Tanzania: A Descriptive Cross-Sectional Study. AIDS Research and Therapy. 2020 Dec; 17:1-0.
62. Obiezu-Umeh C, Gbajabiamila T, Ezechi O, Nwaozuru U, Ong JJ, Idigbe I, Oladele D, Musa AZ, Uzoaru F, Airhihenbuwa C, Tucker JD, Iwelunmor J. Young people's Preferences for HIV Self-Testing Service in Nigeria: A Qualitative Analysis. BMC Public Health. 2021 Jan 7;21(1):67. doi 10.1186/s12889-020-10072-1. PMID: 33413246; PMCID: PMC7792110.
63. Bogart LM, Kgotlaetsile K, Phaladze N, Mosepele M. HIV Self-Testing May Overcome Stigma and Other Barriers to HIV Testing Among Higher-Socioeconomic Status Men in Botswana: A Qualitative Study. Afr J AIDS Res. 2021 Dec;20(4):297-306. doi 10.2989/16085906.2021.2000450. PMID: 34905451; PMCID: PMC8717737.
64. Hlongwa M, Mashamba-Thompson T, Makhunga S, Murararaneza C, Hlongwana K. Men's Perspectives on HIV Self-Testing in Sub-Saharan Africa: A Systematic Review and Meta-Synthesis. BMC Public Health. 2020 Jan 15;20(1):66. doi 10.1186/s12889-020-8184-0. PMID: 31941479; PMCID: PMC6964071.
65. Leichliter JS, Paz-Bailey G, Friedman AL, Habel MA, Vezi A, Sello M, Farirai T, & Lewis DA (2011). 'Clinics Aren't Meant for Men: Sexual Health Care Access and Seeking Behaviors Among Men in Gauteng Province, South Africa. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, 8(2), 82–88. 10.1080/17290376.2011.9724989
66. Bronfenbrenner U. The ecology of Human Development: Experiments by Nature and Design. Harvard University Press; 1979.
67. Mukumbang FC, Mwale JC, van Wyk B. Conceptualising the Factors Affecting Retention in Care of Patients on Antiretroviral Treatment in Kabwe District, Zambia, Using the Ecological Framework. AIDS Research and Treatment. 2017 Oct;2017.
68. Zhang Y, Goh SM, Tapa J, Johnson C, Chow EP, Zhang L, Phillips TR, Fairley CK, Ong J. Linkage to Care and Prevention after HIV Self-Testing: A Systematic Review and Meta-Analysis. Available at SSRN 4716778.
69. Mwangi J, Miruka F, Mugambi M, Fidhow A, Chepkwony B, Kitheka F, Ngugi E, Aoko A, Ngugi C, Waruru A. Characteristics of users of HIV self-testing in Kenya, outcomes, and factors associated with use: results from a population-based HIV impact assessment, 2018. BMC Public Health. 2022 Apr 2;22(1):643
70. Conserve DF, Abu-Ba'are GR, Janson S, Mhando F, Munisi GV, Drezgic B, Rehani A, Sims W, Ritchwood T, Choko A, Mushy S. Peer-based Promotion and Nurse-led Distribution of HIV Self-Testing Among Networks of Men in Dar es Salaam, Tanzania:

Development and Feasibility Results of the STEP Intervention. Research Square. 2023 Aug 22.

71. UNAIDS DATA 2022, https://www.unaids.org/sites/default/files/media_asset/data-book-2022_en.pdf accessed on 30 September 2024.
72. Ndungu K, Gichangi P, Temmerman M. Evaluation of factors associated with HIV self-testing Acceptability and Uptake among the MSM community in Nairobi, Kenya: A cross-sectional study. PLoS One. 2023 Mar 9;18(3)
73. Awopegba OE, Ologunowa TO, Ajayi AI. HIV testing and self- testing coverage among men and women in South Africa: an exploration of related factors. Tropical Medicine & International Health. 2021 Feb;26(2):214-27.
74. Bos AE, Onya H. Fear of stigmatization as barrier to voluntary HIV counselling and testing in South Africa. East Afr J Public Health. 2008 Aug;5(2):49.
75. Sibanda EL, d'Elbée M, Maringwa G, Ruhode N, Tumushime M, Madanhire C, Ong JJ, Indravudh P, Watadzaushe C, Johnson CC, Hatzold K. Applying user preferences to optimize the contribution of HIV self- testing to reaching the "first 90" target of UNAIDS Fast- track strategy: results from discrete choice experiments in Zimbabwe. Journal of the International AIDS Society. 2019 Mar;22:e25245.
76. Pai, N. P., Behlim, T., Abbas, E., Pant Pai, N., Joshi, R., & Kalantri, S. (2013). Will an unsupervised self-testing strategy for HIV work in health care workers of India? A cross-sectional pilot studies. PLoS ONE, 8(11), e79772. https://doi.org/10.1371/journal.pone.0079772
77. Korte JE, Kisa R, Vrana-Diaz CJ, Malek AM, Buregyeya E, Matovu JK, Kagaayi J, Musoke W, Chemusto H, Mukama SC, Ndyanabo A. HIV oral self-testing for male partners of women attending antenatal care in central Uganda: uptake of testing and linkage to care in a randomized trial. JAIDS Journal of Acquired Immune Deficiency Syndromes. 2020 Jul 1;84(3):271-9.
78. Masters SH, Agot K, Obonyo B, Napierala Mavedzenge S, Maman S, Thirumurthy H. Promoting partner testing and couples testing through secondary distribution of HIV self-tests: a randomized clinical trial. PLoS medicine. 2016 Nov 8;13(11):e1002166.
79. Zewdie K, Kiptinness C, Ngure K, Kipkurui N, Wairimu N, Ambiyo F, Mugo NR, Baeten JM, Mugwanya KK. Targeted implementation of HIV self-testing increases testing uptake among partners of index persons known to have HIV in Kenya. JAIDS Journal of Acquired Immune Deficiency Syndromes. 2022 May 13:10-97.
80. Lincoln YS. Establishing trustworthiness. Naturalistic inquiry. 1985;289(331):289.
81. Muchedzi A, Mpofu M, Mudzengerere FH, Bateganya M, Mavimba T, Satti H, Dhliwayo R, Zulu T, Tapera T, Samushonga T, Nyagura T. High HIV Positivity Rates Following Large-Scale HIV Self-Testing Implementation in Zimbabwe, 2018–2020. Frontiers in Public Health. 2021 Mar 23;9:606376.
82. Johnson S. Evaluation design (2021)
83. Creswell JW, Creswell JD. Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications; 2017 Dec 12.

