UNIVERSITY OF MALAWI

College of Medicine

Barriers and Facilitators to the Uptake of HIV Testing Services Among Adolescents and Young Adults in Machinga District, Malawi

By

Joseph Jasper Sakala

Bachelor of Library & Information Science

(MPH 201770074109)

A Dissertation Submitted in Partial Fulfilment of the Requirements of the Master of Public Health Degree

March, 2020

CERTIFICATE OF APPROVAL

The Dissertation of Joseph Jasper Sakala is approved by the Dissertation Examination Committee

_____

Associate Professor Fanuel Lampiao

(Chairman, Post Graduate Committee)

_____

Professor William Stones

(Supervisor)

_____

Professor Kenneth Maleta

(Internal Examiner)

_____

Dr. Charles Mangani

(Head of Department)

DECLARATION

I, **Joseph Jasper Sakala**, hereby declare that this dissertation is my original work towards the Master of Public Health degree and has not been presented for any other awards at the University of Malawi or any other University. It contains no material previously published by another person nor material which has been accepted for the award of any degree of any university, except where due acknowledgement has been made in the document.

Name of Candidate: **Joseph Jasper Sakala**

Signature: _____

Date: March, 2020

ACKNOWLEDGEMENTS

I wish to thank Dr Arnold Kapachika, the Machinga Acting Director of Health and Social Services at the time of this study, for the support rendered to me by endorsing this study so that it utilizes Machinga District Hospital and Ntaja Health Centre as entry points, and also by ensuring that I operated within a receptive environment among district and community staff who guided the study team. Special thanks should also go to my employers at Johns Hopkins Centre for Communication Programs, especially the M&E Advisor Dana Loll, for allowing me the needed study/leave time – even in times of work pressure – so that I manage to concentrate on my studies. I will never take that for granted. Those who helped me with data collection, as well as all the respondents to this study, also deserve a very special kind of recognition. My mum, family and relatives back home and elsewhere also deserve a mention for their social support.

Finally, I am also greatly indebted to my supervisor, Professor Will Stones, for all his guidance and constructive criticism. Those quick email responses every time I sent you a draft of my work really made me approach the study from an increasingly informed perspective every subsequent time. Without you sir, I wouldn't have come this far. Any shortfalls in this study cannot, in any way, be attributed to lack of supervision or the poor nature of the same. I say thank you.

Above all, I thank God for keeping me alive all these years and giving me good health so that I get to this point and possibly beyond.

DEDICATION

To my wife **Kettie** and my beautiful daughter, **Tiffany (TT**); thank you for enduringly living through all those long absences from home by me, and those long hours during which I almost felt like I was neglecting you in preference of my academic pursuits. In a way, you toiled through this journey just as much as I did, and maybe even more. I owe all my achievements to your love, tolerance and understanding. This was your project, and I dedicate it to you. May you continue living in the abundance of God's blessings.

ABSTRACT

Introduction – While studies generally indicate a low uptake of HIV testing Services (HTS) among young people, other reports also indicate a worrying HIV burden among the same group. For example, the United Nations Children's Fund (UNICEF) recently reported that globally, new infections have been dropping in all demographic groups except amongst young people where they have largely remained constant. The low HTS uptake among young people, therefore, mean that many of these infections remain undiagnosed, limiting the ability to control transmission.

Objectives. – The study's objective was to explore the factors that motivate, as well as factors that hinder, the uptake of HIV Testing Services among adolescents and young adults in Machinga District of Malawi at the individual, interpersonal, community and health service system levels.

Methods. – 24 In-depth interviews and 4 key-informant interviews were used to collect data, and purposive sampling was used to identify respondents. Respondents were adolescents and young adults aged 15-24 years, as well as HTS and youth-friendly health service (YFHS) providers. Data from audio recordings were transcribed in Microsoft Word and analyzed for content to generate themes. Data coding and analysis was done using Atlas 7.

Results. – The study found that perceived risk of infection, perceived benefits of knowing one's status for couples, availability of community-level youth clubs and other interaction fora, and the provision of HTS through outreach clinics were key facilitators for HIV testing. The findings also established that fear of a positive result, poor communication in relationships and families, cultural norms as well as lack of youth-friendly HIV testing services were key barriers to HIV testing.

Conclusions. – The study establishes the critical role of mobile HIV testing through outreach clinics and other community-based avenues in encouraging access to HTS by young people. The findings also suggest that stigma and misconceptions associated with HIV/AIDS are still issues in Malawi as evidenced by the fear of a positive result also emerging as a critical barrier to HTS.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

AGYW	Adolescent Girls and Young Women
AIDS	Acquired Immuno-deficiency Syndrome
BLM	Banja La Mtsogolo
CDC	Centers for Disease Control
CHAM	Christian Health Association of Malawi
DHO	District Health Office
DI	Dignitas International
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe
HBVCT	Home-based Voluntary Counseling and Testing
HIV	Human Immunodeficiency Virus
HSA	Health Surveillance Assistant
HTC	HIV Testing and Counseling
HTS	HIV Testing Services
IDI	In-Depth Interviews
KII	Key Informant Interviews
MDHS	Malawi Demographic and Health Survey
MPHIA	Malawi Population-based HIV Impact Assessment
OR	Odds Ratio
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PITC	Provider-initiated Testing and Counseling
PSI	Population Services International
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund

VCT	Voluntary Counseling and Testing
WHO	World Health Organization
YFHS	Youth Friendly Health Services

CHAPTER 1: INTRODUCTION

1.1. BACKGROUND TO THE STUDY

1.1.1. The HIV/AIDS Burden among Adolescents and Young People

Adolescents and young people continue to be one of the most, if not the most, adversely affected group by the HIV and AIDS epidemic. Globally, an estimated one-third of all new HIV infections occur among youths aged 15 to 24 years [1]. According to information sourced from the World Health Organization's website, over 30% of all new infections are estimated to occur among young people aged 15 to 25 years [2].

In general, HIV treatment and care interventions aimed at young people have largely fared poorly when compared to those targeting adults because young people usually tend to get tested late when their immunity is already low [3]. According to the 2016 annual results report by the United Nations Children's Fund (UNICEF), while the annual number of new HIV infections has plummeted amongst children since the year 2000, that of adolescents had largely plateaued for the five years or so preceding the report [4]. Even worse, the report also highlighted AIDS as the leading cause of death amongst adolescents in Africa and one of the leading causes of death among adolescents globally [4]. The report also indicated that 'adolescents represent the only age group where deaths due to AIDS are not decreasing' [4].

However, a 2017 Joint United Nations Programme on HIV/AIDS (UNAIDS) report highlighted that adolescent girls and young women are at more risk of HIV acquisition than their male counterparts. According to the report, young women remain at an unacceptably high risk of HIV infection, mostly in high-prevalence regions of the world [5]. In eastern and southern Africa, for example, young women aged between 15 and 24 accounted for 26% of new HIV infections in

2016 despite making up just 10% of the population [5]. Similarly, young women of the same age group in western and central Africa and the Caribbean respectively accounted for 22% and 17% of all new HIV infections in the same year [5]. The report also reveals that in Africa AIDS-related illnesses remain the second leading cause of death for young women aged 15–24 years [5]. These facts also seem to be corroborated by the 2016 UNICEF report, which also highlighted that globally, girls make up 65% of new HIV infections among adolescents aged 15–19 [4], thereby underscoring the plight of adolescent girls and young women (AGYW) when it comes to the HIV/AIDS epidemic. Among other reasons for this burden among females, Wong and others suggested that transactional sex (sex offered in exchange for things like money, gifts or other favours) is partly to blame. This conclusion was arrived at based on a cited modes of transmission study conducted in South Africa which highlighted the fact that AGYWs are primarily infected by older males, thereby putting them at a risk of earlier infection [1].

In Malawi, the situation is not markedly different from the global situation. The 2016/17 Malawi Demographic and Health Survey (MDHS) put the national HIV prevalence at 8.8%, indicating a general downward trend from 10.6% in 2010 and 11.8% in 2004 [6]. Roughly a third of all new HIV infections (12,500 out of 36,000) in 2016 occurred amongst young people aged 15-24, of which 70% were women [7]. For all age groups, the 2015/2016 MDHS largely attributed this statistic to unsafe sex practices as well as the practice of having multiple concurrent sexual partners. Approximately 13% of males reported having more than one sexual partner, despite the fact that only 30% of the males reporting having more than one sexual partner reported having used a condom during their last sexual encounter [6]. Furthermore, a 2011 doctoral thesis study by Mkandawire also found out that the HIV/AIDS epidemic itself has led to a burgeoning population of orphaned adolescents, placing them at risk of HIV and AIDS. Their destitution

exposes them to such risky behaviors as early sexual debut and being engaged in casual labour (*ganyu)* which is increasingly associated with transactional sex [8].

1.1.2. HIV Diagnosis among Adolescents and Young People

Provision of HIV testing services (HTS) is an important preventive strategy and constitutes the entry point into the care and treatment cascade [9], meaning that individuals need to know their HIV status so that if found positive, they can begin life-saving antiretroviral therapy (ART). Despite the worrisome HIV burden among adolescents and young people however, studies indicate low rates of HIV diagnosis due to low uptake of HTS amongst young people aged 15-24. This, consequently, leads to less of those who are HIV positive being initiated on anti-retroviral treatment – all of which is a blow to UNAIDS' ambitious 90-90-90 strategy [5] and a challenge for epidemic control, because ART and adherence to the same leads to viral load suppression which in turn reduces the likelihood of HIV transmission and a lowering of new infections.

According to the World Health Organization, access to – and uptake of – HTS by adolescents is significantly lower than for adults. The WHO reported that only 10% of young men and 15% of young women aged 15 to 24 in sub-Saharan Africa are aware of their HIV status [3]. The 2017 UNAIDS report referred to above, citing multiple population-based HIV impact assessments done in Zambia, Malawi and Zimbabwe also indicated that there is a general low awareness of HIV status among young people living with HIV in these three countries [5]. For instance, prior to the implementation of a notable community-based services intervention in 2013 in Zambia, just 24% and 34% of men and women living with HIV respectively were aware of their HIV status [5]. Similarly, a baseline survey of 32 rural communities in Kenya and Uganda found that knowledge of HIV status among young people (aged 15–24 years) living with HIV was only at 50%, compared to 67% among adults aged 25 and older [5].

Just as young people are disproportionately affected, young women are also the most burdened by the HIV/AIDS epidemic. According to some reports, only one in five HIV-positive adolescent girls knows her HIV status in the sub-Saharan Africa region despite Sub-Saharan Africa having the highest burden of HIV among this population [1]. In short, this makes AGYWs a very critical population in all interventions that aim to link HIV positive young people to care and treatment services, starting with HIV testing services (HTS).

In Malawi, the situation is not any better; the 2015-16 MDHS reported that 50.6% of women and 31% of men aged 15-19 had tested for HIV and received results of their test within the year leading up to the survey [6]. Among the 20 to 24 age group, the proportions were 54.8% and 53.7% amongst women and men respectively. Yet, a good proportion of these young people had reported engaging in sexual intercourse within the same 12-month period preceding the survey [6]. The 2015-2016 Malawi Population-based HIV Impact Assessment (MPHIA) survey reported that of all the surveyed HIV positive respondents aged 15 to 24 years, only about half of them (49.8%) were aware of their status [9]. The low awareness of these young people's HIV status endangers their health and well-being as they are not able to initiate ART, suppressing their viral load and allowing them to life long and healthy lives.

The situation described in this section demonstrates the significant challenge to HIV/AIDS epidemic control, since the undiagnosed adolescents and young people are not linked to HIV treatment and care, which consequently means that, for those who are HIV positive, their viral load cannot be effectively suppressed, making them a potential source of new infections to others.

1.2. STATEMENT OF THE PROBLEM

The prevalence of HIV testing among young people aged 15-24 in Malawi is low; in general hovering around 53% among women and 45% of men according to the 2015-2016 MDHS [6]. Testing and counseling for HIV is the entry point to care and treatment, and it is at the forefront of the 90-90-90 UNAIDS strategy [5]. While acknowledging that global progress in achieving the first 90 had been lower than intended by 2016, the 2017 mid-point UNAIDS Global AIDS update on the strategy emphasized that knowledge of HIV status is the first step in this cascade, and that when it is low, subsequent efforts to enroll people living with HIV into care and to initiate and sustain treatment, i.e. the second and third 90s, are negatively affected [5].

Furthermore, there is a notable discrepancy between Malawians' general knowledge of where to obtain an HIV test and receiving HIV testing services. The 2015-2016 MDHS reported that across all ages, the vast majority of women (95%) and men (96%) know where to obtain an HIV test [6]. However, in the 12 months preceding the survey, the proportions of women and men who had been tested for HIV were, respectively, only 44% and 42% [6]. Based on this discrepancy, there is a need to understand the barriers to accessing services as well as the factors that are associated with this low utilization of HIV testing services.

Machinga District is a district in Southern Malawi with a substantial HIV burden, particularly among young people. The HIV prevalence in the Southern region is 12.8%, higher than the national 8.8% HIV prevalence [6].

Finally, an analysis of the Population Council's previously-collected data by Project Supporting Operational AIDS Research (SOAR) in Machinga district found that the prevalence of HIV generally increased among young people aged 17-23 between 2010 and 2013, with HIV

incidence per 1000 young males and females being at 3.2 and 9.7 respectively [10]. Given that around 50% (half) of young people aged 15-24 in Malawi do not know their status [6], it is likely that unknowing HIV transmission continues to occur. This, in turn, could be contributing to low uptake of care and treatment among those living with the virus since it is only by HTS that those infected can be diagnosed and started on treatment early enough to abate severe immunosuppression associated with opportunistic infections.

1.3. RESEARCH QUESTIONS

a) What are the factors that hinder or discourage adolescents and young adults from testing for HIV?
b) What are the factors that facilitate or encourage utilization of HIV testing services for adolescents and young adults?

1.4. LITERATURE REVIEW

1.4.1. HIV Testing Services and HIV/AIDS Epidemic Control

Many health practitioners have endorsed and advocated for widespread HIV testing in the spirit that awareness of one's HIV serostatus is an important element of HIV prevention and treatment efforts. For example, a 2007 report of a United States based randomized trial and intervention study targeting 1,430 sexually-active young people by Tolou-Shams and others concluded that adolescents who received HIV testing were more likely at baseline to have ever been tested, to have had an STI screening, to have not used substances during sex and to have been assertive about condom use with a partner [11]. The study determined that getting tested for HIV does not only contribute to successful treatment efforts, but also that there is a very strong and positive correlation between HTS and proactive HIV prevention behaviors.

In a 2015-2016 qualitative analysis of other HTS-related studies conducted in Malawi and other East and Southern African Countries, Witzel and others were able to also draw a relationship between undergoing HTS and being motivated to adopt and sustain behavior change in relation to HIV prevention. In short, the meta-ethnographic review was able to establish that high quality counselling interventions helped to achieve motivational aims and were effective in providing information on sexual health and condom use, which in turn led to increased perceptions of risk [12]; the absence of which, can be a major barrier to HTC uptake. The counselling that accompanies testing was also found to be effective in addressing myths around HIV and increasing knowledge about condoms and how to use them [12]. Suffice to say that these findings clearly demonstrate just how crucial testing for HIV is in as far as controlling the HIV/AIDS epidemic is concerned.

1.4.2. Uptake of HIV Testing Services Among Adolescents and Young People

Uptake of HIV testing services has generally been low among adolescents and young adults in recent years, as demonstrated by several well-designed studies. For example, a 2015 study carried out in the United States of America (USA) by Handel and others, focusing on a 2005-2013 trend analysis among high school students and young adults aged 18 to 24 years, found that there was low HIV testing prevalence among the target population and that in the years under scrutiny, there had been no increase in testing among young adult males [13]. Furthermore, testing prevalence had decreased among young adult black females, all of whom were groups at an unfortunately higher risk of HIV infection [13]. In short, the study's results established that an average of 22% of high school students who had ever had sexual intercourse and 33% of young adults in general reported ever being tested for HIV, and that among young adult males, an average of 27% had ever been tested. Furthermore, decreases in testing

prevalence were detected during 2011–2013 among young adult females overall (from 42.4% to 39.5%) [13].

In another study also carried out in the United States, Wong and others found that 59% of adolescents and young adults ages 13–29 who are living with HIV remain undiagnosed [1]. This means that less than half of these HIV positive young people know their serostatus, which is a very significant challenge in the global community's effort to link the majority (at least 90%) of HIV positive individuals to care and treatment programs [5]. Similarly, a 2013 population-based household survey conducted in South Africa found that of the surveyed young people aged 18 to 24 years, only 52.2% reported having tested for HIV [14]. Again, this means that close to half of such young people remain undiagnosed.

In another example, a 2015 randomized controlled trial (RCT) by Kranzer and others tested the impact of incentives on the uptake of HIV testing among older children and adolescents (age 8-17) in Zimbabwe. This research was also premised on a situational analysis that had established that the prevalence of undiagnosed HIV was high in the targeted group if compared to adults due to the low utilization of HIV testing amongst the former, and that that contributed to low coverage of antiretroviral therapy among the target group as a result [15]. The report backed this argument by citing a meta-analysis that had just been conducted in South Africa which had estimated that only 14% of children and adolescents aged 15–24 years who were living with HIV were accessing ART, largely due to being undiagnosed. And true to their initial assumptions, Kranzer and others went on to conclude that fixed and lottery-based incentives increased the uptake of HIV testing by older children and adolescents [15]. All of these in general point to a general low uptake of HTS among young people globally.

1.4.3. Factors Associated with HIV Testing Services' Uptake Among Adolescents and Young People

A lot of studies have been carried out to determine factors associated with the uptake of HTS among adolescents and young people. Most of these studies have been aimed at identifying the inherent barriers and facilitators to HTS uptake. For instance, in a 2017 quantitative study carried out in the Northern Region of Malawi, Mkandawire found out that at the individual level among both boys (OR = 0.39) and girls (OR = 0.47), being an orphan is associated with low likelihood of HIV testing, whereas having correct knowledge about HIV/AIDS (OR = 2.55) and having secondary level education (OR = 3.24) are positively associated with HIV testing among both boys and girls [16]. The study also found that at the household level, living in a household whose head has secondary or higher education is positively associated with testing for boys (OR = 2.63), while residing together with biological siblings predicts higher odds of testing (OR = 2.67) for girls [16]. At the community level, having an HIV testing facility or post-test club was found to be positively associated with HIV testing for boys, while girls from areas where religious leaders hold judgmental views about HIV/AIDS are less likely (OR = 0.45) to test [16]. Findings like these suggest that any initiatives at assessing factors associated with testing among young people need to take a holistic approach if the challenge is to be effectively tackled [16].