8.0 APPENDICES

8.1 Appendix I: Data Abstraction Form (English Version)

Data Abstraction form (English Version)						
No.	**Information**	**M**				**Total**
		15-19	**20-24**	**25-49**	**≥50**	
1	New clients tested HIV					
2	New clients received concealing after HIV testing					
3	New clients tested HIV identified positive					
4	Second time Clients tested HIV					
5	Second time Clients received concealing after HIV testing					
6	Clients tested for second time and identified positive					
7	**Total clients tested HIV (1+4)**					
8	**Total client tested HIV Positive (3+6)**					
9	**Referral to**					
	Clients Confirmed HIV positive and Linked to CTC					
10	**HIVST**					
	Onsite self testing					
	Offsite self testing					
	INDICATORS FOR HIVST					
11	Number of self kits distributed					
12	Number of people distributed with Kits and return with results					
13	Total reactive kits					
14	Clients Confirmed HIV positive after first confirmatory test					

8.2 Appendix II: Data Abstraction Form (Swahili Version)

Data Abstraction form (Swahili Version)						
Na.	**Maelezo**	**ME**				**JUMLA (ME)**
		15-19	**20-24**	**25-49**	**≥50**	
1	Idadi ya wateja wapya(MP)					
2	Idadi ya wateja wapya waliopata ushauri/ nasaha baada ya kipimo na kupewa majibu ya VVU					
3	Idadi ya wateja wapya waliopimwa na wakapatikana na VVU					
4	Idadi ya wateja waliorudi(HM)					
5	Idadi ya wateja waliorudi na kupata ushauri/nasaha baada ya kipimo na kupewa majibu ya VVU.					
6	Idadi ya wateja waliorudi na kupimwa na wakapatikana na VVU					
7	**Jumla ya wateja(1+4)**					
8	**Jumla ya wateja waliopimwa na kupatikana naVVU(3+6)**					
9	**Rufaa kwenda:**					
	Kituo cha Tiba na matunzo ya UKIMWI (CTC)					
10	**Alikopimia Mteja**					
	Onsite self testing					
	Offsite self testing					
B2	**VIASHIRIA VYA KUJIPIMA VVU(ST)**					
11	Jumla ya vitendanishi vya kujipima VVU vilivyosambazwa.					
12	Jumla ya wateja waliotumia vitendanishi vya kujipima VVU na kurudisha majibu.					
13	Jumla ya wateja waliopata majibu chanya (Reactive)baada ya kujipima VVU.					
14	Idadi ya wateja waliojipima VVU na kupatikana na majibu chanya (Reactive) kupitia kipimo cha awali cha VVU					

8.3 Appendix III: Interview Guide for Healthcare Providers (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

Title: Determine the Contribution of HIVST on The Uptake of HIV Service Among Adult Males in Geita DC

***Participant ID*_____**

Introduction

Thank you for being here. My name is Jackline Sanga, MSc (Project Management, Monitoring, and Evaluation in Health student from Muhimbili University of Health and Allied Sciences. Today is … the day … 2023. I am here with [**Job title of participant**] at [**Name of the facility**]. I would like to interview you about the contribution of HIV self-testing on the uptake of HIV service among adult males in Geita DC. I am specifically interested in assessing both individual and health facility-related factors influencing HIVST uptake among adult males in this district council.

You have been selected to participate in this interview based on your experience and responsibility in providing care and treatment service among HIV adult males. The information you provide is treated as confidential and will be used only for research purposes. Your participation in this interview is entirely voluntary. The interview will be recorded to help capture everything needed for analysis and summary, but your name will not be used or otherwise identify you personally during data analysis and report writing of the results of our interview today. Our today's interview will last for an average of 45 minutes. Do you have anything to say or ask before we get started? We start our interview if you have nothing to say or ask.

Signature of the participants: _____

Part A: Demographic Characteristics of the Participants

Age of informant: _____

Sex of informant: _____

Education attained by the informant: _____

Marital status: _____

Opening Questions	
1. First, I would like to learn about the nature of your work, what is going well, and what would help to make your work more effective and/or efficient.	
2. Please tell me about your main job responsibilities.	Probe: Anything else?
Part B: Factors Influencing HIVST Uptake Among Adult Males	
3. In your opinion, what do you think are individual-related factors influencing HIVST uptake among adult males in this community?	Probe on: 3.1 Demographic and socioeconomic status of the adult males 3.2 Condom uses at last sex 3.3 Media exposure 3.4 Number of sexual partners 3.5 Attitude towards HIVST 3.6 Health literacy about HIV 3.7 Perception of counseling the pre-post test 3.8 Anything else
4. In your opinion, what do you think are community-related factors influencing HIVST uptake among adult males in this community?	4.1 Stigma and discrimination 4.2 Community perception and attitude 4.3 Perceived lack of confidentiality 4.4 Misperception of HIV care and treatment 4.5 Level of community health literacy on HIV
5. In your opinion, what do you think are health system-related factors influencing HIVST uptake among adult males at this facility?	Probe on: 5.1 Distance to a health facility 5.2 Availability of HIVST essential supplies 5.3 Healthcare providers' attitude 5.4 Level of privacy and confidentiality at the facility 5.5 Waiting hours 5.6 Clinical operational hours 5.7 Anything else
6. In your opinion, apart from what we have mentioned, what do you think are any other factors influencing HIVST uptake among adult males in this community?	Probe on: 6.1 Anything else?

7. What are the barriers to HIVST uptake among adult males in this community?	7.1 How could these be improved?
8. Do you have anything in addition to the above to improve HIVST uptake among adult males in this community?	Explain.
Closing Question	
9. Before we end our interview, I would like to ask what else you want to share, if any, on the contribution of HIV self-testing on the uptake of HIV service among adult males in this district council.	
This concludes our interview. Thank you for your time and participation in this interview. This will be very useful for analysis and report writing on the contribution of HIV self-testing on the uptake of HIV service among adult males in this district council.	