In another example, a 2013 study targeting 3,123 young people aged 18 to 24 years in South Africa, it was found out that older age, being female, HIV knowledge, having ever talked to the mother or female guardian about HIV, and having ever been pregnant or made someone pregnant were found to be predictors of higher odds of testing for HIV [14]. After having conducted a study targeting 600 young people aged 18 to 24 years, Macharia noted in a Masters' thesis submitted to the University of Nairobi in 2013 that despite near universal

knowledge of HIV and AIIDS in general as well as HTS in particular, only a little over 60% of respondents reported having tested for HIV [17]. Among those who had never taken a test before, several factors were presented as barriers; 34.6% thought they were not at risk, 20% had no reason, 18.4% were held back by fear, 14.6% had never been offered a test, 9.7% said they were too young [17]. The rest, less than 3%, of the respondents either did not know about the test, where to get tested, or did not see the need because their partners had tested negative [17]. Macharia's findings point more towards behavior change communication at the individual level as a way of addressing the challenge in question.

Another mixed-methods study conducted by Indravudh and others in Malawi and Zimbabwe in 2017 also discovered a strong agreement across data collection methods as well as studied countries based on the product (in other words, HTS), provider and service characteristics as triangulation parameters [18]. In general, cost was identified as a barrier where HTS comes at a price, as testing was found to be highly acceptable to young people if provided at no or very low cost [18]. Secondly, there was a general lack of trust in health providers and an apparent preference for lay community distributors or providers. Respondents also mentioned issues regarding autonomy, control, respect, and confidentiality as key qualitative themes. These particular findings would potentially suggest a robust youth-friendly health services network in order to address the HTS uptake challenge among young people [10,11].

In a 2016 qualitatively designed meta-ethnographic study utilizing a systematic literature review of studies investigating HTS in East and Southern Africa from 2003 to 2014, carried out in Malawi and other East and Southern African countries, Witzel and others established that personal illness, risk perceptions and social interactions were significant factors in influencing an individual's decision to get tested for HIV [12]. To that end, the study also

established some key barriers and facilitators to HTS uptake, including stigma, health service quality, fear and gendered norms [12]. In the context of stigma and fear, Witzel and others found that "individuals were often reluctant to access testing because of fears around being seen at HIV clinics, as well as the social implications of a positive diagnosis" (p. 9), whereas on health service quality confidentiality, proximity and convenience were key in facilitating access to testing [12]. All in all, the study concluded that provider-initiated testing and counseling (PITC) as well as home-based voluntary testing and counseling (HBVCT) dealt with issues of stigma, fear and gendered norms much more effectively than the normal facility-based voluntary counseling and testing (VCT).

1.5. RATIONALE/JUSTIFICATION FOR THE RESEARCH PROJECT

Knowledge of HIV status helps HIV-negative individuals make decisions to reduce risk and adopt safer sex practices in order to remain disease free. For those who are HIV positive, such knowledge facilitates linkage to care and treatment, and it also allows them to take actions to protect their sexual partners. Even though a number of studies have been conducted to understand the factors behind low HTS uptake among young people in Malawi, such studies have consistently taken a quantitative approach whereby a pre-determined set of factors were assessed to determine the strength of causation between them and either the low or high uptake of HIV testing services amongst the target audience [16]. This study's qualitative approach intends to build on that knowledge by getting an in-depth understanding from the target population on factors that can otherwise not be preconceived at the design stage.

Secondly, in other studies such as the one done in 2016 in the four sub-Saharan countries of Congo, Mozambique, Nigeria and Uganda by Asaolu and others, the focus has largely been on demographic and behavioral factors; such as age, sex, comprehensive knowledge of HIV and prior

STI history [19]. On the other hand, with the social-ecological framework approach, this study will add to the existing knowledge by analyzing – in addition to the above demographic factors - the social-economic, cultural, policy as well as health system factors associated with the problem of low HTS uptake among young people.

On service provision, the Malawi government, complemented by other organizations, has scaled up HTS in recent years using both voluntary counseling and testing (VCT) as well as provider-initiated testing and counseling (PITC). Despite these investments however, the efforts have not achieved the desired effects. In Machinga district, recognized by PEPFAR as a high priority or 'acceleration' district [20], organizations that have been implementing multi-year HIV testing intervention programs include Dignitas International (DI), Population Services International (PSI), Johns Hopkins Center for Communication Programs, Banja La Mtsogolo (BLM) and the DREAMS partnership of local and international implementing partners. These programs have been complementing the HTS provision efforts by the Machinga District Health Office for several years now. A number of these organizations, like Johns Hopkins through the One Community project and also as part of the DREAMS partnership, have approached their HTS programs with more innovative and high-impact testing modalities in the district, such as index-case testing, as a way of addressing some of the factors highlighted above [21]. Still, only 88,049, which is barely 70% of all young people aged 15-24 in the district, got tested for HIV in 2017.[1]

Finally, the majority of the studies reviewed in preceding chapters have largely focused on the youths themselves in understanding this problem [16][17]. However, this study supplements the

[1] These data were sourced from the district Dignitas International office as well as the district Health Management Information System (HMIS) office

knowledge and views of the young people with the inclusion of service providers of HTS and YFHS in the sampling frame. The study, therefore, contributes towards the development and design of effective programs for improving the first two 90s among adolescents and young people, and hopefully towards the achievement of the third 90 among the same group as well.

1.6. OBJECTIVES OF THE STUDY

1.6.1. Broad Objective

The study's main objective was to explore the factors that influence the uptake of HIV Testing Services (HTS) among adolescents and young adults aged 15 to 24 years in Machinga District.

1.6.2. Specific Objectives

1) To identify the personal, interpersonal (peer/family), community and health service system factors that discourage the utilization of HIV testing Services among adolescents and young adults in Machinga District.
2) To identify the personal, interpersonal (peer/family), community and health service system factors that facilitate adolescents and young adults' utilization of HIV testing services in Machinga District.

CHAPTER 2: METHODOLOGY

2.1. STUDY TYPE & CONCEPTUAL FRAMEWORK

This was a qualitative study that used in-depth interviews (IDIs) and key informant interviews (KIIs) to collect data. In order to investigate the objectives, the study used a modified Social Ecological Model to develop the interview guides and to code the collected information.

One example of a social-ecological model (**Figure 1**), as advanced by McLeroy and others in 1988, analyzes problems at five levels, namely the individual, interpersonal, organizational or institutional, community, as well as policy levels [22].

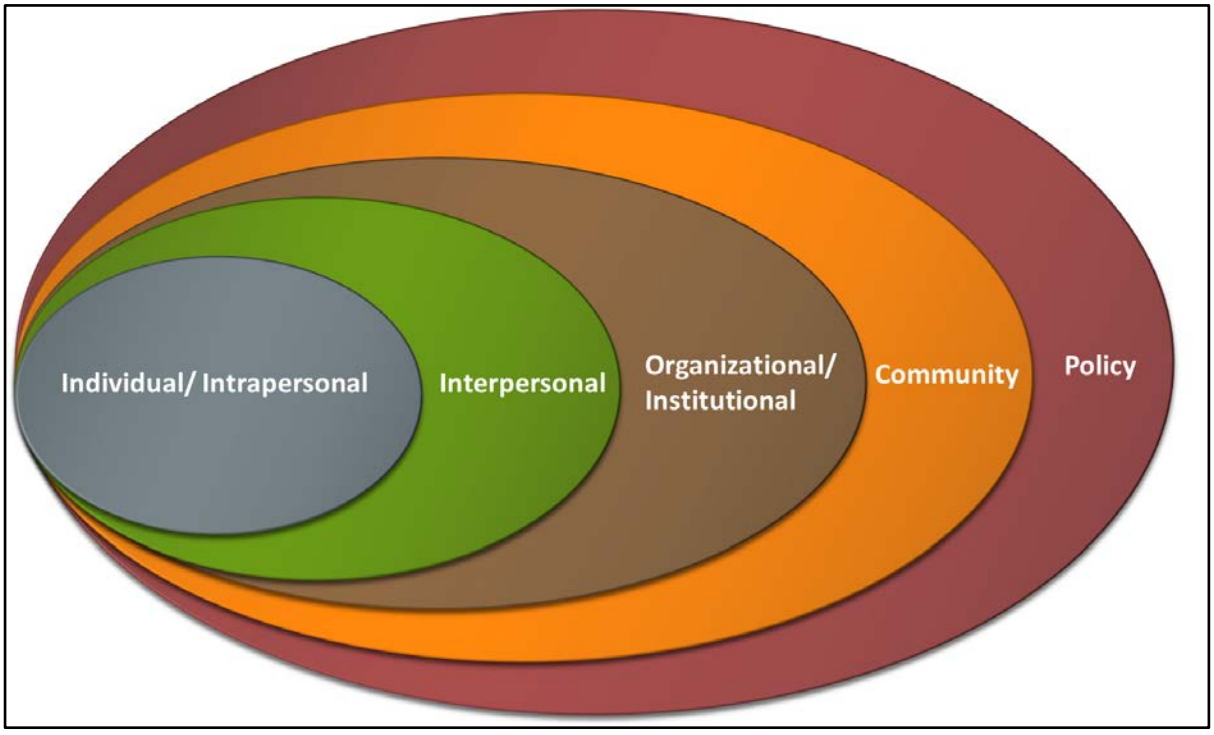


Figure 1: *Social-Ecological Model, adapted from McLeroy, Bibeau, Steckler, & Glanz (1988).*

However, for purposes of this study, the McLeroy version was modified by merging the policy and institutional/organizational levels into one; the health service system level. This modification

is based on the assumption that the policy as well as institutional issues that may affect HTS provision as well as the uptake of the same can be analyzed together rather than separately since it is the same institutions or organizations responsible for service provision that are also charged with policy implementation and enforcement in as far as HIV and AIDS related issues are concerned. Among others, factors at this level include availability of test-kits and other equipment and the supply-chain systems in place; testing sites and available HTS counselors, existing guidelines on provider-client ratios; accessibility of youth-friendly health services; as well as the linkage between the ministry of health and other sectors that also serve the targeted age group. Based on this modification, the conceptual framework for this study is presented in **Figure 2**.

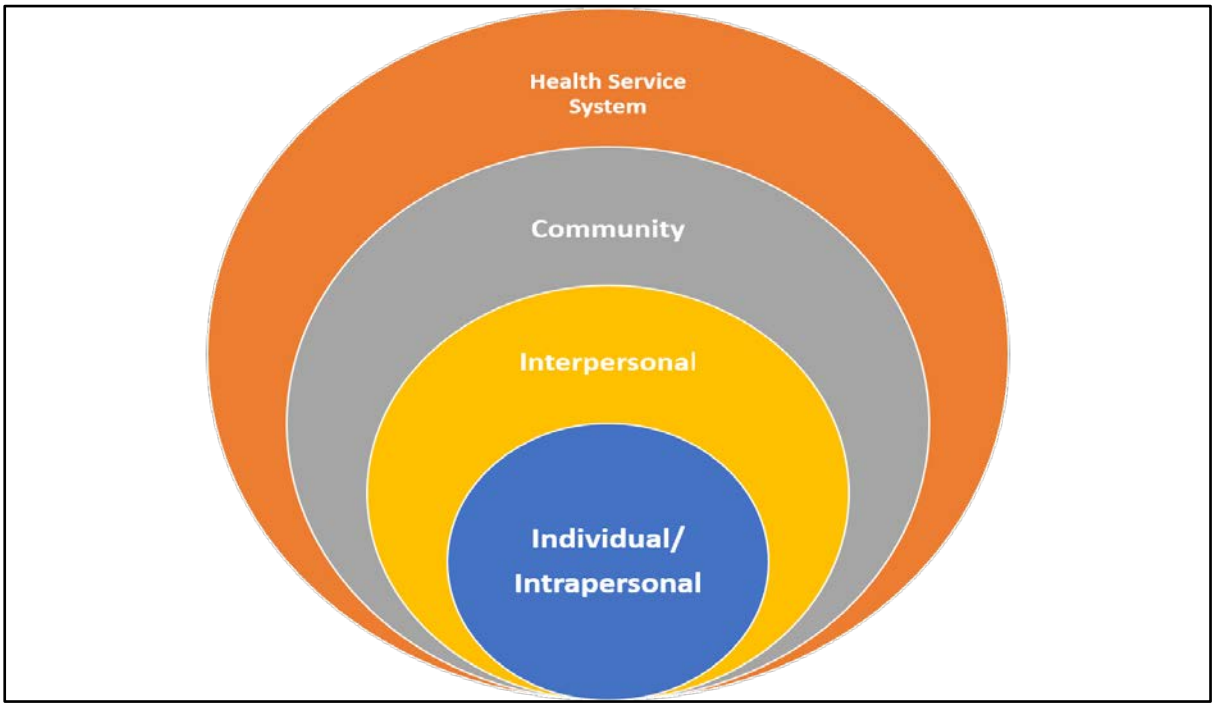


Figure 2: *a social-ecological model modified for the study*

2.2. STUDY PLACE

Machinga is one of the 13 districts in the southern region of Malawi. According to data sourced from the District Health Information System (HMIS) office, the district health system serves a

population of 668,233 people[2]. Health services in the district are coordinated by the Ministry of Health through the Machinga District Health Office (Machinga DHO). The Machinga DHO oversees 21 facilities, which include one district hospital, ten government health centers, six health centers run by the Christian Health Association of Malawi (CHAM) (three of which are under the Catholic Church), and four government dispensaries. All of these health facilities offer HIV testing services for free, including the CHAM-operated ones.

The study was carried out in two health facility catchment areas; one urban and one rural. The urban facility was Machinga District Hospital (T/A. Sitola) whereas the rural facility was Ntaja Health Centre (T/A. Kawinga). According to the NSO's 2018/2019 population estimations, Machinga District Hospital (MDH) serves a population of 50,946, representing 8% of the total district population, whereas Ntaja Health Centre serves a population of 48,833 people, representing 7% of the total district population. For how the two facility catchment areas are located in relation to one another, see **Figure 3** below.

In 2017, all the 21 health facilities in Machinga district reached a total of 207,943 people with HIV testing services, of which 88,049 (42%) were young adults aged 15 to 24 years[3]. In 2017, the Malawi population was made up of roughly 19% of young people aged 15-24[4]. Extrapolating that picture to Machinga district, then the above 2017 HTS data for Machinga means that approximately 69% of young people aged 15-24 in the district got tested for HIV. Though

[2] This is according to the National Statistical Office (NSO)'s 2018/2019 population estimations

[3] These data were sourced from the district Dignitas International office as well as the district Health Management Information System (HMIS) office

[4] Central Statistics Office, Malawi, population projections for 2017

seemingly impressive overall, this achievement is still far from desirable if the goal is to have as much of the sexually-active youth as possible to become aware of their HIV status.

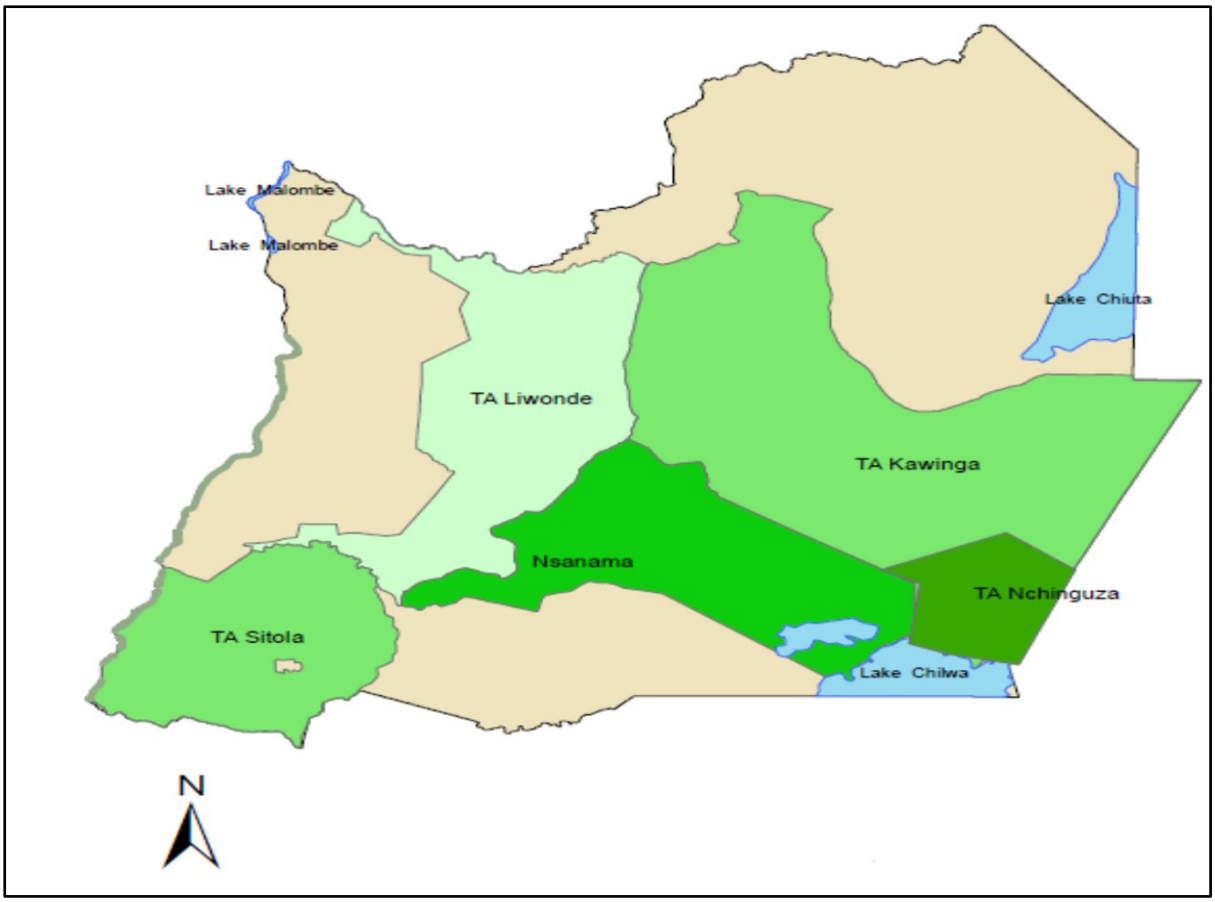


Figure 3: *Machinga T/As that serve as health facility catchment areas*

2.3. STUDY POPULATION

The study targeted adolescents and youths aged 15 to 24 years (both male and female), HTS providers and youth friendly health services (YFHS) providers based in and around the 2 selected health facilities. However, to supplement information from the public health system, some of the key informant service providers were also sampled from other implementing partners (non-governmental) that are operating within the two catchment areas. All of the respondents were purposefully selected to meet the parameters of the study.