8.4 Appendix IV: Interview Guide for Healthcare Providers (Swahili Version)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

Kichwa: Kutambua Mchango wa Kipimo cha kujipima VVU(ST) katika kuongeza matumizi ya Huduma za VVU Miongoni mwa Wanaume katika halmashauri ya Geita vijijini.

Kitambulisho cha mshiriki

Utangulizi

Asante kwa kuwa hapa. Jina langu ni Jackline Sanga, mwanafunzi shahada ya uzamili wa Usimamizi, Ufuatiliaji, na Tathmini ya miradi ya Afya katika Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili (MUHAS). Leo ni tarehe ….Mwezi….2023. Mimi nipo hapana……**[cheo cha kazi cha mshiriki] katika……[jina la kituo]**. Ningependa kukuhoji kuhusu mchango wa kupimo cha kujipa VVU katika kuongeza ya matumizi ya huduma za VVU (Kupima VVU, ushauri nasaha, kugundua wenye VVU na kuanzishiwa matibabau) miongoni mwa wanaume katika halmashauri ya wilaya ya Geita Vijijini. Nina nia hasa ya kutathmini mambo yanayohusiana na mtu binafsi, jamii na mifumo ya afya yanayoathiri matumizi ya kipimo cha kujipima VVU(ST) kati ya wanaume katika halmashauri ya wilaya hii.

Umechaguliwa kushiriki katika mahojiano haya kulingana na uzoefu wako na wajibu wako katika kutoa huduma za utunzaji na matibabu miongoni mwa wanaume wenye VVU. Taarifa unayotoa itakuwa ni siri na itatumika tu kwa madhumuni ya utafiti. Ushiriki wako katika mahojiano haya ni wa hiari kabisa. Mahojiano yatarekodiwa ili kusaidia kuchukua kila kitu kinachohitajika kwa uchambuzi na muhtasari lakini jina lako halitatumiwa au vinginevyo kukutambua wewe binafsi wakati wa uchambuzi wa data na uandishi wa ripoti ya matokeo ya mahojiano yetu leo. Mahojiano yetu ya leo yatadumu kwa wastani wa dakika 45. Je, una chochote cha kusema au kuuliza kabla ya kuanza? Tunaanza mahojiano yetu ikiwa huna chochote cha kusema au kuuliza.

Saini ya mshiriki: _____

Sehemu A: Sifa za Kidemografia za Washiriki

Umri wa mshiriki: _____

Jinsia ya mshiriki: _____

Elimu aliyonayo mshiriki: _____

Hali ya ndoa _____

Maswali ya Ufunguzi	
1. Kwanza, ningependa kujifunza kuhusu asili ya kazi yako, ni nini kinachoendelea vizuri, na ni nini kinachoweza kusaidia kufanya kazi yako iwe na ufanisi zaidi.	
2. Tafadhali nieleze kuhusu majukumu yako ya msingi ya kazi.	**Uliza:** Kitu kingine chochote?
Sehemu B: Mambo Yanayoshawishi Matumizi ya kipimo cha kujipima VVU Miongoni mwa Wanaume wa halmashauri ya Geita vijijini	
3. Kwa maoni yako, unadhani ni sababu zipi zinazohusiana na mtu binafsi zinazoathiri matumizi ya kipimo cha kujipima VVU(ST) miongoni mwa wanaume watu katika jamii hii?	**Dodosa:** 3.1 Hali ya kidemografia na kijamii kwa wanaume. 3.2 Matumizi ya kondomu katika ngono ya mwisho 3.3 Matumizi ya vyombo vya habari 3.4 Idadi ya wapenzi 3.5 Mtazamo dhidi ya VVU(HIVST) 3.6 Uelewa wa kiafya kuhusu VVU 3.7 Mtazamo wa ushauri kabla ya vipimo vingine 3.8 Kitu kingine?
4. Kwa maoni yako, unadhani ni sababu zipi zinazohusiana na jamii zinazoathiri matumizi ya Kipipo cha kijipima VVU(ST) miongoni mwa wanaume katika jamii hii?	**Dodosa:** 4.1 Unyanyapaa na ubaguzi 4.2 Mtazamo wa jamii 4.3 Ukosefu wa usiri 4.4 Upotoshaji wa matibabu ya VVU 4.5 Kiwango cha elimu ya afya katika jamii juu ya VVU
5. Kwa maoni yako, unadhani ni mambo gani yanayohusiana na mfumo wa afya yanayoathiri matumizi ya Kipimo ch a kujipima VVU(ST) kati ya wanaume katika kituo hiki?	**Dodosa:** 5.1 Umbali wa kituo cha afya 5.2 Upatikanaji wa vipimo vya kujipiamaVVU 5.3 Mtazamo wa watoa huduma za afya 5.4 Kiwango cha faragha na usiri katika kituo 5.5 Saa za kusubiri 5.6 Saa za kazi za kliniki

	5.7 Nyingine?
6. Kwa maoni yako, mbali na kile tulichotaja, unadhani ni mambo gani mengine yanayoathiri matumizi ya kipimo cha kujipima VVU(ST) kati ya wanaume katika jamii hii?	**Dodosa:** 6.1 Nyingine?
7. Je, ni vizuizi gani vya matumizi ya Kipimo cha kujipima VVU miongoni mwa wanaume katika jamii hii?	7.1 Je, haya yanaweza kuboreshwa vipi?
8. Je! Una chochote cha kuongeza hapo juu ili kuboresha matumizi ya kipimo cha kujipima VVU kati ya wanaume katika jamii hii?	**Eleza:**
Swali la mwisho	
9. Kabla ya kumaliza mahojiano yetu, ningependa kuuliza ni kitu gani kingine unachotaka kushirikisha ikiwa kipo juu ya mchango wa kujipima VVU na juu ya utumiaji wa huduma ya VVU kati ya wanaume halmashauri ya wilaya hii.	
Hii inahitimisha mahojiano yetu: Tunashukuru kwa muda wako na ushiriki wako katika mahojiano haya. Hii itakuwa muhimu sana kwa uchambuzi na uandishi wa ripoti juu ya mchango wa kupima VVU na matumizi ya huduma ya VVU kati ya wanaume katika halmashauri ya wilaya hii.	

8.5 Appendix V: In Depth Interview Guide for ART Adult Males (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

Title: Determine the Contribution of HIVST on the Uptake of HIV Services Among Adult Males in Geita DC

Introduction

Thank you for being here. My name is Jackline Sanga, MSc (Project Management, Monitoring and Evaluation in Health candidate, from Muhimbili University of Health and Allied Sciences. Today is … the day … 2023. I am here with ART adult males attended ART clinic at [**Name of the facility**]. I would like to interview you about the contribution of HIV self-testing on the uptake of HIV services among adult males in Geita DC. I am specifically interested in assessing individual factors influencing HIVST uptake among adult males in this district council.

You have been chosen to take part in this interview because of your experience in accessing HIV care and treatment services. Your provided information will be kept confidential and will only be applied for the research purposes. This interview is entirely voluntary on your part. Your name will not be utilized or used in any other way that would personally identify you during the data analysis and report writing of the outcomes of our interview today. The interview will be recorded to aid in capturing everything required for analysis and summary. Our interview today will take approximately 30 minutes. Before we begin, do you have anything you'd like to say or ask? If you have no questions or comments, we will begin our interview.

Participant Signature: ……

Part A: Demographic Characteristics of the Participants

Ages of participants: _____

Education attained by participants: _____

Martial Status: _____

Occupation: _____

Opening Questions	
1. To begin, briefly, let me ask you about your experience on accessing ART services in this community.	
2. Please explain how is HIVST uptake on your side?	Probe: Anything else?
Part B: Factors Influencing HIVST Uptake Among Adult Males	
3. In your opinion, what do you think are individual-related factors influencing HIVST uptake among adult males in this community?	Probe on: 3.1 Demographic (age, marital status) and socioeconomic status of the adult males (education, employment, wealth status) 3.2 Condom uses at last sex 3.3 Media exposure 3.4 Number of sexual partners 3.5 Attitude towards HIVST 3.6 Health literacy about HIV 3.7 Perception of counseling the pre-post test 3.8 Anything else
4. In your opinion, apart from what we have mentioned, what do you think are any other factors influencing HIVST uptake among adult males in this community?	Probe on: 4.1 Anything else? (stigma, perception,
5. What are the barriers to HIVST uptake among adult males in this community?	5.1 How could these be improved?
6. Do you have anything in addition to the above to	Explain.

improve HIVST uptake among adult males in this community?	
Closing Question	
9. Before we wrap up our interview, I would like to know if there is anything else you would like to add about how HIVST has contributed on the uptake of HIV services among adult males in this district council.	
10. Our discussion comes to an end here. I appreciate you taking the time to participate in this interview. This will be very helpful for research and report writing on how HIV self-testing affects adult males in this district council's adoption of HIV services	

8.6 Appendix VI: In Depth Interview Guide for ART Adult Males (Swahili Version)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

Kichwa: Kutambua Mchango wa Kipimo cha kujipima VVU(ST) katika kuongeza matumizi ya Huduma za VVU Miongoni mwa Wanaume katika halmashairi ya Geita vijijini.

Utangulizi

Asante kwa kuwa hapa. Jina langu ni…….nipo hapa kwa niaba ya Jackline Sanga, mwanafunzi shahada ya uzamili wa Usimamizi, Ufuatiliaji, na Tathmini ya miradi ya Afya katika Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili (MUHAS). Leo ni tarehe ….Mwezi…..2023. Nipo hapa na mwanaume anayepata huduma za tiba na matunzo ya VVU katika…….[**Jina la kituo**]. Ningependa tujadili nawe mchango wa kupimo cha kujipima VVU juu ya matumizi ya huduma za VVU (Kupima VVU, ushauri nasaha, kugundua wenye VVU na kuanzishiwa matibabau) miongoni mwawanaume watu wazima wa Halmashauri ya Wilaya ya Geita. Nina nia hasa ya kutathmini mambo yanayohusiana na mtu binafsi yanayoathiri matumizi ya kipimo cha kujipima VVU kati ya wanaume watu wazima katika halmashauri hii ya wilaya ya Geita.

Umechaguliwa kushiriki katika mjadala huu kulingana na uzoefu wako katika kupata huduma za tiba na matunzo katika halmashauri ya wilaya ya Geita. Taarifa unayotoa inachukuliwa kama siri na itatumika tu kwa madhumuni ya utafiti. Ushiriki wako katika mjadala huu ni wa hiari kabisa. Majadiliano yatarekodiwa ili kusaidia kukamata kila kitu kinachohitajika kwa uchambuzi na muhtasari lakini jina lako halitatumiwa au kukutambua wewe binafsi wakati wa uchambuzi wa data na uandishi wa ripoti ya matokeo ya majadiliano

yetu leo. Mjadala wetu wa leo utadumu kwa wastani wa saa moja (1). Je, una chochote cha kusema au kuuliza kabla ya kuanza? Ikiwa huna chochote cha kusema au kuuliza, basi tuanze mazungumzo.

Sehemu A: Sifa za Kidemografia za Washiriki

Umri wa washiriki: _____

Kiwango cha elimu ya washiri: _____

Hali ya ndoa:

Kazi:

Maswali ya Ufunguzi	
1. Kwanza, kwa ufupi, ningependa kukuuliza kuhusu uzoefu wako wa kupata huduma za tiba na matunzo ya VVU katika Halmashauri ya Wilaya ya Geita na je kitugani ungependa kiboreshwe Zaidi.	
2. Tafadhali eleza jinsi kipimo cha kujipima VVU kinavyotumika miongoni mwa wanaume katika jamii yako.	**Dodosa:** Kitu kingine chochote?
Sehemu B: Mambo Yanayoshawishi Matumizi ya kipimo cha Kijipima VVU Miongoni mwa Wanaume wa halmashauri ya Wilaya ya Geita.	
3. Kwa maoni yako, unadhani ni sababu zipi za mtu binafsi zinazoathiri matumizi ya kipimo cha Kujipima VVU miongoni mwa wanaume katika jamii hii?	**Dodosa:** 3.1 Hali ya kidemografia(umri na hari ya ndoa), kijamii na kiuchumi ya wanaume(elimu,hali ya kipato, kazi. 3.2 Kutumia kondomu wakati wa mwisho wa kufanya ngono. 3.3 Vyombo vya habari 3.4 Idadi ya wapenzi 3.5 Mtazamo dhidi ya kipimo cha kujipima VVU 3.6 Elimu ya afya kuhusu VVU 3.7 Ushauri kabla vipimo vya awali