2.4. STUDY PERIOD

Data was collected between March and June of 2019. The coding of data to deduce themes took place concurrently with data collection. The final report of the study was prepared between the months of June and July, 2019 – a period of not more than four months from the first month of data collection. This is summarized in **Table 1** below.

Table 1: *Study Period*

ACTIVITY	**TIMELINE (2018-2019)**										
	Sep. '18	Oct. '18	Nov. '18	Dec. '18	Jan. '19	Feb. '19	Mar. '19	Apr. '19	May '19	Jun. '19	Jul. '19
Proposal development & Submission											
Granting of ethical approval											
Data collection											
Transcription & Coding of Data											
Data Analysis											
Final report compilation											

2.5. SAMPLE SIZE

i. Background

As argued by Marshall and others in 2013, most research experts generally agree that there is no set standard or rules for sample size in qualitative research [23]. What all researchers agree on, however, is that there is a point where data starts to become saturated, or where adding more participants does not result into the generation of any new codes. Marshall and others

hypothesized that point to be around 30 interviews, after a study that examined 83 qualitative studies in the field of information systems research [23].

ii. Inclusion and exclusion criteria

For all study participants, the inclusion and exclusion criteria are summarized in **Table 2** below:

Table 2: *Inclusion and Exclusion Criteria*

	Inclusion criteria	**Exclusion criteria**
IDI participants	• Adolescents and young adults aged 15-24 • Both male and female • Both with and/or without prior testing history • Both married and unmarried • Those who were willing to participate	• Those outside the age group of 15-24 • Those who were not willing to participate
KII participants	• Service providers of HTS and/or youth-friendly health services (YFHS) • Working within the catchment areas of the 2 targetted health facilities • Government-employed or working for non-governmental/private organizations/institutions operating in the 2 targeted catchment areas • Those who were willing to participate	• Those who weren't trained in the provision of HTS and/or YFHS • Those who weren't working within the targeted catchment areas. • Those who weren't willing to participate

iii. Sample size

Using purposive sampling, this study targeted 32 in-depth interviews (16 males: 16 females) who were further stratified into those who have ever been tested and those who have never been tested. These were equally divided between the 2 targeted catchment areas. In addition to gender and testing history, however, the study also considered age in the purposive sampling of the

respondents. Six (6) key informant interviews among service providers were also targeted. This added up to a total of 38 in-depth interviews targeted by the study. However, it was also anticipated that data collection could be stopped at any point if it was determined that saturation had been reached before the 38 interviews. Per the inclusion and exclusion criteria in **Table 2** above, the IDI respondents were included based on residence within the targeted catchment areas as well as fitting the 15-24 age range. Similarly, service providers for the KIIs were included in the study based on whether they were HTS and/or YFHS providers as well as also being based or working within the targeted catchment areas. The targeted sample size is simplified in **Table 3** below.

Table 3: *Sample size for the study*

In-Depth Interviews				
	Urban		**Rural**	
	Male	Female	Male	Female
Ever tested for HIV	4	4	4	4
Never tested for HIV	4	4	4	4
Key Informant Interviews				
	HTS		**YFHS**	
Government	2		2	
Non-governmental	1		1	

2.6. DATA COLLECTION

i. Recruitment

For the adolescents and young adults who have tested for HIV before, they were recruited through the YFHS/HTC sites in the two facilities as they came for testing. After having been briefed prior to the study team's visit, the HTS providers within the facility determined eligibility for the study

by looking at the ages (15-24) and the condition of having tested for HIV and received one's results before referring the patron to the study team, who were onsite during the scheduled YFHS/HTC days, and who then undertook the process of seeking consent before proceeding with the interviews.

For the adolescents and young people without any testing history, they were identified at community level using Health Surveillance Assistants (HSAs) who work in the two facilities' catchment areas. Using these HSAs, messages were sent to the communities beforehand to ask adolescents and youths meeting such characteristics (age and no testing history) only to participate in the study. During the scheduled days, the study team then initiated the consent-seeking process before proceeding with the interviews.

ii. IDI data collection

Following the levels of the social-ecological model modified for this study, data were collected through in-depth interviews using interview guides for the adolescents and young adults (see **Appendices 1A & 1B**). This was done to capture factors associated with the utilization of HIV testing services at the individual, peer/family, as well as the community levels. Interviews were conducted by 3 people; the principal researcher and 2 other research assistants; one male and one female, to address any anticipated gender challenges. To ensure a uniform understanding of the necessary HTS terminology, the orientation for the research assistants emphasized on the tools that were translated into the local language, i.e. Chichewa (see **Appendices 1B & 2B**).

iii. KII data collection

In-depth key informant interview (KII) guides were used to collect data from the service providers to better understand the barriers and facilitators to HIV testing among adolescents at the

community and health service system levels of the social ecological model (see **Appendices 2A & 2B**). The principal investigator conducted all the key informant interviews within the facilities where the service providers were stationed.

2.7. DATA MANAGEMENT AND ANALYSIS

The participants' responses were recorded and later transcribed, after which the information was analyzed for coding and theme generation. The collected data were translated from Chichewa into English first, so as to enable the study team to do the coding in English. During coding, labels were assigned to words and phrases that represented recurring themes in participants' responses. These reccuring themes were extracted from transcribed texts by analyzing the word and sentence structure. All of the coding and thematic analysis was done using Atlas 7.

Data analysis was organized using Microsoft Word transcripts and Atlas 7. A modified Social-ecological Model was used as the starting framework for coding while also generating some open codes as new relationships emerged within the data. The coding was done by a team of 3 people; the principal researcher and 2 research assistants. In summary, the data analysis process for this study adopted the approach put forward by Farber in 2006 [24] and as shown in **Figure 4** below. This process was replicated on all the 4 levels of the adopted social-ecological framework.

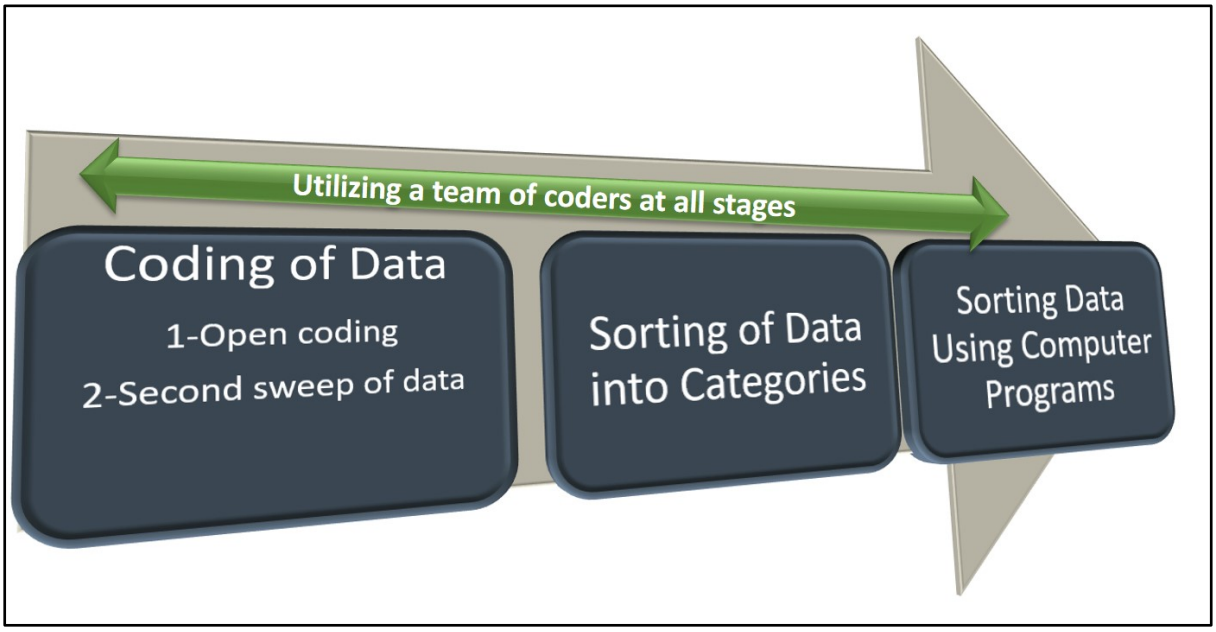


Figure 4: *A qualitative data analysis process*

2.8. ETHICAL CONSIDERATIONS

The study anonymized the identities of respondents, as they were simply identified using unique serial numbers only. Since the entry points were health centers, consent was sought from the District Health Office (DHO) to conduct the study in their health facilities and catchment areas (see **Appendix 7**), as well as to use their HSAs in identifying respondents who have never tested for HIV before. Furthermore, informed consent was also sought from the respondents themselves, as they were given freedom to choose either to participate or not (see **Appendices 3A, 3B, 5A, 5B, 6A and 6B**).

Apart from the above processes however, the study anticipated some ethical challenges more especially among the respondents who were identified using YFHS and HTC centers, as such sites are ethically obliged to protect the privacy of their clients, who may not have felt comfortable being approached while accessing such services. Despite not encountering this challenge during

the actual data collection, the study preemptively addressed this by not including questions related to the nature of health services sought or any resultant diagnosis of such respondents.

Secondly, since the legal adult age for Malawi is 18 years and above, the study also anticipated cases where consent might be required to be obtained from a parent or guardian for those aged below 18. To address this, written informed consent for participation and digital recording of the interviews was sought from participants aged 18-24 years. Informed assent was sought from seven (7) participants who were below the age of 18. Five (5) of the participants aged below 18 were recruited from the facility and these were asked to bring their guardian the following day from whom parental permission was sought. For those who couldn't manage to bring a guardian to the facility, permission was sought to visit them on an appointed day with the aid of an HSA so as to obtain parental permission. The other two (2) respondents aged under 18 were identified at community level using HSAs, hence parental permission was obtained on the same day of recruitment. This study addressed all these by developing appropriate consent and assent tools (see **Appendices 4A & 4B**).

Above all, the study sought ethical approval from the College of Medicine Research Ethics Committee (COMREC) before commencement of any data collection activities on the ground, which was duly granted in December, 2018 (see **Appendix 9**).

CHAPTER 3: FINDINGS

This chapter presents the findings of the study based on the levels of the socio-ecological model. Out of the 32 targeted in-depth interviews for adolescents and young adults, 24 were conducted (14 urban, 10 rural), whereas out of the targeted 6 key informant interviews for service providers, 4 were conducted (2 urban, 2 rural), resulting in a total of 28 interviews conducted. The sampling result is summarized in **Table 4** below.

Table 4: *Sampling result for the study*

In-Depth Interviews				
	Urban		**Rural**	
	Male	Female	Male	Female
Ever tested for HIV	2	3	4	6
Never tested for HIV	4	5	0	0
Key Informant Interviews				
	HTS		**YFHS**	
Government	1		1	
Non-governmental	1		1	

From the preceding table, it is apparent that despite the two groups being targeted equally, the testing history varied among the participants in this study; with more respondents having had an HIV test before the study (15 out of the 24 interviewed). Among the urban service providers, 1 was government employed whereas 1 was from a non-governmental organization; whereas both of the service providers from the rural catchment area were from non-governmental organizations, but attached to the Ntaja Health Centre HTS section. This was because the existing government-

employed service providers at the facility were not available to participate in the study due to other commitments during the study period.

3.1. DATA COLLECTION IMPLEMENTATION

Though anticipated, the study did not have any challenges recruiting respondents from the community around the urban health facility as the HSAs that were used for that function were well-conversant with their catchment areas. The study, however, had major challenges with recruiting participants from the community around the rural health facility. The study also did not meet any challenges with obtaining consent from both parents/guardians of respondents aged below 18 years who were willing to participate. The study's recruitment cascade – from those who were approached to those who actually participated – is summarised in **Table 5** below.

Table 5: *Study participants' recruitment cascade*

Participant category		**Approached**	**Refused**	**Consented**	**Enrolled**
IDI participants	Test+	16	1	15	15
	Test-	16	7	9	9
KII participants	Gvt	4	3	1	1
	NG/P	3	0	3	3

Key:

Test+ = Participants with prior testing history

Test- = Participants with no prior testing history

Gvt = Government-affiliated service providers

NG/P = Service providers from non-government or private institutions

During the conducting of the actual interviews, however, some respondents had difficulties understanding some HIV testing related terminology, such as the types or modalities of testing, even though they were translated into the local language. A lot of similarities in the responses

across multiple participants also meant that data saturation was reached faster than anticipated. Similarly, females showed more willingness to participate in the study than males (15 to 9 males). Of the 24 IDIs, the same 15:9 ratio was also registered between the two age groups targeted; with 15-19-year olds participating more than 20-24-year olds.

In the final analysis, the factors identified under each theme – resulting from free codes generated during data analysis – were then examined based on which level of the socio-ecological model they influenced among the targeted audience.

3.2. THE FACILITATORS FOR HIV TESTING

3.2.1. Individual-level facilitators

i. Perceived susceptibility to HIV infection

The majority of adolescents and young adults who participated in the in-depth interviews in both urban and rural settings indicated that they felt that they were at risk of getting infected by HIV when asked. Furthermore, most of those who indicated this susceptibility to HIV infection indicated the same as a major motivating factor for them making the decision to get tested for HIV; mostly because they believed that testing was the only way to be sure of their HIV status.

> *It is very stressful knowing that you can be infected by HIV but not being sure of your actual status. However, when tested for HIV, you don't have stress and live a happy life; if you are HIV positive, you can take care of your life well, and if you are HIV negative, you can decide to be using protection every time you have sex.*
>
> - Male respondent in an IDI (21 years old), Chabwera Village, T/A Sitola.

ii. Perceived benefits of knowing one's status to the individual

Some respondents also indicated that it is easier to take care of your life and plan for the future if you are aware of your HIV status. These factors ranged from decisions related to how to avoid infection in case of a negative result, as well as how well to take care of your health and avoid infecting others in case of a positive outcome.

> *You can stop being promiscuous if found positive because you will naturally not want to be guilty of infecting others. This means that you will dedicate yourself to the one partner that you already have and with whom you have discussed on how to manage the condition.*
>
> - Female respondent in an IDI (19 years old), Kaudzu Village, T/A Sitola.

3.2.2. Interpersonal-level facilitators

i. Perceived consequences of late ART initiation for one's dependents

At the family level, some respondents indicated that families tend to suffer if a family member living with HIV does not know their status and therefore does not start ART and passes away. This, it was indicated, is largely the case if the infected person is the breadwinner.

> *If you don't get tested for HIV for instance, you will not know that you have the virus, and assuming that you do, you may end up getting sick fast and die, leaving your wife and kids in destitution.*
>
> - Female respondent in an IDI (19 years old), Liwonde, T/A Sitola.

The consequences of not getting tested and initiated on ART on time also transcended both the personal/ individual as well as the interpersonal levels. Some respondents mentioned that the effects on a person also have ripple effects on one's partner and, consequently, children if any.

There are several negatives to not being tested for HIV, especially for those in sexual relationships or marriages, for instance you can infect your partner, which means that your kids can be born HIV positive, and in general you can have a low immunity because you will not be on treatment.

- Female respondent in an IDI (17 years old), Liwonde, T/A Sitola.

ii. Perceived benefits of knowing one's status for the couple/marriage

Some respondents also highlighted the benefits that come with getting tested together for HIV as a couple. This included freedom to do things with one another that people who do not know each other's status usually wouldn't do – such as encouraging one another to take ART – as well as the trust of one's partner that comes with being aware of their HIV status.

Couples that get tested for HIV together can be able to do things freely and openly with one another, like taking ARVs for instance.

- Male respondent in an IDI (16 years old), Ntaja, T/A Kawinga.

If you get tested together with your partner, you can know the HIV status of your him or her, and your partner can also know your HIV status, which is a good thing if couples are to trust one another.

- Female respondent in an IDI (15 years old), Ntaja, T/A Kawinga.

You trust each other if you get tested together as a couple and if one of you or both of you are found to be HIV positive, you take care of each other. In addition, no one can lie about the results because you got tested together.

- Male respondent in an IDI (17 years old), Chabwera Village, T/A Sitola.

On the benefits of testing to a couple, one respondent specifically alluded to the role that such knowledge would also play in family planning decisions by a couple, indicating that knowledge of HIV status is very crucial in determining a couple's decision on whether or not to have children.

> *A couple can plan whether or not to have a baby in the future depending on the status that the HIV testing counselor notifies them about after the testing.*
>
> - Male respondent in an IDI (20 years old), T/A Sitola.

iii. Partner influence

It was also evident from a cross-section of the adolescents and young adults who participated in this study that the influence of one's sexual partner can be a crucial motivating factor to the uptake of HIV testing services among the targeted population. This was especially true among married female respondents, who insinuated that their male partners would need to be convinced by them in order to undergo an HIV test.

> *In initiating an HIV testing decision with my partner, I can simply tell him that I would like to know my HIV status and that he also should come along, so that we both are aware of our status as a couple.*
>
> - Female respondent in an IDI (17 years old), Ntaja, T/A Kawinga.

Partner influence was also a factor in influencing the decision to get tested as a couple in cases where there is mistrust among partners. According to some respondents, any level of mistrust in a relationship would be a motivating factor in a couple going for an HIV test together because

the distrustful partner would require some assurances regarding the other partner's status before moving on with the relationship.

> *I can start the discussion on HIV testing with my partner only if am sure that my partner is seeing someone else, and so I would use that suspicion as a way of convincing him to go for an HIV test together with me*
>
> - Female respondent in an IDI (21 years old), Chabwera Village, T/A Sitola.

iv. Positive parent-child communication

When asked to suggest what would make it easier for them and their parents to discuss HIV/AIDS issues – including making decisions to get tested for HIV – most respondents were of the view that if parents and their children opened up more to each other on HIV/AIDS related issues, utilization of testing services among adolescents and young adults would improve significantly. According to these respondents, if parents openly addressed any issues related to sexuality as well as HIV infection with their children, the children would in turn greatly open up to them as well and follow through on any recommendations by the parents.

> *For me, openness is what mostly matters for parents and their children to freely discuss issues related to HIV/AIDS and getting tested. For example, parents must frequently advise their kids about HIV testing, and children in turn must be open with their parents on HIV related issues.*
>
> - Male respondent in an IDI (20 years old), Liwonde, T/A Sitola.

Both parents and their children need to be open to each other, for example, parents should advise their children that when you sleep around without using protection you need to get tested for HIV.

- Male respondent in an IDI (18 years old), Ntaja, T/A Kawinga.

3.2.3. Community-level facilitators

i. Availability of youth clubs and other discussion forums for young people

Service providers generally agreed that not just the formation, but also the strengthening and constant support to structures such as youth clubs and other such groups is a clear motivator for HIV testing among adolescents and young adults in the communities. For example, one government HTS and YFHS provider complained of a youth club that has gone dormant in an area close to Molipa Health Post (T/A Sitola) that he felt would go a long way in mobilizing young people to go for testing within the area if it received adequate support.

There is a youth club closer to the clinic which, in my thinking, would help with mobilizing young people to get tested, but only if it got support from other stakeholders, like NGOs for example, with capacity building for community members and community mobilization skills to help mobilize youths from the surrounding areas to practice required preventive behaviors, such as getting tested for HIV.

- HTS/YFHS provider, Government-employed, Urban (T/A Sitola)

Some service providers also mentioned the use of more innovative community platforms that serve a dual purpose of recreation as well as encouraging adolescents and young adults to practice healthy behaviours. This was mostly indicated by service providers from non-

governmental organizations who have been implementing such initiatives in the district for the last couple of years.

> *In our project, we involve the use of soccer groups for example, whereby groups of young people aged between 10 and 17 that regularly meet for a range of activities, like playing soccer for example, have someone who has sessions with them in which they are educated on HIV-related issues, and then provided with referrals for various health services including HIV testing.*
>
> - HTS provider, non-Governmental organization, Urban (T/A Sitola)

3.2.4. Health-system level facilitators

i. Availability of providers with adequate skills in counselling

Most of the respondents in the study touted the counselling skills of trained HTS providers as one of the factors that would motivate them to go for an HIV test. This response mostly came when respondents were prompted to choose what their preferred HIV testing modality would be if given the choice between self-testing and the normal HIV testing and counselling provided by trained providers. Most preferred the latter due to the presence of both pre-test and post-test counselling which they felt is beneficial in helping someone cope with a positive result.

> *I would prefer to go for HIV testing at the hospital because the results are trustworthy and also there is counselling there and one cannot commit suicide if found to be HIV positive.*
>
> - Male respondent in an IDI (20 years old), Liwonde, T/A Sitola.

I would prefer getting tested at the hospital because I believe that they give proper results and enough information through counselling, plus if it is about convincing your partner, can't one fake the results with self-testing?

- Female respondent in an IDI (23 years old), Liwonde, T/A Sitola

On providers' skills as a facilitator to utilization of HIV testing services by adolescents and young adults, some providers also indicated that HTS providers who are also well-trained in the provision of youth-friendly health services can also act as a motivator to young people when they decide to get tested for HIV because of the tailor-made way in which they handle young people who come for services.

I think that for a testing site to encourage young people to come for testing, it has to be youth-friendly enough by being conducive to their needs; for example, the available service providers should be ones that are well-versed and trained in handling the health needs of the youth by providing tailor-made services for them.

- HTS provider, non-Governmental organization, Urban (T/A Sitola)

ii. Provision of HTS through outreach and mobile clinics

Another recurring theme at the health system level was the provision of HIV testing and counselling services through outreach clinics and mobile activities as an approach that also helps to motivate young people to utilize the service. According to some providers, this facilitates access to services since most young people cannot afford to source the funds to use for transport to and from the established clinics, which are usually far apart in the district. Almost all of the providers interviewed indicated a lack of enthusiasm by young people in as

far as visiting clinics for an HIV test is concerned. Providers from both government and non-governmental agencies were more supportive of the outreach approach in reaching out to young people with testing services, but one provider from a government facility was more cautious of the financial burden placed on their limited resources in implementing outreach clinics.

> …*from my experience, our mobile testing approach* using *outreach clinics is what registers more clients of the 15 to 24 age group than the other HIV testing approaches that we have in our programme here.*
>
> - HTS provider, non-Governmental organization, Rural (T/A Kawinga).

3.3. THE BARRIERS TO HIV TESTING

3.3.1. Individual-level barriers

i. Fear of a positive result

Most of the adolescent respondents who indicated as never having tested for HIV prior to the study stated that they were afraid of receiving a positive diagnosis, hence the decision not to get tested. According to these young people, the anticipated depression that comes with a positive diagnosis was a major factor in their choosing to not go for an HIV test.

> *I don't want to go for an HIV test out of fear that I might be positive, and the trauma that would result from such a result for me would be too much to bear.*
>
> - Female respondent in an IDI (19 years old), Liwonde, T/A Sitola.

According to some HIV testing service providers, this fear of a positive diagnosis often led into a lack of acceptance of the results when they are actually delivered to the client. According to

these service providers, acceptance of HIV positive results was a major challenge when it comes to testing adolescents and young adults for HIV.

> *Most young people find it difficult to accept the results especially when found positive. They are oftentimes even very reluctant to start treatment in the event that they are diagnosed as HIV positive.*
>
> - HTS provider, non-Governmental organization, Rural (T/A Kawinga)

ii. Perceived low-risk of infection

Among respondents who reported no prior testing history before the study, the major reason for them not getting tested was that they felt they didn't need to because they had no reason to suspect that they would be infected. This was in response to a prompt on reasons why they hadn't undergone an HIV test before, and it was largely true for the urban catchment area.

> *I just don't feel like testing for HIV because I know am fine and I don't have the virus.*
>
> - Female respondent in an IDI (21 years old), Chabwera Village, T/A Sitola.

iii. Lack of confidence in HTS provider's ethics

Some respondents also indicated a perceived or potential breach of confidentiality and privacy by some HIV testing service providers as a barrier to HTS utilization by most young people. This was mostly common among older respondents of the 20-24 age bracket who preferred the self-testing modality, while indicating a level of distrust for some counsellors who are mostly young or similar in age to them.

I would prefer the s*elf-testing method, because I feel that most service providers are young and unethical…if you are found HIV positive, chances are that the news will spread fast to your community even if you have not disclosed the results yourself.*

- Female respondent in an IDI (21 years old), T/A Kawinga.

3.3.2. Interpersonal-level barriers

i. Poor communication in relationships and families

Almost all of the respondents to the study alluded to communication challenges among couples as a major barrier to accessing HIV services together in their communities. This mostly included couples not trusting one another when it comes to the management and acceptance of the diagnosis outcome as well as there not being anything to be gained from scaring away one's partner with an HIV positive result, hence the decision to simply not get tested for HIV.

Lack of openness in relationships and marriages makes it difficult for most couples to discuss HIV/AIDS related issues in this community, which in my view also indicates the absence of love.

- Female respondent in an IDI (19 years old), Kaudzu Village, T/A Sitola.

Some married people are afraid of getting tested together with their spouses because they fear that they will be found HIV positive due to their movements and bad behavior, you know...some of them have multiple partners outside of their marriages.

- Female respondent in an IDI (21 years old), Sela Village, T/A Kawinga.

Communication barriers also played a part in parent-child discussions related to HIV testing. Since any discussion related to HIV includes having a discussion on sex as a way of contracting

the virus, some respondents indicated that that acts as a barrier for parents to discuss such issues with their children. Parents may not openly talk about HIV testing with their children, instead relying on other relatives such as aunts, or school teachers to impart such information. This was true for both genders and for respondents of all ages.

> *In my view, it is mostly shyness, not being free to express themselves, that makes it difficult for parents and their children to discuss HIV/AIDS related issues, including testing.*
>
> - Female respondent in an IDI (21 years old), Chabwera Village, T/A Sitola.

ii. Peer influence

Peer pressure was also indicated by some adolescent respondents as being a factor in discouraging them from going for an HIV test. This was mostly evident in the rural catchment area of T/A. Kawinga. This was in response to a prompt on whether any young people in the targeted community had been discouraged by anyone before from getting tested for HIV. Some of those who answered in the affirmative indicated peers as the most culpable group in this.

> *Yes, some young people in this community get discouraged from going to get tested by their peers. These friends say that if you go for testing and are found to be HIV positive, some of your friends might start laughing at you, and so some youths decide not to get tested.*
>
> - Male respondent in an IDI (16 years old), Ntaja, T/A Kawinga.

> *…young people in this community also tell their friends that they should not go for HIV testing because "you will fall sick within a couple of weeks if found to be HIV positive"*
>
> - Female respondent in an IDI (21 years old), Chabwera Village, T/A Sitola.

iii. Lack of partner support

One recurring theme among the adolescent and young adult respondents to this study was the lack of partner support in initiating conversation about HIV testing in most relationships serving as a barrier. Some female respondents indicated that it gets very hard for them to get the required support from their male partners whenever they suggested going for an HIV test, as the latter usually interpreted such suggestions as a sign of their partners' lack of trust in them. This was more pronounced in the rural catchment area of T/A Kawinga.

> *…the women are afraid to initiate HIV testing discussions…men say that women don't trust them when the women initiate the issue of going for testing, so they (women) don't talk about the subject since they don't want to disappoint their loved ones.*
>
> - Female respondent in an IDI (18 years old), Ntaja, T/A Kawinga.

> *My partner had other affairs but refused to go and get tested so in the end, I just went on my own to get tested.*
>
> - Female respondent in an IDI (21 years old), Ntaja, T/A Kawinga.

3.3.3. Community-level barriers

i. Lack of community support structures to facilitate dialogue

Some respondents felt that at the community level, the inadequacy or lack of structures like support groups, discussion groups, or even youth clubs where young people can be discussing HIV related issues under proper guidance was also a barrier to them making informed decisions about the benefits of HIV testing to individuals and couples. This was especially the case in most instances whereby most of the forums that are in existence usually target already HIV-positive youths, such as teen clubs and youths living with HIV (YPLHIV) support groups,

according to the respondents. This then left those without the virus and those who do not know their status without any consultative avenue for making decisions related to HIV/AIDS and HIV testing.

> *In this community, we don't have groups where we can discuss issues to do with HIV/AIDS and going for testing. Sometimes, I just feel like the ignorance on our part regarding how to go about having informed discussions related to HIV testing plays a part because there is no one who can guide such discussions around here as is the case in some other communities that we hear about.*
>
> - Male respondent in an IDI (16 years old), Ntaja, T/A Kawinga.

ii. Cultural norms

Most of the respondents who alluded to lack of openness between parents and their children in as far as discussions related to HIV and AIDS issues, including testing, are concerned also overwhelmingly blamed the phenomenon on cultural norms inherent in their communities as being behind this lack of dialogue in families. This was true for both rural and urban catchment areas, where respondents indicated that most cultural beliefs and practices prevent parents from directly speaking to their children about sexuality issues including HIV and AIDS.

> *In this community, our culture is what makes it very hard for parents and their children to openly talk about HIV/AIDS related issues. For instance, a lot of parents refer their children to their aunts for any discussions related to sex or HIV and AIDS, because the culture here prevents them from directly engaging their children on such issues.*
>
> - Female respondent in an IDI (19 years old), Kaudzu Village, T/A Sitola.

3.3.4. Health-system level barriers

i. Lack of youth-friendly HIV testing service provision

Almost all service providers interviewed in the study indicated that the lack of a deliberate youth-friendly service delivery program at the facility negatively impacts the testing numbers of young people in HTS. It was noted by providers from both Government and non-Government facilities that a youth-friendly health service program, equipped with trained personnel and facilities, is what would address the concerns of young people better when they come for testing than just a normal testing program that doesn't consider age demographics.

> *Adolescents and other young people usually have challenges and issues that are specific to them, but because our testing is not specifically for the youth, we deal with them in a generic way like we would for all other clients, and that I feel is a challenge for me as an HTS provider, because it means that we don't give our young clients as much time as they may require, which in turn discourages them from coming for testing in the long run.*
>
> - HTS provider, non-Governmental organization, Urban (T/A Sitola).

ii. Gender balance among HTS providing staff

Inadequate staff when it comes to having enough gender representation among HIV testing service providers was also a recurring them among the service providers interviewed in the study. It was indicated that some young people would be more comfortable being tested by a provider of the same gender than the opposite sex, as such they are discouraged from getting tested for HIV in situations where the available counsellors are only of the opposite sex.

> *The other challenge is just like I said that most females may be reluctant to get tested by me, a male, yet am the only HTC provider here, so it would be good to balance up the*

gender by also having a female counselor at the clinic so that young women can also be comfortable to go and get tested.

- HTS/YFHS provider, Government-employed, Urban (T/A Sitola).

Most young people are shy when it comes to HIV testing. For example, when girls come here for testing and they find that it's a man doing the testing, most girls turn back or if they still manage to enter the testing room, they are still not free to ask questions.

- HTS provider, non-Governmental organization, Rural (T/A Kawinga).

The issue of a lacking youth-friendly health service being a factor in hindering adolescents and young adults from getting tested for HIV was also evident from the responses given by a cross-section of the young people who got interviewed as well. When prompted to name barriers that would prevent them from getting tested for HIV, some mentioned the worry of being shouted at by providers, health workers revealing their results to other people, and some providers being too young and immature for their comfort.

Most people here fear that there is going to be a lack of confidentiality with the HIV test results because chances are that they will be tested by counselors who know them, and such people cannot be trusted.

- Male respondent in an IDI (20 years old), Chabwera Village, T/A Sitola.

iii. Service delivery integration (lack of independent HTC rooms for young people)

Among the barriers to testing experienced mostly in government facilities was the shortage of HTC rooms that are purpose-built for the service. According to this finding, the rooms in which they do the testing are usually attached to other service delivery points within the clinic. As

such, clients who come for testing usually come into contact with clientele for other health services at the facility. This, according to the service providers, discouraged young people from coming for testing out of fear of bumping into some of their relatives at the clinic.

> *I think it is a challenge because the room that we are using is very small, or even the furniture…we don't have furniture in our HTC room. Even in terms of privacy, we can say somehow, yes, but mostly no because it is a structure that is combined with other service-provision departments apart from HTC, so in short both space and privacy are a challenge.*
>
> - HTS/YFHS provider, Government-employed, Urban (T/A Sitola).

Finally, another barrier related to service integration indicated mostly by providers affiliated to non-Governmental organizations was the combination of young people with older demographics in the provision of HIV testing services. According to these non-government counsellors, most of their HIV testing guidelines as provided by some donors does not mandate them to streamline their testing to young people, but rather target all demographics, which presents a challenge as well in terms of satisfactorily attending to the needs of young people who come for testing.

> *I think mainly because our testing is cross-cutting and does not deliberately target young people, it means that our way of doing things does not necessarily have the needs of those young people in mind when it comes to HIV testing, and that could be a prohibiting factor because some young people would be afraid of maybe running into their parents or uncles at the testing sites since our clientele is usually just mixed up, and we know that most young people like to guard their privacy, so that I feel presents an unconducive environment.*
>
> - HTS provider, non-Governmental organization, Urban (T/A Sitola).

CHAPTER 4: DISCUSSION OF FINDINGS

4.1. PRINCIPAL FINDINGS

This study has established a set of factors that influence the utilization of HIV testing services among adolescents and young adults in Machinga District of Malawi. The positive influencers included: perceived susceptibility to HIV infection and perceived benefits of knowing one's HIV status at the individual level; perceived consequences of late ART initiation, perceived benefits of getting tested for a couple, partner influence and positive parent-child communication at the peer/interpersonal level; availability of youth clubs and similar platforms for young people at the community level; as well as adequate skilled providers and provision of HTS through outreach clinics at the health service system level.

On the other hand, the barriers to HIV testing for young people included fear of a positive result, a perceived low risk of infection and lack of confidence in the ethical behaviour of HTS providers at the individual level; communication barriers in relationships and families, peer influence and lack of partner support at the interpersonal level; lack of dialogue-facilitating support structures and cultural norms at the community level, as well as lack of youth-friendly health services, gender imbalances among HTS providers and service delivery integration leading to lack of independent and youth-focused HTC rooms at the health service system level.

4.2. FINDINGS IN RELATION TO OTHER STUDIES

4.2.1. The Facilitators for HIV Testing

At the individual level, perceived susceptibility to HIV infection was cited as one of the key motivators for HIV testing among young people. This motivating factor was also closely linked to the perceived benefits of knowing one's HIV status to the individual. In a nutshell, both of

these factors indicate a good level of basic knowledge about HIV among the respondents, since it is only with adequate knowledge about HIV – such as how it is transmitted, how it can be prevented, as well as how to manage a positive diagnosis – can young people admit susceptibility to HIV infection and decide to get tested. This seems to agree with the national picture on HIV related knowledge, as established by the 2015/16 MDHS, which found that over 40% of Malawians aged 15-24 had a comprehensive knowledge about HIV and over 80% in the same age group also acknowledged that a healthy-looking person can have HIV [6]. Hence, this level of knowledge may also explain this study's participants admitting to such a susceptibility to HIV and indicating that knowing one's status has benefits to an individual.

Among the facilitators identified by this study at the interpersonal level is the presence of partner support. A number of studies have found similar correlations between the presence of social reinforcements in a person's life to that individual's decisions regarding testing. For instance, in a study of factors that affect HIV testing among the youth in Kenya, researchers found that low social support was most strongly correlated with having no prior HIV testing and vice-versa [25]. Just as this study has found out that the presence of partner support is a motivator for HIV testing among young couples, the Kenya study also concluded that the presence of social support in general was a significant predictor of the intention to get tested among young people. This may not be overly surprising since it is well-established that young people tend to be more susceptible to influence – both positive and negative – from peers than older people would be.

Furthermore, this study has also established that perceived consequences of late ART initiation is a motivator for HIV testing behaviour among some adolescents and young adults at the interpersonal level, more especially as it relates to those consequences being bestowed on one's

dependents and/or beneficiaries. As argued in preceding chapters, this is simply consistent with the objectives of the UNAIDS 90-90-90 strategy which aims at making sure that at least 90% of HIV positive individuals know their status and immediately get initiated on ART because late ART initiation is one of the most prominent hindrances to controlling the HIV/AIDS epidemic for both the individual as well as the entire population [5]. This apparent appreciation of the benefits of ART initiation acting as a motivator for HIV testing however seems to be inconsistent with the findings of a 2017 doctoral thesis study conducted in Southern Malawi, which found that young people generally have a low ART adherence rate due to factors such as poor medication self-efficacy, lack of social support and stigma, among others [26]. Such a finding does seem to tie in with a few respondents in this study who indicated a fear of ART side-effects as a barrier to testing, though not in a very significant way.