	3.8 Nyingine?
4. Kwa maoni yako, mbali na kile tulichokitaja, unadhani ni mambo gani mengine yanayoathiri matumizi ya kipimo cha kujipima VVU miongoni wanaume katika jamii hii?	**Dodosa:** 4.1 Nyingine?
5. Je, ni vizuizi gani vya matumizi ya kipimo cha kujipima VVU miongoni mwa wanaume katika jamii hii?	5.1 Je, haya yanaweza kuboreshwa vipi?
6. Je! Una chochote cha kuongeza ili kuboresha matumizi ya kipimo cha kujipima VVU miongoni mwa wanaume katika jamii hii?	Eleza
Swali la mwisho	
7.Kabla ya kumaliza mahojiano yetu, ningependa kuuliza ni nini kingine unachotaka kuchangia kuhusu upimaji binafsi wa VVU na utumiaji wa huduma ya VVU miongoni mwa wanaume katika halmashauri ya wilaya ya Geita.	
8.Hii inahitimisha mahojiano yetu: Tunashukuru kwa muda wako na ushiriki wako katika mahojiano haya. Hii itakuwa muhimu sana kwa uchambuzi na uandishi wa ripoti juu ya mchango wa kupima VVU na matumizi ya huduma ya VVU miongoni mwa wanaume katika halmashauri ya wilaya hii. Mahojiano yetu yamachukua takribani dakika …….	

8.7 Appendix VII: Focus Group Discussion Guide for ART Adult Males (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

Title: Determine the Contribution of HIVST on The Uptake of HIV Service Among Adult Males in Geita DC

Introduction

Thank you for being here. My name is Jackline Sanga, MSc (Project Management, Monitoring, and Evaluation in Health student from Muhimbili University of Health and Allied Sciences. Today is … the day … 2023. I am here with ART adult males at [**Name of the facility**]. I would like to discuss with you the contribution of HIV self-testing on the uptake of HIV service among adult males in Geita DC. I am specifically interested in assessing both individual and health facility-related factors influencing HIVST uptake among adult males in this district council.

You have been selected to participate in this discussion based on your experience in obtaining care and treatment service in this district council. The information you provide is treated as confidential and will be used only for research purposes. Your participation in this discussion is entirely voluntary. The discussion will be recorded to help capture everything needed for analysis and summary but your name will not be used or otherwise identify you personally during data analysis and report writing of the results of our discussion today. Our today's discussion will last for an average of one (1) hour. Do you have anything to say or ask before we get started? If you have nothing to say or ask, now we start our discussion.

Part A: Demographic Characteristics of the Participants

Ages of participants: _____

Education attained by participants: _____

Marital status: _____

Occupation: _____

Opening Questions	
1. First, briefly, I would like to ask you about your experience accessing ART service in this community.	
2. Please explain how HIVST uptake among adult males in your community	Probe: Anything else?
Part B: Factors Influencing HIVST Uptake Among Adult Males	
3. In your opinion, what do you think are individual-related factors influencing HIVST uptake among adult males in this community?	Probe on: 3.1 Demographic and socioeconomic status of the adult males 3.2 Condom uses at last sex 3.3 Media exposure 3.4 Number of sexual partners 3.5 Attitude towards HIVST 3.6 Health literacy about HIV 3.7 Perception of counseling the pre-post test 3.8 Anything else
4. In your opinion, what do you think are community-related factors influencing HIVST uptake among adult males in this community?	4.1 Stigma and discrimination 4.2 Community perception and attitude 4.3 Perceived lack of confidentiality 4.4 Misperception of HIV care and treatment 4.5 Level of community health literacy on HIV
5. In your opinion, what do you think are health system-related factors influencing HIVST uptake among adult males at this facility?	Probe on: 5.1 Distance to a health facility 5.2 HIV-related intervention, policies, and regulations 5.3 Availability of HIVST essential supplies 5.4 Healthcare providers' attitude 5.5 Level of privacy and confidentiality by service providers 5.6 Waiting hours 5.7 Clinical operational hours 5.8 Anything else
6. In your opinion, apart from what we have mentioned, what do you think are any other factors influencing HIVST uptake among adult males in this community?	Probe on: 6.1 Anything else?

7. What are the barriers to HIVST uptake among adult males in this community?	7.1 How could these be improved?
8. Do you have anything in addition to the above to improve HIVST uptake among adult males in this community?	Explain.
Closing Question	
Before we end our discussion, I would like to ask what else you want to share, if any, on the contribution of HIV self-testing on the uptake of HIV service among adult males in this district council.	
This concludes our discussion. Thank you for your time and participation in this interview. This will be very useful for analysis and report writing on the contribution of HIV self-testing on the uptake of HIV service among adult males in this district council.	

8.8 Appendix VIII: Focus Group Discussion Guide for ART Adult Males (Swahili Version)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

Kichwa: Kutambua Mchango wa Kipimo cha kujipima VVU(ST) katika kuongeza matumizi ya Huduma za VVU Miongoni mwa Wanaume katika halmashairi ya Geita vijijini.

Utangulizi

Asante kwa kuwa hapa. Jina langu ni Jackline Sanga, mwanafunzi shahada ya uzamili wa Usimamizi, Ufuatiliaji, na Tathmini ya miradi ya Afya katika Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili (MUHAS). Leo ni tarehe ….Mwezi…..2023. Nipo hapa na wanaume wanaopata huduma za matibabu na matunzo ya VVU katika…….[**Jina la kituo**]. Ningependa tujadili na nyie mchango wa kupima VVU juu ya matumizi ya huduma za VVU kati ya wanaume watu wazima huko Geita DC. Nina nia hasa ya kutathmini mambo yanayohusiana na mtu binafsi jamii na mfumo wa afya yanayoathiri matumizi ya kipimo cha kujipima VVU kati ya wanaume watu wazima katika halmashauri hii ya Geita Vijijini.

Umechaguliwa kushiriki katika mjadala huu kulingana na uzoefu wako katika kupata huduma za matunzo na matibabu katika halmashauri ya wilaya hii. Taarifa unayotoa inachukuliwa kama siri na itatumika tu kwa madhumuni ya utafiti. Ushiriki wako katika mjadala huu ni wa hiari kabisa. Majadiliano yatarekodiwa ili kusaidia kukamata kila kitu kinachohitajika kwa uchambuzi na muhtasari lakini jina lako halitatumiwa au kukutambua wewe binafsi wakati wa uchambuzi wa data na uandishi wa ripoti ya matokeo ya majadiliano yetu leo. Mjadala wetu wa leo utadumu kwa wastani wa saa moja (1). Je, una chochote cha kusema au kuuliza kabla ya kuanza? Ikiwa huna chochote cha kusema au kuuliza, basi tuanze mazungumzo.

Sehemu A: Sifa za Kidemografia za Washiriki

Umri wa washiriki: _____

Kiwango cha elimu ya washiri: _____

Hali ya ndoa:

Kazi:

Maswali ya Ufunguzi	
1. Kwanza, kwa ufupi, ningependa kukuuliza kuhusu uzoefu wako wa kupata huduma za matibabu na matunzo ya VVU katika jamii hii.	
2. Tafadhali eleza jinsi kipimo cha kujipima VVU inavyotumika miongoni mwa wanaume katika jamii yako	Dodosa: Kitu kingine chochote?
Sehemu B: Mambo Yanayoshawishi Matumizi ya kipimo cha Kijipima VVU Miongoni mwa Wanaume wa halmashauri ya Geita Vijijini	
3. Kwa maoni yako, unadhani ni sababu zipi za mtu binafsi zinazoathiri matumizi ya kipimo cha Kujipima VVU miongoni mwa wanaume katika jamii hii?	**Dodosa:** 3.1 Hali ya kidemografia, kijamii na kiuchumi ya wanaume. 3.2 Kutumia kondomu wakati wa mwisho wa kufanya ngono. 3.3 Vyombo vya habari 3.4 Idadi ya wapenzi 3.5 Mtazamo dhidi ya kipimo cha kujipima VVU 3.6 Elimu ya afya kuhusu VVU 3.7 Ushauri kabla vipimo vya awali 3.8 Nyingine?
4. Kwa maoni yako, unadhani ni sababu zipi zinazo husiana na jamii zinazoathiri matumizi ya kipimo cha kujipima VVU miongoni mwa wanaume katika jamii hii?	**Dodosa:** 4.1 Unyanyapaa na ubaguzi 4.2 Mtazamo wa jamii 4.3 Ukosefu wa usiri 4.4 Upotoshwaji wa utunzaji na matibabu ya VVU 4.5 Kiwango cha elimu ya afya katika jamii juu ya VVU
5. Kwa maoni yako, unadhani ni sababu zipi zinazohusiana na mfumo wa afya zinazoathiri matumizi ya kipimo cha kujipima VVU kati ya wanaume katika kituo hiki?	**Dodosa:** 5.1 Umbali wa kwenda kituo cha afya 5.2 Kuingilia kati, sera, na kanuni zinazohusiana na VVU 5.3 Upatikanaji wa vipimo vya kujipima VVU 5.4 Mtazamo wa watoa huduma za afya 5.5 Kiwango cha faragha na usiri wa watoa huduma 5.6 Saa za kusubiri 5.7 Saa za kazi za kliniki 5.8 Nyingine?

6. Kwa maoni yako, mbali na kile tulichokitaja, unadhani ni mambo gani mengine yanayoathiri matumizi ya kipimo cha kujipima VVU kati ya wanaume katika jamii hii?	**Dodosa:** 6.1 Nyingine?
7. Je, ni vizuizi gani vya matumizi ya kipimo cha kujipima VVU miongoni mwa wanaume katika jamii hii?	7.1 Je, haya yanaweza kuboreshwa vipi?
8. Je! Una chochote cha kuongeza ili kuboresha matumizi ya kipimo cha kujipima VVU kati ya wanaume katika jamii hii?	Eleza
Swali la mwisho	
Kabla ya kumaliza mjadala wetu, ningependa kuuliza ni nini kingine unachotaka kuchangia kuhusu upimaji binafsi wa VVU na utumiaji wa huduma ya VVU kati ya wanaume katika halmashauri ya wilaya hii.	
Hii ndiyo hitimisho ya mjadala wetu. Tunashukuru kwa muda wako na ushiriki wako katika mahojiano haya. Hii itakuwa muhimu sana kwa uchambuzi na uandishi wa ripoti juu ya mchango wa kupima binafsi wab VVU na juu ya matumizi ya huduma ya VVU kati ya wanaume katika halmashauri ya wilaya hii.	

8.9 Appendix IX: Informed Consent Form (English Version)

Principal Investigator's name: Ms. Jackline Isdory Sanga

Research Title: DETERMIN THE CONTRIBUTION OF HIV SELF-TESTING ON THE UPTAKE OF HIV SERVICES AMONG ADULT MALES IN THE GEITA DISTRICT COUNCIL

Introduction

I'm a post graduate student at Muhimbili University of Health and Allied Sciences (MUHAS) studying project management, monitoring, and evaluation in health. I'd like to extend an invitation to you to take part in this research project. If you agree to take part in the study, you will be asked questions about how HIV self-testing has contributed to adult males in Geita DC's uptake of HIV services. In this district council, I am particularly interested in evaluating how factors connected to the individual, the community, and the health systeam affect the uptake of HIVST among adult males. For key informant interviews, the interview will be between 30 and 45 minutes, and for small group discussions, it will last between 1 and 2 hours.

Potential Benefit

There will be no direct gain to individual participants; you will not receive any payment or other compensation. Your responses will be useful for strengthening/improving the implementation of HIVST programming with reference to obtaining HIV counseling and testing services in the community in Geita DC, which will benefit both healthcare professionals and the council health management team (CHMT).

Risk and Discomfort

There is no any harm identified in participating in this exercise, so your safety is assured. There is minimal risk, uncomfortability resulting from sexuality-related concerns could be present or inconvenience associated with this assessment apart from that the exercise will take some of your time, which might affect other commitments you already have.