Availability of community structures, such as youth clubs where young people engage with each other on issues to do with HIV and AIDS, emerging as a facilitator to HIV testing is another key finding of this study. Similarly, in a study carried out in Mzuzu City (Northern Malawi) in 2011, it was established that the odds of testing in boys living in a community with a functioning HIV/AIDS post-test club, among other facilities, were higher compared to boys from communities without such amenities [16]. However, this HIV testing facilitator has to be looked at in light of the fact that such community structures require resources – financial or otherwise – in order to be fully functional, which may explain why such structures were scarce in the sampled catchment areas of this study.

At the health system level, provision of HTC services through outreach clinics has also been established as a key driver of HTS uptake among young people. Because the service providers interviewed in this study largely agreed on the issue of distance as a hindering factor to HIV

testing among adolescents and young adults, this only goes to show that outreach clinics would indeed facilitate service uptake by addressing this distance barrier, which has also been identified by other studies before; such as the one by Sanga and others among secondary school students in Arusha, Tanzania, which also established that those who reported that the VCT centre was near their area were 60% more likely to test for HIV than those who rated it as far [27]; as well as a WHO consultative study among young people aged 15 to 24 conducted in the Philippines, South Africa and Zimbabwe which also found out that the cost of transport to testing centres among Zimbabwean participants was seen as a major limiting factor to testing, especially for those from rural areas [28].

4.2.2. The Barriers to HIV Testing

Fear of a positive result came out clearly as a barrier to HIV testing among most young people who responded to this study and had no prior testing history. According to other studies, the stigma associated with being found HIV positive plays a very prominent part in some people – not just the young – fearing an HIV positive diagnosis [27], hence the decision not to get tested at all. This finding, though, would appear to be at odds with the other barrier identified in this study of a perceived low risk of infection. According to this finding, a good number of the adolescents and young people interviewed who also had no prior testing history indicated that they didn't see any reason to go for an HIV test because they didn't think that they were infected anyway. Both of these data however are of great concern, since the reality is that there is a relatively high risk of HIV infection among adolescents and young people in Malawi across all the country's three regions as studies have shown [29], indicating a greater need for awareness interventions aimed at making the youth aware of the threat that HIV poses.

Poor communication among sexual partners as well as between parents and their children also came out as a key barrier to HIV testing among young people at the interpersonal level. This is consistent with the findings of a quantitative study among urban-based young people in Nairobi (Kenya) by Kabiru and others in which only small percentages of respondents indicated that they got an HIV test at the encouragement of either a parent or a partner [30]. This negative trend was also evident in the low proportion of those who got encouragement from their peers in the same Kenyan study; a peer-influence barrier to HIV testing which has also been established by this study at the same interpersonal level. The finding on the lack of partner support acting as a barrier to testing, however, is inconsistent with what one 2014 study in an Ecuadorian public hospital setting established that those respondents who were divorced or widowed were more likely than those who were single to have received an HIV test [31], indicating that partner support was not really a facilitator for testing. Such a difference, however, could be due to the fact that the Ecuadorian study did not really target adolescent respondents in particular, but rather respondents of all age groups interviewed in a hospital setting. Understanding adolescent-specific concerns, therefore, is key in addressing this barrier.

On cultural norms acting as a community-level barrier to HIV testing among adolescents and young adults, this study's finding is in agreement with a number of other studies; for instance the WHO consultative study referenced above also found that in all the three targeted countries there were some societal, or cultural views surrounding HIV and sex that demotivated young people from getting tested, while some providers highlighted the significant influence of religious and parental opinions as negatively affecting adolescents' decision around HTS [28]. In the above-referenced study conducted in Northern Malawi, religious leaders were also identified as influential in shaping social attitudes towards people living with HIV/AIDS; views such as HIV/AIDS being a punishment from God for bad behaviour, or that people with HIV

are promiscuous, and that women prostitutes spread HIV, for instance, and it was found out that girls from areas where religious leaders held judgmental views about HIV/AIDS were less likely to go for an HIV test [16]. This could be because the lack of communication among couples and within family setups due to cultural and/or religious practices that hinder such openness usually leads to the young people getting the wrong information about HIV and AIDS, which only fosters the misconceptions and entrenches the stigma around the epidemic even further.

At the health system level, lack of youth-friendly HIV testing services in particular, as well as youth-friendly health services in general, has been established as the overarching barrier to HIV testing among adolescents and young adults. However, this barrier can be looked at against the resource constraints facing the Malawian health care system. According to a 2016 Malawi Government policy brief, the YFHS programme in the country started in 2007, and among the key quality aspects required of such a programme are respecting confidentiality, giving choices, and raising awareness of rights [32], all of which seem to be lacking in the catchment areas targeted by this study, according to the data. According to the policy brief again, there seems to be a national challenge with the YFHS programme in Malawi as, by 2014, less than one third of health facilities had trained providers on the YFHS standards and studies continued to reveal that adolescents are neither well-received nor comfortable in most government-owned clinics when they go to access various sexual and reproductive health services, which is supposed to be a standard.

This, therefore, means that operationalizing a robust youth-friendly health service provision specifically targeted at addressing the challenge of HIV testing among young people may be more challenging than the recommendations put forth by some of the service providers in this

study can go, because it would require an overhaul at the policy level – rather than just at the service delivery level – in order to be implemented.

4.3. STUDY IMPLICATIONS

The results of this study have the capacity to influence the service delivery approach at the health-service system level. For instance, the findings may influence health providers to reconsider the impact of integrating HIV testing services with other health services in the same setting for all age groups. This is so in light of the data that indicates that such integration negatively affects the utilization of HTS by young people. The findings will also have a bearing on the approach to planning at the health-service system level with regard to the importance that will have to be attached to mobile HIV testing activities or outreach clinics incorporating HTS, since they have been suggested by both service providers and the interviewed young people as being helpful in reaching out to young populations with testing services because they reduce the costs borne by the clients in accessing the service. This agrees with the findings of a 2018 study in the districts of Blantyre, Machinga, Mwanza and Neno, which established that despite HIV testing services being free in Malawi, users still bear costs, mainly through lost income driven by long travel times and long waiting times at testing facilities [33]. Similar to this study's suggestion, the above-referenced quantitative study by Sande, Maheswaran and others also suggested that "*community-based testing is associated with a lower probability of incurring costs than facility-based testing, therefore decentralising testing services beyond static facilities may be necessary to increase uptake*" (p.33).

4.4. STUDY LIMITATIONS, GAPS AND AREAS OF FUTURE RESEARCH

As already stated above, this study's qualitative approach meant that the *strength of the association* between the identified factors and HIV testing among the targeted population was

not assessed. The study also did not include other key informants, such as parents of the adolescents and other community leaders like chiefs and religious leaders, in its design. Since some studies have shown that what some of these leaders know and believe about the HIV/AIDS epidemic could make them key players in HIV/AIDS prevention efforts [34], the study may have missed some more views and data on the barriers and facilitators to HIV testing at the interpersonal (where peer/family networks operate) and community levels.

Furthermore, the approach of utilizing HSAs to recruit respondents at community level presented challenges in getting consent from some potential participants in the rural setting mostly; since these HSAs typically work in the same communities and are well-known by the targeted community members, as such trust issues were a hindrance in such settings. Hence the sample drawn – due to these challenges in adequately recruiting participants from the community in the rural catchment area – affected the findings by underrepresenting the views of those without prior testing history to some extent, since these turned out to be a minority of the study's interviewed participants.

To build on this study's findings, other researchers may quantitatively assess the strength of association between some of the related factors identified and HIV testing behaviour among young people, such as the extent to which fear of a positive result acts as a barrier to HIV testing among adolescents and young adults versus the extent to which perceived susceptibility to HIV infection acts as a facilitator for the same behaviour, for instance. The other area for further research would also be to assess the effects of factors like education, one's general knowledge about HIV/AIDS and testing as well as one's location of residence as potential influencers of HIV testing choices among young people in the same catchment area of Machinga District; the latter two have been known to influence the behaviour according to

findings by other studies, for example in one study in rural Ghana [35], whereas education was also a significant predictor in one study by Yahaya and others among young people in Kwara State in Nigeria [36].

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Based on this study's findings, various factors have been identified that influence the HIV testing behaviors of adolescents and young adults. Across the four levels of a modified socio-ecological model, motivators as well as barriers affecting the utilization of HIV testing services by this population have been discussed. For example, the fear of a positive diagnosis has been indicated as an important barrier to young people in as far as getting tested is concerned at the individual level. The context suggests that the stigma associated with being HIV positive and the misconceptions about the AIDS epidemic in most parts of Malawi is largely responsible for this fear of a positive result. Weak or absent community level structures, such as youth clubs, to facilitate HIV/AIDS related dialogue among young people has also been established as a barrier to HIV testing. The above, and lack of youth-focused HTS provision due to service integration at the health-service system level, sum up the list of barriers to HIV testing among adolescents and young adults.

However, this study has also identified some positive influencers of HIV testing behaviors among young people. Such HIV testing facilitators include the desire to know one's HIV status, the perceived benefits of timely ART initiation, partner influence, availability of adequate and skilled HTS providers, as well as the provision of HIV testing services through outreach clinics. Based on the findings, this study recommends the following, among others;

- The designing of deliberate programs that aim at sensitizing adolescents and young people on the benefits of initiating ART on time once one is found to be HIV positive, as such knowledge has been seen to motivate HIV testing among some young people. This could be achieved by media campaigns that publicize the national HIV Test-and-Treat campaign for example.

- A holistic approach by organizations that implement HIV related community-mobilization interventions in the district aimed at addressing both stigma and discrimination around HIV/AIDS as well as cultural norms that prevent open and free discussions in families and among couples, so as to help address these barriers at both the interpersonal as well as community levels of the socio-ecological framework.
- The application of a socio-ecological approach in the designing of HIV prevention programs targeting young people, so as to come up with tailored activities that address every interaction level of the targeted audience.
- Lobbying for more funding and support from partner organizations by the Ministry of Health's District Health Offices to support mobile HTC campaigns, door-to-door HIV testing as well as outreach clinics that incorporate HIV testing.
- The roll-out of HIV self-testing services by government health facilities, possibly with support from non-governmental implementers, to address the needs of those young people who fear getting tested because they anticipate a breach of confidentiality by some providers.

REFERENCES

1. Wong VJ, Murray KR, Phelps BR, Vermund SH, McCarraher DR. Adolescents, young people, and the 90-90-90 goals: A call to improve HIV testing and linkage to treatment. *Aids* [Internet]. 2017;31:S191–4. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28665876

2. World Health Organization. Maternal, newborn, child and adolescent health: HIV and youth [Internet]. 2018 [cited 2019 Apr 20]. Available from: https://www.who.int/maternal_child_adolescent/topics/adolescence/hiv/en/

3. World Health Organization. HIV and adolescents : guidance for HIV testing and counselling and care for adolescents living with HIV [Internet]. Geneva: WHO; 2013. Available from: http://apps.who.int/iris/bitstream/10665/95147/1/WHO_HIV_2013.141_eng.pdf

4. UNICEF. Annual Results Report HIV and AIDS [Internet]. 2016. Available from: www.aidsdatahub.org/sites/default/files/publication/UNICEF_HIV_AIDS_Annual_Results_Report_2016.pdf

5. UNAIDS. Ending AIDS: Progress towards the 90–90–90 targets [Internet]. 2017. Available from: http://www.unaids.org/en/resources/documents/2017/20170720_Global_AIDS_update_2017

6. Government of Malawi. Malawi Demographic and Health Survey. *National Statistics Office-The DHS Program* [Internet]. 2017;1–658. Available from: http://dhsprogram.com/pubs/pdf/FR319/FR319.pdf

7. AVERT. HIV and AIDS in Malawi [Internet]. 2018 [cited 2018 Aug 20]. Available from: https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/malawi

8. Mkandawire P. Vulnerability of Adolescents to HIV/AIDS in Malawi: a Doctoral thesis study. 2011;(November). Available from: https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1531&context=etd

9. Ministry of Health, Malawi. Malawi Population-based HIV Impact Assessment (MPHIA) 2015-16: First Report. Lilongwe; 2017.

10. Mensch, Barbara S. ES-H. Rates of HIV and HSV-2 among Young People in Machinga, Malawi: Project SOAR Results Brief. [Internet]. Population Council, editor. Washington, DC; 2017. Available from: http://www.projsoar.org/wp-content/uploads/2017/12/Malawi_DREAMS_MSAS_Brief1.pdf

11. Tolou-Shams M, Payne N, Houck C, Pugatch D, Beausoleil N, Brown LK. HIV Testing Among At-Risk Adolescents and Young Adults: A Prospective Analysis of a Community Sample. *Journal of Adolescent Health*. 2007;41(6):586–93.

12. Witzel TC, Lora W, Lees S, Desmond N. Uptake contexts and perceived impacts of HIV testing and counselling among adults in East and Southern Africa: A meta-ethnographic review. Vol. 12, *PLoS ONE*. 2017. p. 1–16.

13. Van Handel M, Kann L, Olsen EO, Dietz P. HIV Testing Among US High School Students and Young Adults. *Pediatrics* [Internet]. 2016;137(2):e20152700–e20152700. Available from: http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2015-2700

14. Peltzer K, Matseke G. Determinants of HIV testing among young people aged 18 - 24 years in South Africa. *African Health Sciences*. 2013;13(4):1012–20.

15. Kranzer K, Simms V, Bandason T, Dauya E, McHugh G, Munyati S, et al. Economic incentives for HIV testing by adolescents in Zimbabwe: A randomised controlled trial. The Lancet HIV [Internet]. 2017;e79–86. Available from: http://dx.doi.org/10.1016/S2352-3018(17)30176-5

16. Mkandawire P. Assessing factors associated with HIV testing among adolescents in Malawi. *Global Public Health*. 2017;12(7):927–40.

17. Macharia MP. Barriers to HIV Testing and Counseling Uptake Among Young People Aged 18-24 Years in Nyeri Municipality. 2013; Available from: http://erepository.uonbi.ac.ke/bitstream/handle/11295/59391/Munyua_Barriers to HIV testing and counseling uptake among young people.pdf?sequence=3

18. Indravudh PP, Sibanda EL, D'Elbée M, Kumwenda MK, Ringwald B, Maringwa G, et al. "I will choose when to test, where i want to test": Investigating young people's preferences for HIV self-testing in Malawi and Zimbabwe. *AIDS*. 2017;31:S203–12.

19. Asaolu IO, Gunn JK, Center KE, Koss MP, Iwelunmor JI, Ehiri JE. Predictors of HIV testing among youth in sub-Saharan Africa: A cross-sectional study. *PLoS ONE* [Internet]. 2016;11(10):1–12. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5051677/

20. PEPFAR. Country Operational Plan Strategic Direction Summary. 2015;80. Available from: http://www.pepfar.gov/documents/organization/250290.pdf

21. Project SOAR. Evaluation of the " One Community " Program in Malawi [Internet]. 2017. Available from: https://www.popcouncil.org/uploads/pdfs/2017HIV_ProjectSOAR_OneCommunityMalawi.pdf

22. Family and Youth Services Bureau. Increasing Our Impact by Using a Social - Ecological Approach. 2015;(March):1–5. Available from: https://www.healthyteennetwork.org/wp-content/uploads/2015/06/TipSheet_IncreasingOurImpactUsingSocial-EcologicalApproach.pdf

23. Marshall B, Cardon P, Poddar A, Fontenot R. Does Sample Size Matter in Qualitative Research?: a review of qualitative interviews in IS research. *Journal of Computer Information Systems* [Internet]. 2013;11–22. Available from: https://pdfs.semanticscholar.org/36e5/5875dadb4011484f6752d2f9a9036b48e559.pdf

24. Farber NK. Conducting Qualitative Research: A Practical Guide for School Counselors. *Professional School Counseling* [Internet]. 2006;9(5):367–75. Available from: https://www.schoolcounselor.org/asca/media/asca/Data Specialist/Farber.pdf

25. Nall A, Chenneville T, Rodriguez LM, O'Brien JL. Factors Affecting HIV Testing Among Youth in Kenya. *International Journal of Environmental Research and Public Health*. 2019;16(8):1–14.

26. Umar E. ART Adherence among Adolescents & Young People Living with HIV in Southern Malawi: A Conditional Process Analysis [Internet]. University of Illinois at Chicago; 2017. Available from: https://www.indigo.lib.uic.edu/bitstream/handle/10027/22143/ UMAR-DISSERTATION-2017.pdf?sequence=1&isAllowed=y

27. Sanga Z, Kapanda G, Msuya S, Mwangi R. Factors influencing the uptake of Voluntary HIV Counseling and Testing among secondary school students in Arusha City, Tanzania: A cross sectional study. *BMC Public Health*. 2015;15(1):1–9.

28. Armstrong, A., Baggaley, R. Ferguson, J., Kwaak, A., Wolmarans L. The Voices , Values and Preference of Adolescents on HIV Testing and Counselling: Consultation for the Development of the World Health Organization [Internet]. 2013. Available from: http://apps.who.int/iris/bitstream/10665/95143/1/WHO_HIV_2013.135_eng.pdf

29. Small E, Weller B. Profiles of Malawian adolescents at risk for HIV infections: Implications for targeted prevention, policy, and practices. *AIDS Care*. 2012;25.

30. Kabiru CW, Beguy D, Crichton J, Zulu EM. HIV/AIDS among youth in urban informal (slum) settlements in Kenya: what are the correlates of and motivations for HIV testing? *BMC Public Health*. 2011;11:685.

31. Wilson M, Marie. Factors Influencing Hiv Testing In A Small Public Hospital In Manglaralto Ecuador [Internet]. EliScholar. Yale University; 2014. Available from: http://elischolar.library.yale.edu/ysphtdl/1324

32. Zombe E. Strengthening the Delivery and Accessibility of Youth Friendly Health Services in Malawi [Internet]. Ministry of Health, Malawi Government; 2016. Available from: https://www.afidep.org/download/research-briefs/policy-briefs/Strengthening-the-delivery-and-accessibility-of-youth-friendly-health-services-in-Malawi.pdf

33. Sande L, Indravudh P, Corbett EL, Ahmed N, d'Elbee M, Terris-Prestholt F, et al. Costs of accessing HIV testing services among rural Malawi communities. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*. 2018;30:27–36.

34. Rakotoniana JS, Rakotomanga J de DM, Barennes H. Can Churches Play a Role in Combating the HIV/AIDS Epidemic? A Study of the Attitudes of Christian Religious Leaders in Madagascar. *PLOS ONE* [Internet]. 2014;9(5):1–9. Available from: https://doi.org/10.1371/journal.pone.0097131

35. Djan D. Factors Affecting the Attitude of Young People towards HIV Testing Uptake in Rural Ghana. *Journal of HIV & Retro Virus*. 2018;4(2):10–5.

36. Yahaya LA, Jimoh AAG, Balogun OR. Factors hindering acceptance of HIV/AIDS voluntary counseling and testing (VCT) among youth in Kwara State, Nigeria. *African Journal of Reproductive Health* [Internet]. 2010;14(3):159–64. Available from: http://www.ncbi.nlm.nih.gov/pubmed/21495608

APPENDICES

APPENDIX 1A: In-depth interview guide – adolescents and young adults

Barriers and Facilitators to HTS Uptake Among Adolescents and Young Adults

In-Depth Interview Guide – Adolescents and Young Adults

Location: Sitola (MDH)/ Urban: ☐ Kawinga (Ntaja HC)/ Rural: ☐

Date: Day: ☐ Month: ☐ Year: ☐

Respondent details:

Gender:		Ever tested:		Age Bracket:	
M: ☐	F: ☐	Yes: ☐	No: ☐	15-19: ☐	20-24: ☐

Duration of Interview (in minutes): _____

STEP 1: Introduction of Facilitators and Interview Process

The interviewer:

- Introduces her/himself; and
- Explains the purpose of the interview

1. Beliefs & Perceptions about HIV Testing & Counselling

a. As an individual;
   i. Have you ever felt that you are at risk of getting infected by HIV?
   ii. Have you voluntarily considered getting yourself tested for HIV?

b. In your opinion, what are the benefits of getting tested for HIV for an individual? (**PROBE:** linkage to care and treatment, motivation to take preventive measures for oneself and partners, among others)

c. What do you consider as the significance of HIV testing in relationships/marriages?

d. In your opinion, why would a couple want to get tested together for HIV? How do you view couples that decide to jointly get tested for HIV?

e. What are some of the negative consequences of not getting tested for HIV? (**PROBE:** for the individual? For the partner? For the children? For the family as a whole?)
f. What type of person do you think is eligible for anti-retroviral treatment? (**IDEAL:** every HIV-positive person regardless of physical appearance or wellbeing, health status, appearance of symptoms, etc.)

2. Knowledge of HIV Transmission

a. Tell me what you know about the ways through which HIV is transmitted from one person to another? (**PROBE for:** unprotected sex, from an infected mother to a child during pregnancy and/or lactation, sharing of unsterilized needles and any other piercing instruments, any other exchanges of bodily fluids)
b. You have mentioned all these modes of HIV transmission; which ones are the most common according to what you know?
c. How often should an HIV negative person be tested in order for them to be continually sure of their negative status?

3. Decision Making Regarding HIV Testing

a. If you wanted to get tested for HIV, how would you go about making that decision? (**PROBE:** Couple discussion? Role of friends and family members? Role of health service providers?)
b. You have mentioned that you would discuss the decision with partner/friends/family. Can you demonstrate how you would initiate that discussion?
c. What would make it easier for you and your partner to discuss HIV/AIDS issues and making a decision to get tested for HIV? (**PROBE:** What does a woman need to make this happen? What does a man need to make this happen?)
d. What would make it easier for you and your parents to discuss HIV/AIDS issues and making a decision to get tested for HIV? (**PROBE:** What does a child need to make this happen? What does a parent need to make this happen?
e. What makes it difficult for couples in this community to discuss HIV/AIDS and the issue of getting tested for HIV?
f. What makes it difficult for parents and their children in this community to discuss HIV/AIDS and the issue of getting tested for HIV?

4. Use of HIV Testing Services

a. Have you ever been tested for HIV before? (*refer to section on **Respondent's Details** above*)
b. If yes, when?
c. If you have never been tested before, what are your reasons?
d. What HIV testing approaches do you know of? (**PROBE:** voluntary counseling and testing (VCT), provider-initiated testing (PITC), index-case testing, etc.)
e. There is a self-testing approach being implemented by some organizations whereby a client does the testing themselves (*explain this approach in detail to the respondent);* between that and the usual HTC process (*for a respondent with no testing history, explain this approach in detail as well*) which method would you prefer to use and why?

5. Personal experience with HTS

Ask first if the respondent and/or his/her partner has ever been tested for HIV before (for the respondent, refer to the section on **Respondent's Details** above).

Then ask,

a. What circumstances led to your or your partner's decision to get tested for HIV? How was the decision to get tested made?
b. What do you think of the service providers (counselors) in the HTS clinic that you/your partner used?
c. What do you think of the overall quality of service in the HTS clinic that you/your partner used? (**PROBE:** in what ways should the service be improved? Were you comfortable interacting with the counselor? Was the pre-test and post-test counseling helpful to you? *Make sure you explain first what pre-test and post-test counseling means in HTS*).
d. What advice would you give anyone who is interested in getting tested at the place where you received your HIV testing service?

6. Hindrances to HIV Testing

a. Just like in a lot of other areas, some young people in this community who would want to know their HIV status are not getting tested. What in your opinion are the reasons why they are not getting tested?
b. Are there places/sites in this community where one can get tested for HIV apart from the health center/hospital? If yes, what and how many are they?

c. Do the HIV testing sites (including the hospital or health center) in this community meet your expectations (**PROBE for:** enough reagents, staffing, etc.)
d. Are there instances in this community where young people get openly discouraged by others from going for an HIV test? If yes, by whom and for what reasons?
e. Do you know of any young man or woman who went for an HIV test but came back from the clinic regretting their decision? If yes, what do you think were the reasons for such a reaction?
f. What do you think are the barriers to young people that are preventing them to get tested for HIV, if any?

7. Sources of information and advice on HIV testing

a. Where or to whom would you go for **information** on HIV/AIDS and HIV testing in general? Please rank these sources from the least to the most credible.
b. Where or to whom would you go for **advice** on HIV/AIDS and HIV testing? Please rank these sources from the least to the most credible.
c. What would be the best ways to bring information about HIV testing to your locality/community?
d. Are there any special local beliefs on HIV/AIDS that should be addressed in a program to promote HIV testing among young people? (**PROBE:** Special cultural beliefs? Health beliefs? Health-seeking behaviors?)

8. Wrap up

a. Is there anything else that you would like to ask or tell me about any of the issues that we have discussed so far?

Thank the respondent for their time and contribution.

APPENDIX 1B: Muuni wamafunso wa achinyamata ndi akulu achichepere

Zotchinjiriza komanso zinthu zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi

<u>Muuni wamafunso – Achinyamata ndi akulu achichepere</u>

Dera: Sitola (MDH)/ Mtauni: ☐ Kawinga (Ntaja HC)/ Mmudzi: ☐

Deti: Tsiku: ☐ Mwezi: ☐ Chaka: ☐

Mbiri ya oyankha mafunso:

Jenda:				Mudayezetsapo magazi:				Zaka:			
Mamuna:	☐	Mkazi:	☐	Inde:	☐	Ayi:	☐	15-19:	☐	20-24:	☐

Nthawi yomwe kufunsana mafunso kwatenga (mphindi): _____

NDIME YOYAMBA: Kudziwa ofunsa mafunso komanso kulongosola tsatanetsatane wa ndondomeko ya kafukufuku

- Ofunsa mafunso atchule dzina lake; komanso
- Afotokoze mwatsatanetsatane za cholinga cha kafukufuku

1. **Zikhulupiliro komanso zomwe mumadziwa zokhudza Kuyezetsa magazi kuti mudziwe ngati muli ndi kachilombo koyambitsa matenda a Edzi kapena ai, komanso kulandira uphungu woyenera**
   g. Mwainu nokha;
      iii. Munayambapo mwaganiza kuti mutha kukhala pachiopsyezo chotenga kachilombo koyambitsa Edzi?
      iv. Munalingalirapo zoyezetsa magazi anu kuti mudziwe ngati muli ndi kachirombo koyambitsa matenda a Edzi kapena ai?
   h. Ndiubwino uti omwe ungapezeke ngati munthu atayezetsa magazi? (**Funsitsani**: molingana ndi kasamalidwe, kulandira chithandizo, njira zotetezera matendawa kwa okondedwa wanu, mwa zina)

i. Mukuganiza kuti ndikofunika bwanji kuti anthu omwe ali m'banja komanso paubwezi ogonana aziyezetsa magazi?
j. Mukuganiza kuti pali ubwino wanji kuti anthu omwe ali paubwenzi ogonana akayezetse magazi limodzi? Mumatanthauzira bwanji kapena kuwona bwanji anthu omwe ali paubwenzi kapena pabanja, ndipo asankha kukayezetsa magazi limodzi?
k. Pali kuipa kwanji komwe kungapezeke ngati munthu sayezetsa magazi? (**Funsitsani:** kuipa komwe kungakhalepo kwa munthu mwini, kwa wokondedwa wake, kwa ana, komanso kwa banja lonse)
l. Munthu yemwe akuyenera kulandira mankhwala otalikitsa moyo a ARV akuyenera akhale otani? (**Muyembekezere**: aliyense yemwe ali ndi kachirombo ka HIV posatengera maonekedwe komanso zizindikiro zinazilizonse).

2. Kudziwa kafalidwe komanso za mmene amapatsirana kachirombo ka HIV

d. Mukudziwa njira ziti zomwe anthu angathe kupatsirana kachirombo ka HIV? (**Funsitsani za:** kugonana mosadziteteza, mai yemwe ali ndi kachirombo kupatsira mwana pobereka kapena poyamwitsa, kubwerekana zipangizo zosaikidwa m'mankhwala monga singano, lezala ndi zina, komanso kukhudzana kwa madzi am'thupi)
e. Panjira zonse zomwe mwatchulazi, mukuganiza kuti ndi njira iti yomwe ili yodziwika kwambiri kuposa zina?
f. Kwa munthu yemwe anapezeka alibe kachilombo, azikayezetsa pakatha nthawi yaitali bwanji kuti akhalebe ndichitsimikizo choti alibe kachirombo?

3. Kupanga chisankho choyezetsa magazi kuti mudziwe ngati muli ndi kachirombo ka HIV kapena ai

g. Mutafuna kupanga chisankho chofuna kuyezetsa magazi, zingakutengereni chani kuti mutero? (**Funsitsani:** Mungakambirane ndi wokondedwa wanu? Mungalingalire za anzanu omwe mumacheza nawo? Kapena mungaganizire ogwira ntchito a zaumoyo?)
h. Mwafotokoza kuti popanga chiganizo chokayezetsa magazi mutha kukambirana ndi wokondedwa wanu, mungakambirane motani zankhaniyi? Tafotokozani mungayambitse bwanji nkhaniyi?
i. Ndi zinthu ziti zomwe zingathandize kuti inu ndi wokondedwa wanu mukambirane za HIV momasuka komanso kupanga chisankho chokayezetsa magazi mosavuta?

(**Funsitsani:** Mkazi angatani kuti izi zitheke? Mwamuna akuyenera kutani kuti izi zichitike?)

j. Ndi zinthu ziti zomwe zingathandize inu ndi makolo anu kuti mukambirane za HIV momasuka komanso kupanga chisankho chokayezetsa magazi mosavuta? (**Funsitsani:** kodi mwana akuyenera kutani kuti izi zitheke? Nanga makolo udindo wao ndiotani kuti izi zichitike?)

k. Mukuwona kuti chimapangitsa kuti anthu omwe ali pabanja kapena paubwenzi mu dera lino asakhale omasuka kukambirana za kachilombo ndi matenda a Edzi komanso zokayezetsa magazi?

l. Mukuganiza kuti chimalepheretsa ndi chani makolo komanso ana m'mdera lino kukambirana limodzi za matenda a Edzi komanso kukambirana zokayezetsa magazi?

4. Kuyezetsa magazi

f. Mudayambapo mwayezetsa magazi kuti mudziwe ngati muli ndi kachirombo koyambitsa matenda a Edzi kapena ai? (*yang'anani pa ndime **Mbiri ya oyankha mafunso** pamwambapa)*

g. Ngati ayankha kuti eya, funsani; adayezetsa liti?

h. Ngati sadayezetsepo chiyambire, afunseni chifukwa chani?

i. Ndi njira ziti zomwe mukudziwa kuti anthu amatsata poyezetsa magazi? (**Funsitsani**: kudzera ku malo oyezera komanso kupereka uphungu mwaufulu (VCT), kapena njira yoyambitsidwa ndi anthu a zachipatala akamuwona munthu (PITC), kapena yoyezetsa chifukwa choti wokondedwa kapena kholo lapezeka ndi kachilombo (index-case testing))

j. Pali ndondomeko ina yomwe yakhazikitsidwa ndi mabungwe ena omwe siaboma posachedwa pomwe anthu akutha kudziyeza okha magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ai olo atakhala kutali ndi chipatala (*afotokozereni oyankha mafunso zatsatanetsatane wa ndondomeko imeneyi; afotokozeraninso mwachindunji kwa oyankha mafunso omwe sanayezetsepo za njira yoyezetsa magazi mwaufulu ndi kulandira uphungu woyenera HTC*); pa njira ziwiri zomwe mwafotokozeredwazi mungasankhe njira iti, nanga ndi chifukwa chani?

5. Chithunzithunzi chilipo pankhani yakupita kuchipatala kukayezetsa magazi (HTS)

Funsani ngati oyankha mafunso kapena wokondedwa wao adayambapo ayezetsa magazi. (*yang'anani yankho m'ndime yammwamba lomwe oyankha mafunso adapereka pafunso ngati limeneli*).

Kenaka funsani,

e. Chinachititsa ndi chani kuti inu ndi okondedwa anu mupange chisankho choyezetsa magazi kuti mudziwe ngati muli ndi kachirombo koyambitsa matenda ka HIV? Chisankho chimenechi chidabwera bwanji?
f. Mungawafotokoze bwanji ogwira ntchito pachipatala (HTS) omwe adakuthandizani inu kapena wokondedwa wanu mutapita kukayezetsa magazi komanso kukupatsani uphungu woyenera wokhuza matenda a HIV?
g. Munathandizidwa bwanji inu ndi wokondedwa wanu mutapita kukayezetsa magazi. Munathandizidwa bwino kapena ayi? (**Funsitsani:** mukuganiza kuti njira zomwe amagwiritsa ntchito poyeza komanso kupereka uphungu zingapite bwanji patsogolo, ndi pati mungakonde kuti pawunikiridwenso? Munali omasuka mutafika m'chipinda choyezera? Uphungu womwe adakupatsani musanayezedwe komanso mutayezedwa magazi unali wokupindulirani *(onetsetani kuti mwawafotokozera oyankha mafunso za uphungu womwe umaperekedwa poyamba magazi asanayezedwe komanso magazi atayezedwa).*
h. Mungapereke chilimbikitso chanji kwa nathu omwe ali ndi malingaliro ofuna kukayezetsa magazi pa chipatala chomwe mudakayezetsera inu?

6. Zinthu zomwe zimatchinjiriza anthu kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo ka HIV kapena ai

g. Chimodzimodzi ndi madera ena onse, m'dera lanu lino muli achinyamata ena omwe mpaka lero sadadziwebe ngati ali ndi kachirombo ka HIV kapena ai. Mukuganiza kuti ndi chifukwa chiyani achinyamatawa sadayezetsebe magazi?
h. Alipo malo ena omwe munthu atha kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo ka HIV m'dera lino kupatula kuzipatala zomwe zidakhazikitsidwa? Ngati ayankha kuti eya, tchulani malowo ndipo alipo malo angati?
i. Malo onse omwe mwatchula kuti amayeza magazi kuti anthu adziwe ngati ali ndi kachirombo ka HIV m'dera lanu lino anthu amathandiziwa moyenera? (**Funsitsan**i: zokhudza zipangizo zokwanira zoyezera magazi, ogwira ntchito kuyeza magazi ndi zina zambiri)

j. Kodi zimatheka mu dera lino achinyamata kumafooketsedwa kuti asayezetse magazi? Ngati yankho liri eya, amawafooketsa ndi ndani? Nanga pazifukwa ziti?

k. Alipo wachinyamata yemwe mukumudziwa kuti adapita kukayezetsa magazi kuchipatala, koma adabwerako akulingalira kuti kunali bwino akanapanda kupitako? Ngati yankho ndi eya, mukuganiza kuti ndichifukwa chiyani adali ndi malingaliro amenewa?

l. Ndi zinthu ziti zomwe mukuganiza kuti zimatchinjiriza/kuletsa achinyamata kuyezetsa magazi?

7. Komwe anthu amapeza uphungu ndi kudziwitsidwa zokhuza kuyezetsa magazi

e. Mungapite kuti kapena kwandani mutafuna **kudziwa zambiri** za zokhuzana ndi HIV komanso Edzi kuphatikizaponso za komwe mungayezetse magazi? Chonde malowa muwaike mundondomeko kuyambira komwe mungapite koyamba mpaka komwe mungapite kumapeto.

f. Mungapite kuti kapena kwa ndani mutafuna kupeza **uphungu/malangizo** wokhudza za HIV komanso Edzi ndiponso zoyezetsa magazi. Anthuwa kapena malowa muwaike mundondomeko yake kuyambira okhulupirika kwambiri kelekeza okhulupirika pang'ono.

g. Ndi njira ziti zomwe zingagwiritsidwe ntchito pofuna kufikira anthu ndi uthenga wokhudza kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo ka HIV kapena ai mdera lino?

h. Pali zikhulupiliro zina zomwe zilipo mdera lino zomwe zikuyenera kuwunikiridwa bwino pankhani yofalitsa ma uthenga okhuza HIV ndi Edzi kapena kuyezetsa magazi pakati pa achinyamata? (**Funsitsani:** zikhalidwe zamakolo? Zikhulupiliro za anthu pa zaumoyo? Kapena kulandira chithandizo kuchipatala munthu akadwala?)

8. Potsiriza

b. Kodi muli ndi malingaliro ena alionse omwe mungakonde kugawana nafe okhudza zomwe takambirana panozi zokhuza kuyezetsa magazi?