Confidentiality

All facts you give during this interview/discussion will be strictly confidential, and it will be used for the purpose of this review and informing policy decision-making. The results of the interview/discussion may be published for scientific purposes, but the findings will be aggregated and will be based on anonymized data.

RIGHTS AS A PARTICIPANT IN THIS EXERCISE:

- ***Voluntary:***
  - Your participation in this exercise is entirely voluntary and you can refuse to take part, or stop at any time, without stating any reason. Your withdrawal will not affect your work.
- ***Withdrawal:***

- Your withdrawal will not affect your job. If at any time during the completion of the questionnaire you wish to stop, you may do so.
- I also retain the right to withdraw you from the exercise if it is in your best interest.

Participant

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Consent Provided? **If **No** terminate an interview**	**Yes**	**No**
Date of interview:		
Name of the Respondent Name_____ **Signature; _____or Thumb Impression: _____**		
Institution/Organization/ Ward	**District**	**Region**
For more information, please contact the Lead Assessor MS. Jackline Isdory Sanga Email: jakisang90@gmail.com Mobile number **+ 255 762324241**		

CLARIFICATIONS OR PROBLEMS

If you have any questions about this exercise or you feel that you have been harmed by taking part in this study or how you are being treated by the exercise or your rights as a participant, or you feel that you have been harmed by taking part in this study, please communicate to the following number.

1. Ms. Jackline Sanga – 07623242 (Principal Investigator)

2. Dr. Nahya Salim Masoud - 02221503086 (MUHAS IRB, Chairperson)

Investigator declaration

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Investigator's signature……Date……

8.10 Appendix X: Informed Consent Form (Swahili Version)

Jina la Mtafiti mkuu: Bi. Jackline Isdory Sanga

Kichwa cha utafiti: Kutambua Mchango wa Kipimo cha kujipima VVU(ST) katika kuongeza matumizi ya Huduma za VVU Miongoni mwa Wanaume katika halmashairi ya Geita vijijini**.**

Utangulizi

Mimi ni mwanafunzi shahada ya uzamili wa Usimamizi, Ufuatiliaji, na Tathmini ya miradi ya Afya katika Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili (MUHAS). Ningependa kukualika kushiriki katika utafiti huu. Ikiwa utakubali kushiriki katika utafiti huu, utahojiwa kuhusu mchango wa kipimo cha kujipima VVU na matumizi ya huduma za VVU kati ya wanaume wa halmashauri ya wilaya ya Geita vijijini. Nina nia hasa ya kutathmini sababu zinazohusiana na mtu binafsi, jamii na mfumo wa afya zinazoathiri matumizi ya kipimo cha kujipa kati ya wanaume katika halmashauri ya wilaya hii. Mahojiano yatachukua muda wa dakika 30 - 45 kwa Mahojiano ya Watoa Taarifa Muhimu na saa 1 hadi 2 kwa Majadiliano ya Kikundi.

Faida

Hakutakuwa na faida za moja kwa moja kwa washiriki binafsi; hutapokea malipo yoyote au fidia nyingine. Majibu yako yatakuwa muhimu kwa watoa huduma za afya na timu ya usimamizi wa afya ya halmashauri (CHMT) katika kuimarisha/ kuboresha utekelezaji wa programu za kujipima VVU, kuhusu kupata huduma za ushauri na upimaji wa VVU katika jamii ya halmashauri ya wilaya ya Geita

Madhara ya Ushiriki

Hakuna madhara yoyote yanayoweza kupatikana kutokana na ushiriki wako kwenye utafiti huu , kwa hivyo usalama wako umehakikishwa. Kuna hatari ndogo, usumbufu unaweza kuwapo kwa sababu ya maswali yanayohusiana na maswala ya ngono au usumbufu unaohusiana na tathmini hii mbali na kwamba zoezi litachukua muda wako, ambayo inaweza kuathiri ahadi zingine ambazo tayari unazo.

Usiri

Taarifa zote unazotoa wakati wa mahojiano/majadiliano haya zitakuwa za siri kabisa, na zitatumika kwa madhumuni ya ukaguzi huu na kuarifu maamuzi ya sera. Matokeo ya mahojiano/majadiliano yanaweza kuchapishwa kwa madhumuni ya kisayansi, lakini matokeo yatajumuishwa na yatategemea data isiyojulikana.

HAKI ZA MSHIRIKI KATIKA UTAFITI HUU:

- ***Hiari.***

- Ushiriki wako katika zoezi hili ni wa hiari na unaweza kukataa kushiriki, au kuacha wakati wowote, bila kusema sababu yoyote. Kujiondoa kwako hakutaathiri kazi yako.

- ***Kujiondoa:***
  - Kujiondoa kwako hakutaathiri kazi yako. Ikiwa wakati wowote wakati wa kukamilika kwa dodoso unayotaka kuacha, unaweza kufanya hivyo.
  - Pia tuna haki ya kukuondoa kwenye zoezi ikiwa inachukuliwa kuwa kwa faida yako.

Mshiriki

Nimesoma fomu hii ya ridhaa na nimepewa nafasi ya kuuliza maswali. Ninatoa idhini yangu ya kushiriki katika utafiti huu.

Idhini Imetolewa? **Ikiwa **Hapana sitisha** mahojiano**	**Ndiyo**	**Hapana**
Tarehe ya Mahojiano:		
Jina la Mhojiwa Jina_____ **Saini; _____au Kidole Gumba: _____**		
Taasisi/Shirika/Kata	**Wilaya**	**Mkoa**
Kwa maelezo zaidi, tafadhali wasiliana na Mtafiti Mkuu Bi. Jackline Isdory Sanga Barua pepe: jakisang90@gmail.com Simu ya mkononi **+ 255 762324241**		

UFAFANUZI AU MATATIZO

Ikiwa una maswali yoyote kuhusu zoezi hili au unahisi kwamba umeumizwa kwa kushiriki katika utafiti huu au jinsi unavyotendewa na zoezi au haki zako kama mshiriki, au unahisi kwamba umeumizwa kwa kushiriki katika utafiti huu, tafadhali wasiliana na nambari ifuatayo.

1. Bi. Jackline Sanga – 07623242 (Mtafiti MKuu)
2. Dk. Nahya Salim Masoud - 02221503086 (Mwenyekiti MUHAS IRB)

Tamko La mtafiti.