Athokozeni oyankha mafunso chifukwa cha nthawi yawo

APPENDIX 2A: Key informant interview guide – service providers

Barriers and Facilitators to HTS Uptake Among Adolescents and the Youth

In-Depth Key Informant Interview Guide – Service Providers

Location: Sitola (MDH)/ Urban: ☐ Kawinga (Ntaja HC)/ Rural: ☐

Date: Day: ☐ Month: ☐ Year: ☐

Service Provider Affiliation: Government-affiliated ☐ Non-governmental affiliated: ☐

Service Provider Type HTS ☐ YFHS: ☐

Duration of Interview (in minutes): _____

STEP 1: Introduction of Interviewer and Interview Process

The interviewer:

- Introduces her (him)self; and
- Explains the purpose of the Interview

1. Experience in Providing Youth-friendly Health Services, including HTS

a. How long have you been working in HTS/YFHS service provision?
b. During your pre-service training did you go through HTS/YFHS provision training? (**PROBE:** length and scope of training)
c. During your time as a provider, have you gone through on the job HTS/YFHS provision training (s)? (**PROBE:** length and scope of training)
d. If yes to (c) above, when was the last time you got an on-the-job HTS/YFHS provision training (**IDEAL:** within the last year/12 months)
e. How commonly do young people aged 15-24 come here to get tested for HIV?

f. What are the available HIV testing modalities in this facility? (**PROBE for:** facility-based VCT, mobile testing, door-to-door/home-based HTC, PITC, index-case testing, among others)
g. Which one(s) of the available testing modalities in (f) above registers the most clientele of the 15-24 age bracket? Why do you think such is the case?
h. Does this site conduct outreach HTS activities/campaigns, especially targeting young people? If yes, how frequently?
i. On average, can you say that this facility stocks adequate reagents/test kits for HTS provision?

2. Barriers and Facilitators to HIV testing uptake

a. How youth-friendly is your HTC room/site for adolescents and young people in terms of space, privacy, and staff availability among others? (on staff, **PROBE for** the age and sex of available staff)
b. In your professional view, what could be some of the reasons why young people do not often get tested for HIV?
c. What are the challenges that you face in providing HIV testing services to adolescents and other young people here?
d. What do you think should be done to encourage the uptake of HIV testing services among adolescents and young people on the demand-creation side?
e. What do you think should be done to improve access to HIV testing services to adolescents and young people in this catchment area from the service-provision side?

3. Wrap-Up

a. Is there anything else that you would like to tell me about any of the issues that we have discussed so far?

Thank the respondent for their time and contribution.

APPENDIX 2B: Muuni wamafunso wa ogwira ntchito yoyeza magazi komanso kuthandiza achinyamata pa nkhani za umoyo

Zotchinjiriza komanso zinthu zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi

<u>Muuni wamafunso – Achinyamata ndi akulu achichepere</u>

Dera: Sitola (MDH)/Mtauni: ☐ Kawinga (Ntaja HC)/ Mmudzi: ☐

Deti: Tsiku ☐ Mwezi: ☐ Chaka: ☐

Malo a ogwira ntchito M'boma ☐ Mabungwe omwe si aboma: ☐

Mtundu wa ogwira ntchito HTS ☐ YFHS: ☐

Nthawi yomwe kufunsa mafunso kwatenga (mphindi): _____

NDIME YOYAMBA: Kudziwa ofunsa mafunso komanso kulongosola tsatanetsatane wa ndondomeko ya kafukufuku

- Ofunsa mafunso atchule dzina lake; komanso
- Afotokozenso mwatsatanetsatane za cholinga cha kafukufuku

4. Mbiri yawo pa ntchito ngati opereka thandizo ndi uphungu kwa achinyamata komanso kuyeza magazi

j. Kodi mwagwira ntchito yopereka thandizo ndi a uphungu kwa achinyamata/yoyeza magazi kwa nthawi yaitali bwanji?

k. Panthawi yomwe mudakapanga maphunziro okhudza ntchito yanu musanayambe kugwira ntchitoyi mudaphunzitsidwapo zokhudza kupereka chithandizo ndi uphungu kwa achinyamata/zoyeza magazi? (**Funsitsani**: mudaphunzira kwa nthawi yaitali bwanji komanso ndi ziti zina zomwe mudzaphunzirako)

l. Panthawi yomwe mwakhala mukugwira ntchito mwapitako kumaphunziro okhudza kuthandiza achinyamata/kuyeza magazi? (**Funsitsani**: mudaphunzira kwa nthawi yaitali bwanji komanso ndi ziti zina zomwe mudzaphunzirako)

m. Ngati yankho liri eya, mudapita liti kumaphunzirowa? (**Yembekezani** kuti pakhale mkatikati mwa chaka chimodzi, chaka chisanathe)

n. Achinyamata azaka zapakati pa 15-24 amabwera mowirikiza motani kudzayezedwa magazi kunoko?

o. Pali ndondomeko kapena njiri ziti zomwe zimagwiritsidwa ntchito poyeza magazi kunoko? (**Funsitsani:** kuyeza magazi kuchipatala mwaufulu komanso kupereka uphungu VCT, kuyeza magazi khomo ndi khomo kapena koyendayenda, PITC, Index case testing ndi zina)

p. Pa njira zomwe mwanena za kayezedwe kamagazi, ndi njira iti yomwe mwaona kuti ikukondedwa kwambiri ndi anthu makamaka achinyamata azaka za pakati pa 15-24? Mukuganiza kuti nchifukwa chiyani zili choncho?

q. Pamalo anu ogwira ntchito ano, muli ndi ndondomeko yopita m'madera akutali ena kukayeza anthu magazi makamaka achinyamata? Ngati yankho liri eya, izi mumapanga nthawi yochuluka bwanji kapena kuti kangati?

r. Mukuganiza kuti pachipatala panu pano pamakhala zipangizo zokwanira zoyezera magazi?

5. Zinthu zomwe zimatchinjiriza anthu kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo ka HIV kapena ai

f. M'chipinda chomwe mumagwiritsa ntchito kuyeza magazi, mukuganiza kuti ndichoyenera kwa achinyamata, potengela ndi malo ake, chinsisi cha achinyamata, kupezeka kwa ogwira ntchito okwanira ndi zina zambiri? (**Funsitsani** kutengera zaka za kapena kuti misinkhu ya ogwira ntchito komanso ngati ali aamuna kapena aakazi)

g. Ngati m'modzi mwa ogwira ntchito zachipatala, mukuganiza kuti ndi chifukwa chiyani achinyamata ambiri samayezetsa magazi kuti adziwe ngati ali ndi kachilombo ka HIV kufanizira ndi magulu ena a anthu?

h. Mumakumana ndi zipsyinjo zotani pogwira ntchito yoyeza magazi makamaka kwa achinyamata m'dera lino?

i. Mukuganiza kuti ndi zinthu ziti kapena njira ziti zomwe zingakhazikitsidwe kuti zikope achinyamata ambiri kuyamba kuyezetsa magazi?

j. Mukuganiza kuti ndi zinthu ziti kapena njira ziti zomwe zingakhazikitsidwe kumbali ya malo komanso aphungu oyeza magazi kuti kuyezetsa magazi pakati pa achinyamata kupite patsogolo m’dera lino?

6. Potsiriza

b. Kodi muli ndi malingaliro ena alionse omwe mungakonde kugawana nafe pankhani ya achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo ka HIV kapena ai?

Athokozeni oyankha mafunso chifukwa cha nthawi yawo

APPENDIX 3A: Informed assent form for in-depth interviews with adolescents aged below 18

Study Title: Barriers and Facilitators to the Uptake of HIV Testing Services (HTS) Among Adolescents and Young Adults in Machinga District, Malawi: a qualitative exploratory study.

Principal Investigator: Mr. Joseph Sakala, Master of Public Health student, College of Medicine.

Research Supervisor: Professor William Stones, Lecturer, College of Medicine.

PART 1: INTRODUCTION

My name is Joseph Sakala, a student at the College of Medicine studying for the Master of Public Health degree and I am conducting a research study on factors underlying the uptake of HIV testing services among adolescents and young adults in Machinga District. You have been sampled to participate in this research study because you are an adolescent living in the study catchment area. However, take note that since you are aged below 18, consent will also be sought from your parent/legal guardian for you to be allowed to participate in this study. This consent form has explanations of the research study and the part that you are required to play in the study. You are asked to read this consent form carefully and take as much time as you need.

Participation in the study

Your participation is completely voluntary. If you choose to participate, you are free to change your mind and stop participating or decline to answer any questions or stop the interview completely at any time.

Purpose of the study

The aim of the dissertation research is to explore the factors that underlie HIV testing amongst young people in Machinga district and to recommend strategies that would contribute towards promoting the uptake of HIV testing services among adolescents and young people in the district. The information you will be asked to provide will be used to help provide insights towards the achievement of this objective.

Study procedures

About 30 adolescents and young adults will participate in the in-depth interviews. Participants

will include both males and females aged 15-24. The interviews will be done face to face, notes of the responses will be taken down, and will take about 30-45 minutes. You will not be asked for names or any other identifying information.

Potential risks

The only risk of participating in this study is a breach of confidentiality; however, no names will be recorded during this study. The data collected will be kept securely and will only be accessed by investigators working on this study. In addition, your information will not be available outside this research study. Any revealed or discussed activities or actions that may be illegal will not be reported to any authority in any way. The data you provide will only be used for the dissertation, and will not be disclosed to any third party, except as part of the dissertation findings, or as part of the supervisory or assessment processes of the College of Medicine.

Costs and compensation

You will not be provided any incentive to take part in the research. However, you will be given MWK1000 for your time and travel expense.

Who to contact:

If you decide that you wish to withdraw from the study later after you have already participated in the study, please write to me at Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** or e-mail me at: jo.sakala@yahoo.com no later than 31st March, 2019 and I will be able to remove your responses from my analysis and findings, and destroy your responses. If you will decide that I should only use some of the responses and not others, please state so in your communication. In case you determine that something has gone wrong with this research please contact the COMREC secretariat, Private Bag 360, Chichiri, Blantyre 3. Telephone: 01 871 911.

PART 2: CERTIFICATE OF ASSENT

I have read the foregoing information (or it has been read to me). I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my

satisfaction. By signing below, I consent voluntarily to being a participant in this study.

Signature/Thumbprint of Participant	Date (DD/MM/YYYY)
Signature of Investigator	Date (DD/MM/YYYY)

APPENDIX 3B: Kalata yopempha chilolezo chotenga nawo mbali pakafukufuku kwa achinyamata a zaka zochepera 18

Mutu wa Kafukufuku: Zinthu zotchinjiriza komanso zinthu zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi m'boma la Machinga, Malawi.

Wofufuza: Joseph Sakala, wophunzira ku sukulu ya College of Medicne.

Woyang'anira Kafukufuku: Professor William Stones, Mphuzitsi ku sukulu ya College of Medicine.

MAU OYAMBA

Dzina langa ndine Joseph Sakala, wophunzira ku sukulu ya ukachenjede ya College of Medicine ndipo ndikupanga kafukufuku wokhudza achinyamata pa zinthu zomwe zimawatchinjiriza komanso kuwakopa poyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ai m'boma la Machinga. Mwasankhidwa kutenga nawo mbali pa kafukufukuyu chifukwa ndinu munthu wachisodzera yemwe mukukhala mudera lomwe kafukufukuyu akuchitika. Dziwaninso kuti popeza ndinu a zaka zochepera 18, kholo lanu/wokusungani akuyenekanso kuvomereza kuti mutenge nawo mbali pakafukufukuyi. Kalata ya chilolezoyi ikufotokoza zokhuza kafukufukuyi komanso zomwe inu mungachite potenga nawo mbali mu kafukufukuyi. Mukufunsidwa kuti mutenge nthawi yanu powerenga kalatayi ndipo kuti muwerenge mosamala.

Kutenga nawo mbali mu kafukufuku

Dziwani kuti kutenga nawo mbali mu kafukufukuyi ndikosakakamizidwa. Dziwaninso kuti mukavomela kutenga nawo gawo mu kafukufukuyi, muli ndi ufulu osayankha mafunso ena kapena kumuletsa ofunsa mafunso pa nthawi yomwe inu mwafuna.

Cholinga cha Kafukufuku ndi mtundu wakafukufuku

Cholinga chenicheni cha kafukufukuyi ndikufufuza zinthu zomwe zimatchinjiriza komanso kukopa achinyamata kuyezetsa magazi m'mboma la Machinga, komanso kufufuza njira zomwe zingatsatidwe kuti mchitidwe woyezetsa magazi upite patsogolo pakati pa achinyamata. Mfundo zomwe mutagawane nafe zithandiza kuunikira mozama pakupititsa patsogolo mchitidwe oti achinyamata aziyezetsa magazi. Ngati otenga nawo mbali, muzangofunsidwa kuti

munene mwatsatanetsatane maganizo anu pankhani yoyezetsa magazi pakati pa achinyamatayi.

Zotsatidwa pa Kafukufuku

Pafupifupi achinyamata komanso akulu achichepere 30 atenga nawo mbali mu kafukufukuyi ndipo azafunsidwa mafunso. Otenga nawo mbali akhala amuna ndi akazi a zaka pakati pa 15 ndi 24. Kufunsa mafunso kuzakhala pakati pa wofufuza ndi wotenga nawo mbali aliyense payekha payekha mafunsowa azatenga mphindi pakati pa 30 ndi 45. Dziwani kuti dzina lanu silizafunsidwa ndikulembedwa paliponse mu kafukufukuyi.

Chiwopsezo potenga nawo mbali mu kafukufuku

Chiwopsezo chomwe chingabwere pakutenga nawo mbali mu kafukufukuyi ndi kuphwanyiridwa chinsinsi chanu. Koma dziwani kuti chinsinsi chanu chizasungidwa poyesetsa kuti dzina lanu lisazafunsidwe ndikulembedwa paliponse mu ma lipoti athu. Powonjezera apo, mudziwenso kuti ndemanga zanu zizasungidwa bwino ndipo amene atazagwiritse ntchito ndemanga zimezi ndiwokhawo amene atenga nawo mbali yofufuza mu kafukufukuyi. Ndemanga zanu zizagwiritsidwa ntchito mu kafukufuku yekhayu basi. Zina zonse zodziwika pokambirana zomwe zingazakhale kuti sizololedwa ndi malamulo sizizanenedwa kwina kulikonse. Ndemanga zanu zizangogwilitsidwa ntchito ngati mbali ya maphunziro malingana ndi zofunika ku College of Medicine basi.

Phindu kapena zoluza mukatenga nawo mbali mukafukufuku

Dziwani kuti simuzalandira malipiro kapena chipepeso chilichonse potenga nawo mbali mukafukufukuyi. Komabe ngakhale zili choncho, muzapatsidwa 1000 Kwacha yokuthandizani mayendedwe komanso chifukwa cha nthawi yanu.

Nkhawa kapena Mafunso

Ngati mungasinthe maganizo pakutenga nawo mbali pakafukufukuyi mutapereka kale mayankho anu, muli ololedwa kutero ndipo dziwitsani yemwe akuyendetsa kafukufukuyi polembera keyala iyi: Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** kapena tumizani kalata mwanjira yamakono ya intaneti kukeyala iyi: jo.sakala@yahoo.com pasanafike pa 31 March 2019, ndipo mayankho anu adzachotsedwa. Ngati mungafune kuti mayankho anu ena agwiritsidwe ntchito koma mayankho anu ena asagwiritsidwe ntchito chonde tidziwitseni izi pakalata yomwe mungalembe ndikufotokoza

mwatsatanetsatane. Mwanjira ina iliyonse mutakhala ndi dandaulo kapena mafunso ena alionse, Chonde tumizani madandaulo anu onse kapena china chirichonse chokhudza kafukufukuyu kwa akulu akulu oyendetsa za kafukufuku ku sukulu yaukachenjede ya zaumoyo ya College of Medicine pa keyala iyi: COMREC Secretariat, Private Bag 360, Chichiri, Blantyre 3. Lamya: 01 871 911.

GAWO 2: KUTSIMIKIZA KUVOMEREZA KUTENGA NAWO MBALI

Ndapanga chisankho mwaufulu wanga ndipo ndawerenga komanso ndamvetsa ndondomeko yonse yakafukufukuyu mwaufulu wanga ndimosakakamizidwa mwamtundu wina ulionse ndikuvomereza kutenga nawo mbali pakafukufuku. Kusaina zitanthauza kuvomereza kutenga nao mbali pakafukufuku.

Siginecha/Chala cha wotenga nawo mbali	Date (DD/MM/YYYY)
Siginecha ya wopanga kafukufuku	Date (DD/MM/YYYY)

APPENDIX 4A: Parental informed consent form (for parents of the adolescent respondents aged below 18 years)

Study Title: Barriers and Facilitators to the Uptake of HIV Testing Services (HTS) Among Adolescents and Young Adults in Machinga District, Malawi: a qualitative exploratory study.

Principal Investigator: Mr. Joseph Sakala, Master of Public Health student, College of Medicine.

Research Supervisor: Professor William Stones, Lecturer, College of Medicine.

PART 1: INTRODUCTION

My name is Joseph Sakala, a student at the College of Medicine studying for the Master of Public Health degree and I am conducting a research study on factors underlying the uptake of HIV testing services among adolescents and young adults in Machinga District. Your child/ward has been sampled to participate in this research study because he/she is an adolescent living in the study catchment area. For all research involving participants under the age of 18, we talk to parents to ask for their permission. If you agree, the next thing I will do is ask your child for his/her agreement as well. Both of you have to agree independently before I can begin. This consent form has explanations of the research study and the part that your child/ward is required to play in the study. You are asked to read this consent form carefully and take as much time as you need.

Participation in the study

Please note that your child/ward's participation in this study is voluntary. Your child/ward may decline to participate or to withdraw from participation at any time. You can agree to allow your child/ward to be in the study now and change your mind later without any consequences. In addition to your permission, your child/ward must agree to participate in the study. If your child/ward does not want to participate they will not be included in the study and there will be no penalty. If your child/ward initially agrees to be in the study they can change their mind later without any penalty.

Purpose of the study and type

The purpose of the study is to explore the factors that encourage as well as discourage HIV testing amongst young people in Machinga district and to recommend strategies that would

contribute towards promoting the uptake of HIV testing services among adolescents and young people in the district. The information you will be asked to provide will be used to help provide insights towards the achievement of this objective. The research will be done around Machinga District Hospital and Ntaja Health Centre. The study will involve your child/ward taking part in face-to-face in-depth interviews with the researchers where they will be asked their views on barriers and facilitators to HIV testing among adolescents and the youth.

Study procedures and duration

About 30 adolescents and young adults will participate in the in-depth interviews. Participants will include both male and female, of different ages between 15-24. The interviews will be done face to face, during which notes will be taken, and they will take about 30 to 45 minutes. No names will be taken during the interview process.

Potential risks

The only risk of participating in this study is a breach of confidentiality for your child/ward; however, your child/ward's privacy and the confidentiality of his/her data will be protected by anonymizing their name and destroying their recorded conversation after the final analysis. In addition, the information provided will not be shared with anyone who is not involved with the research. Any revealed or discussed activities or actions that may be illegal will not be reported to any authority in any way. The data provided will only be used for the dissertation, and will not be disclosed to any third party, except as part of the dissertation findings, or as part of the supervisory or assessment processes of the College of Medicine.