Ninathibitisha kwamba mshiriki amepewa muda wa kutosha wa kusoma na kupata kuelewa kuhusu utafiti.

Maswali yote na ufafanuzi uliotolewa na mshiriki umeshughulikiwa.

Saini ya Mtafiti……Tarehe.....

8.11 Appendix XI: Summary of Qualitative data analysis		
Code	Sub-category	Category
● Married males prefer HIVST because it gives a room for privacy during testing ● Other male afraid to use HIVST for fear of being discriminated against by their spouse and family members if results are positive. ● Low uptake of HIVST at home and facility due to lack of trust among partners in marriage	Demographic features of the adult males	Individual-related factors influencing HIVST uptake among adult males
● Lack of time to seek for HIVST tools ● There is low uptake of HIVST among men because they are busy with work and don't have time to attend HIVST campaigns compared to women.	Socioeconomic status of the adult males	
● Adult males hear about HIVST from the radio and other male attend CTC for ART.	Media exposure	
● Adult male with multiple sexual partners uses HIVST in order to have unprotected sex.	Number of sexual partners	
● Lack of trust and awareness towards HIVST	Attitude towards HIVST	
● Reluctant to use HIVST unless health conditions get serious due to lack of knowledge on HIVST.	Health literacy about HIV	
● People refuse to test for HIV for fearing their health status will be disclosed to the public. ● People afraid to be stigmatized and discriminated if they are HIV positive ● People are afraid to test for HIV for fear of Stigmatization and marriage break up when the results turn to be positive	Stigma and discrimination	Community-related factors influencing HIVST uptake among adult males
● Majority of men are not aware of HIVST and don't trust it since it involves swabbing saliva rather than drawing blood. ● Existence of misconception that men can't be infected with HIV easily and lack of awareness among men on the importance of HIV testing.	Community perception and attitude	

● HIVST at home provides assurance of privacy and confidentiality than going to the facility where other people may notice.	Perceived lack of confidentiality	
● Lack of trust and negative perception that HIVST provides false results since it involves saliva rather than blood. ● Misconception that traditional and religious leaders can cure HIV.	Misperception of HIV care and treatment	
● Lack of awareness, time and willingness leads to low uptake of HIVST among adult male	Level of community health literacy on HIV	
● There is an adequate ssupply of HIVST kits in the health facilities only in remote areas. ● Some people prefer HIVST because health facilities are located very far. ● HIVST is easy to use and convenient after being instructed by a health worker.	Distance to a health facility	Health system-related factors influencing HIVST uptake among adult males in the facility
● Health workers provide HIVST kits are provided by health workers during community visits		
● Other adult male fail to use HIVST because supplies are not easily accessible. ● HIVST supplies perish on the way due to long distance and thus only those who live in the neighborhood seek HIVST at the facility.	Availability of HIVST essential supplies	
● Some people don't prefer to perform HIVST at the facility if the health worker knows them for fear of discussing the results to others.	Level of privacy and confidentiality at the facility	
● Poor internet connection and prolonged waiting time discourage people from seeking HIVST at the health facility.	Waiting time (hours)	
● Due to lack of knowledge some spouses refuse their male partners to use HIVST thinking they are unfaithfully. ● Other men refuse to use HIVST because they are on ART without informing their spouses	Barriers to HIVST uptake among adult male in the community	Barriers to HIVST uptake among adult males in this community

8.12 Appendix XII: Ethical clearance

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATION

Ref. No.DA.282/298/01.C/1793 Date: 07/07/2023

MUHAS-REC-07-2023-1793
JACKLINE ISDORY SANGA
SHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: DETERMINE THE CONTRIBUTION OF HIV SELF-TESTING ON THE UPTAKE OF HIV SERVICES AMONG ADULT MALES IN THE GEITA DISTRICT COUNCIL

Reference is made to the above heading,

I am pleased to inform you that the Chairperson has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 07/07/2023
EXPIRATION DATE OF APPROVAL: 07/07/2024

STUDY DESCRIPTION:

Purpose:

The purpose of this planned study is to assess whether HIV self-testing (HIVST) boosts testing, results in new HIV-positive diagnoses, and links to antiretroviral therapy and the factors influencing among adult males in Geita DC.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided:
https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2014863.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain data transfer agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain material transfer agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country,
8. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
9. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
10. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/.

Dr. Nahya Salim Masoud,

Chairperson, MUHAS Research and Ethics Committee



8.13 Appendix XIII: Introduction letter

HALMASHAURI YA WILAYA YA GEITA
(Barua zote zipelekwe kwa Mkurugenzi Mtendaji Wilaya)

MKOA WA GEITA
Simu Na. 028-2520061 Nukushi
Na: 028-2520061 Barua pepe:
ded@geitadc.go.tz

Kumb. Na.GDC/PFH.41/6

Ofisi ya Mganga Mkuu (W),
S.L.P 139,
GEITA.

Idara ya Afya,
S.L. P139,

GEITA.

15 Agosti 2023.

YAH:- KUMTAMBULISHA JACKLINE ISDORY SANGA

Tafadhali husika na somo hilo hapo juu,

Barua hii ui kumtambulisha kwako Jackliue Isdory Saga (HD/MUH/T.858/2020), mwauafuuzi wa shahada ya Uzamili wa Usimamizi, Ufuatiliaji, ua Tathmiui ya miradi ya Afya katika Chuo Kikuu cha Afya ua Sayausi Shirikishi cha Muhimbili (MUHAS).

Ikiwa schemu ya masomo yake auatarajia kufauya utafiti weuye Kichwa cha utafiti: "Kutambua Mchaugo wa Kipimo cha kujipima VVU(ST) katika kuougeza matumizi ya Huduma za VVU Miougoui mwa Wauaume katika halmashairi ya Geita vijijiui."

Tafadhari mpe msaada uuaohitajika ili aweze kukamisha utafiti wake.

Wako

Wako, Katika Utumishi wa Umma.

Dr. Mode t B.L (MD, MPH)
Kny:- MKURUGENZI MTENDAJI (W)
HALMASHAURI YA WILAYA YA GEITA

Nakala:
Mkurugenzi Mtendaji (W)
GEITA (Aione kwenye Jalada)

K.n.y MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA GEITA