Costs and Compensation

Neither you nor your child will receive any type of payment for participating in this study. However, your child/ward will be given MWK1000 for his/her time and travel expense.

Who to Contact:

If at any point in time you have any concerns about your child participating in the study, please write to the principal investigator at Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** or e-mail at: jo.sakala@yahoo.com no later than 31st March, 2019 and your child/ward's responses will be removed from the final analysis and findings, and they will be destroyed. If you will decide that only some of the responses and not others should

be used, please state so in your communication. In case you determine that something has gone wrong with this research please contact the COMREC secretariat, Private Bag 360, Chichiri, Blantyre 3. Telephone: 01 871 911.

PART 2: CERTIFICATE OF CONSENT

I have read and understood the contents of this consent and briefing form, and freely and voluntarily consent to my child/ward participating in this research. I am comfortable with my child/ward being chosen among those to participate in this study. By signing below, I consent to my child/ward being a participant in this study.

Name of child/ward (print)

Signature/thumbprint of Parent/Guardian

Date (DD/MM/YYYY)

Signature of Investigator

Date (DD/MM/YYYY)

APPENDIX 4B: Kalata yopempha chilolezo kwa makolo kapena owayang'anira achinyamata omwe zaka zao ndi zosakwanira khumi ndi mphambu zisanu ndi zitatu (18) kutenga nawo mbali pa kafukufuku

Mutu wa Kafukufuku: Zinthu zotchinjiriza komanso zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi m'boma la Machinga, Malawi.

Wofufuza: Joseph Sakala, wophunzira ku sukulu ya College of Medicne.

Woyang'anira Kafukufuku: Professor William Stones, Mphunzitsi ku sukulu ya College of Medicine.

GAWO 1: MAU OYAMBA

Dzina langa ndine Joseph Sakala, wophunzira ku sukulu ya ukachenjede ya College of Medicine ndipo ndikupanga kafukufuku wokhudza achinyamata pa zinthu zomwe zimawatchinjiriza komanso kuwakopa poyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ai m'boma la Machinga. Mwana wanu wasankhidwa kutenga nawo mbali pa kafukufukuyu chifukwa ndi munthu wachisodzera yemwe akukhala mudera lomwe kafukufukuyu akuchitika. Pakakhala kafukufuku yemwe otenga nawo mbali ake ndi a zaka zosafikila 18, wopanga kafukufuku amayeneka kupempha chilolezo kaye kuchokera kwa makolo awo. Mukavomeleza ngati kholo, tizamupemphanso mwana wanuyo kuti atipatsenso chilorezo chake. Aliyense wa inu amayeneka kuvomeleza payekha tisanayambe kafukufuku. Kalata ya chilolezoyi ikufotokoza zokhuza kafukufukuyi komanso zomwe mwana wanu angachite potenga nawo mbali mu kafukufukuyi. Mukufunsidwa kuti mutenge nthawi yanu powerenga kalatayi ndipo kuti muwerenge mosamala.

Kutenga nawo mbali mu kafukufuku

Chonde dziwani kuti kutenga nawo mbali kwa mwana wanu mukafukufukuyi ndi kwaufulu opanda kukakamizidwa mwa mtundu ulionse. Mwana wanu ali ndiufulu okana kutenga nawo mbali pakafukufukuyi ndiponso ali ololedwa kusiya kutenga nawo mbali nthawi inailiyonse angakhale kafukufukuyi ali mkati. Ndizololedwa kuvomereza mwana wanu kutenga nawo mbali pakafukufukuyu, komanso ngati mungasinthe maganizo kuti mwana wanu asapitirize kutenga nawo mbali, muli ololedwa kutero. Kuonjezera, inu ngati kholo lamwana kuvomereza kuti atenge nawo mbali, mwana wanunso payekha mwaufulu akuyenera avomereze kutenga nawo mbali pakafukufukuyi. Ngati mwana wanu akana kutenga nawo mbali, savomerezedwa

kutenga nawo mbali, ndipo palibe chilango cha mtundu uliwonse pokana kutero. Ngati mwana wanu avomera poyamba kutenga nawo mbali ndikusintha maganizo kufuna kusiya kutenga nawo mbali, ali ovomerezedwa kutero popanda chilango cha mtundu uliwonse.

Cholinga cha Kafukufuku ndi mtundu wa kafukufuku

Cholinga chenicheni cha kafukufukuyi ndikufufuza zinthu zomwe zimatchinjiriza komanso kukopa achinyamata kuyezetsa magazi m'mboma la Machinga, komanso kufufuza njira zomwe zingatsatidwe kuti mchitidwe woyezetsa magazi upite patsogolo pakati pa achinyamata. Mfundo zomwe mwana wanu atagawane nafe zizathandiza kuunikira mozama pakupititsa patsogolo mchitidwe oti achinyamata aziyezetsa magazi. Kafukufukuyi achitika m'mboma la Machinga m'madera ozungulira chipatala chachikulu cha Machinga komanso chipatala chaching'ono cha Ntaja. Otenga nawo mbali azizangofunsidwa kuti anene mwatsatanetsatane maganizo awo pankhani yoyezetsa magazi pakati pa achinyamatayi.

Zotsatidwa pa Kafukufuku

Pafupifupi achinyamata komanso akulu achichepere 30 atenga nawo mbali mu kafukufukuyi ndipo azafunsidwa mafunso. Otenga nawo mbali akhala amuna ndi akazi a zaka pakati pa 15 ndi 24. Kufunsa mafunso kuzakhala pakati pa wofufuza yemwe azizalemba zokambirana komanso wotenga nawo mbali aliyense payekha payekha. Mafunsowa azatenga mphindi pakati pa 30 ndi 45. Dziwani kuti dzina lamwana wanu silizafunsidwa ndikulembedwa paliponse mu kafukufukuyi.

Chiwopsezo potenga nawo mbali mu kafukufuku

Chiwopsezo chomwe chingabwere pa mwana wanu pakutenga nawo mbali mu kafukufukuyi ndi kuphwanyiridwa chinsinsi; koma dziwani kuti chinsinsi chamwana wanu chizasungidwa poyesetsa kuti dzina lake lisazafunsidwe ndikulembedwa paliponse mu ma lipoti athu. Powonjezera apo, mudziwenso kuti ndemanga zake zizasungidwa bwino ndipo amene atazagwiritse ntchito ndemanga zimezi ndiwokhawo amene atenga nawo mbali yofufuza mu kafukufukuyi. Ndemanga zamwana wanu zizagwiritsidwa ntchito mu kafukufuku yekhayu basi. Zina zonse zodziwika pokambirana zomwe zingazakhale kuti sizololedwa ndi malamulo sizizanenedwa kwina kulikonse. Ndemanga zamwana wanu zizangogwilitsidwa ntchito ngati mbali ya maphunziro malingana ndi zofunika ku College of Medicine basi.

Phindu kapena zoluza mukatenga nawo mbali mukafukufuku

Dziwani kuti mwana wanu sazalandila malipiro kapena chipepeso chilichonse potenga nawo mbali mukafukufukuyi. Komabe ngakhale zili choncho, azapatsidwa 1000 Kwacha yomuthandiza mayendedwe komanso chifukwa cha nthawi yake.

Nkhawa kapena Mafunso

Ngati mungasinthe maganizo pa mwana wanu kutenga nawo mbali pakafukufukuyi atapereka kale mayankho ake, muli ololedwa kutero ndipo dziwitsani yemwe akuyendetsa kafukufukuyi polembera keyala iyi: Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** kapena tumizani kalata mwanjira yamakono ya intaneti kukeyala iyi: jo.sakala@yahoo.com pasanafike pa 31 March 2019, ndipo mayankho adzachotsedwa. Ngati mungafune kuti mayankho ena agwiritsidwe ntchito koma mayankho ena asagwiritsidwe ntchito chonde tidziwitseni izi pakalata yomwe mungalembe ndikufotokoza mwatsatanetsatane. Mwanjira ina iliyonse mutakhala ndi dandaulo kapena mafunso ena alionse, chonde tumizani madandaulo anu onse kapena china chirichonse chokhudza kafukufukuyu kwa akulu akulu oyendetsa za kafukufuku ku sukulu yaukachenjede ya College of Medicine pa keyala iyi: COMREC Secretariat, Private Bag 360, Chichiri, Blantyre 3. Lamya: 01 871 911.

GAWO 2: KUTSIMIKIZA KUVOMEREZA KUTENGA NAWO MBALI

Ndapanga chisankho mwaufulu wanga ndipo ndawerenga komanso ndamvetsa ndondomeko yonse yakafukufukuyu mwaufulu wanga ndimosakakamizidwa mwamtundu wina ulionse ndikuvomereza mwana wanga kutenga nawo mbali pakafukufuku. Ndavomereza kuti mwana wanga atha kusankhidwa kutenga nao mbali pa kafukufukuyu. Kusaina zitanthauza kuvomereza mwana wanga kutenga nao mbali pakafukufuku.

Dzina la Mwana

Siginecha ya/chala cha Kholo/Oyang'anira

Date (DD/MM/YYYY)

Siginecha ya Woyendetsa Kafukufuku

Date (DD/MM/YYYY)

APPENDIX 5A: Informed consent form for in-depth interviews with adolescents and young adults aged 18 and above

Study Title: Barriers and Facilitators to the Uptake of HIV Testing Services (HTS) Among Adolescents and Young Adults in Machinga District, Malawi: a qualitative exploratory study.

Principal Investigator: Mr. Joseph Sakala, Master of Public Health student, College of Medicine.

Research Supervisor: Professor William Stones, Lecturer, College of Medicine.

PART 1: INTRODUCTION

My name is Joseph Sakala, a student at the College of Medicine studying for the Master of Public Health degree and I am conducting a research study on factors underlying the uptake of HIV testing services among adolescents and young adults in Machinga District. You have been sampled to participate in this research study because you are an adolescent/young adult living in the study catchment area. This consent form has explanations of the research study and the part that you are required to play in the study. You are asked to read this consent form carefully and take as much time as you need.

Participation in the study

Participation in the study will be voluntary. If you feel uncomfortable with any specific questions being asked, you may decline to answer them. If you feel comfortable as the discussion progresses, you are free to take us back to the questions you avoided and answer them. You may also withdraw from the study completely at any stage of this process, and your answers will not be used.

Purpose of the study and type

The purpose of the study is to explore the factors that encourage as well as discourage HIV testing amongst young people in Machinga district and to recommend strategies that would contribute towards promoting the uptake of HIV testing services among adolescents and young people in the district. The information you will be asked to provide will be used to help provide insights towards the achievement of this objective. The research will be done around Machinga District Hospital and Ntaja Health Centre. The study will only involve you and other participants taking part in in-depth interviews with the researchers.

Study procedures and duration

About 30 adolescents and young adults will participate in the in-depth interviews. Participants will include both male and female, of different ages between 15-24. The interviews will be done face to face, during which notes will be taken, and they will take about 30 to 45 minutes. You will not be asked for names or any other identifying information.

Potential risks

The only risk of participating in this study is a breach of confidentiality; however, no names will be recorded during this study and the information provided will not be shared with anyone who is not involved with the research. The data you provide will only be used for the dissertation, and will not be disclosed to any third party, except as part of the dissertation findings, or as part of the supervisory or assessment processes of the College of Medicine.

Costs and Compensation

You will not be provided any incentive to take part in the research. However, you will be given MWK1000 for your time and travel expense.

Who to Contact:

If you decide that you wish to withdraw from the study later after you have already participated in the study, please write to me at Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** or e-mail me at: jo.sakala@yahoo.com no later than 31st March, 2019 and I will be able to remove your responses from my analysis and findings, and destroy your responses. If you will decide that I should only use some of the responses and not others, please state so in your communication. In case you determine that something has gone wrong with this research please contact the COMREC secretariat, Private Bag 360, Chichiri, Blantyre 3. Telephone: 01 871 911.

PART 2: CERTIFICATE OF CONSENT

I have read the foregoing information (or it has been read to me). I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my

satisfaction. By signing below, I consent voluntarily to being a participant in this study.

Signature/Thumbprint of Participant	Date (DD/MM/YYYY)
Signature of Investigator	Date (DD/MM/YYYY)

APPENDIX 5B: Kalata yopempha chilolezo chotenga nawo mbali pakafukufuku kwa achinyamata a zaka zokwana 18 komanso kuposera apo

Mutu wa Kafukufuku: Zinthu zotchinjiriza komanso zinthu zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi m'boma la Machinga, Malawi.

Wofufuza: Joseph Sakala, wophunzira ku sukulu ya College of Medicne.

Woyang'anira Kafukufuku: Professor William Stones, Mphunzitsi ku sukulu ya College of Medicine.

GAWO 1: MAU OYAMBA

Dzina langa ndine Joseph Sakala, wophunzira ku sukulu ya ukachenjede ya College of Medicine ndipo ndikupanga kafukufuku wokhudza achinyamata pa zinthu zomwe zimawatchinjiriza komanso kuwakopa poyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ai m'boma la Machinga. Mwasankhidwa kutenga nawo mbali pa kafukufukuyu chifukwa ndinu munthu wachisodzera kapena wankulu wachichepere yemwe mukukhala mudera lomwe kafukufukuyu akuchitika. Kalata ya chilolezoyi ikufotokoza zokhuza kafukufukuyi komanso zomwe inu mungachite potenga nawo mbali mu kafukufukuyi. Mukufunsidwa kuti mutenge nthawi yanu powerenga kalatayi ndipo kuti muwerenge mosamala.

Kutenga nawo mbali mu kafukufuku

Dziwani kuti kutenga nawo mbali mu kafukufukuyi ndikosakakamizidwa. Dziwaninso kuti mukavomela kutenga nawo gawo mu kafukufukuyi, muli ndi ufulu osayankha mafunso ena kapena kumuletsa ofunsa mafunso pa nthawi yomwe inu mwafuna.

Cholinga cha Kafukufuku ndi mtundu wa kafukufuku

Cholinga chenicheni cha kafukufukuyi ndikufufuza zinthu zomwe zimatchinjiriza komanso kukopa achinyamata kuyezetsa magazi m'mboma la Machinga, komanso kufufuza njira zomwe zingatsatidwe kuti mchitidwe woyezetsa magazi upite patsogolo pakati pa achinyamata. Mfundo zomwe mutagawane nafe zithandiza kuunikira mozama pakupititsa patsogolo mchitidwe oti achinyamata aziyezetsa magazi. Kafukufukuyi achitika m'mboma la Machinga m'madera ozungulira chipatala chachikulu cha Machinga komanso chipatala chaching'ono cha Ntaja. Otenga nawo mbali azizangofunsidwa kuti anene mwatsatanetsatane maganizo awo pankhani yoyezetsa magazi pakati pa achinyamatayi.

Zotsatidwa pa Kafukufuku

Pafupifupi achinyamata komanso akulu achichepere 30 atenga nawo mbali mu kafukufukuyi ndipo azafunsidwa mafunso. Otenga nawo mbali akhala amuna ndi akazi a zaka pakati pa 15 ndi 24. Kufunsa mafunso kuzakhala pakati pa wofufuza yemwe azizalemba zokambirana ndi wotenga nawo mbali aliyense payekha payekha. Mafunsowa azatenga mphindi pakati pa 30 ndi 45. Dziwani kuti dzina lanu silizafunsidwa ndikulembedwa paliponse mu kafukufukuyi.

Chiwopsezo potenga nawo mbali mu kafukufuku

Chiwopsezo chomwe chingabwere pakutenga nawo mbali mu kafukufukuyi ndi kuphwanyiridwa chinsinsi chanu. Koma dziwani kuti chinsinsi chanu chizasungidwa poyesetsa kuti dzina lanu lisazafunsidwe ndikulembedwa paliponse mu ma lipoti athu. Powonjezera apo, mudziwenso kuti ndemanga zanu zizasungidwa bwino ndipo amene atazagwiritse ntchito ndemanga zimezi ndiwokhawo amene atenga nawo mbali yofufuza mu kafukufukuyi. Ndemanga zanu zizagwiritsidwa ntchito mu kafukufuku yekhayu basi. Zina zonse zodziwika pokambirana zomwe zingazakhale kuti sizololedwa ndi malamulo sizizanenedwa kwina kulikonse. Ndemanga zanu zizangogwilitsidwa ntchito ngati mbali ya maphunziro malingana ndi zofunika ku College of Medicine basi.

Phindu kapena zoluza mukatenga nawo mbali mukafukufuku

Dziwani kuti simuzalandira malipiro kapena chipepeso chilichonse potenga nawo mbali mukafukufukuyi. Komabe ngakhale zili choncho, muzapatsidwa 1000 Kwacha yokuthandizani mayendedwe komanso chifukwa cha nthawi yanu.

Nkhawa kapena Mafunso

Ngati mungasinthe maganizo pa mwana wanu kutenga nawo mbali pakafukufukuyi mutapereka kale mayankho anu, muli ololedwa kutero ndipo dziwitsani yemwe akuyendetsa kafukufukuyi polembera keyala iyi: Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** kapena tumizani kalata mwanjira yamakono ya intaneti kukeyala iyi: jo.sakala@yahoo.com pasanafike pa 31 March 2019, ndipo mayankho anu adzachotsedwa. Ngati mungafune kuti mayankho anu ena agwiritsidwe ntchito koma mayankho anu ena asagwiritsidwe ntchito chonde tidziwitseni izi pakalata yomwe mungalembe ndikufotokoza mwatsatanetsatane. Mwanjira ina iliyonse mutakhala ndi dandaulo kapena mafunso ena alionse, Chonde tumizani madandaulo anu onse kapena china chirichonse chokhudza kafukufukuyu kwa

akulu akulu oyendetsa za kafukufuku ku sukulu yaukachenjede ya zaumoyo ya College of Medicine pa keyala iyi: COMREC Secretariat, Private Bag 360, Chichiri, Blantyre 3. Lamya: 01 871 911.

GAWO 2: KUTSIMIKIZA KUVOMEREZA KUTENGA NAWO MBALI

Ndapanga chisankho mwaufulu wanga ndipo ndawerenga komanso ndamvetsa ndondomeko yonse yakafukufukuyu mwaufulu wanga ndimosakakamizidwa mwamtundu wina ulionse ndikuvomereza kutenga nawo mbali pakafukufuku. Kusaina zitanthauza kuvomereza kutenga nao mbali pakafukufuku.

Siginecha/Chala cha wotenga nawo mbali	Date (DD/MM/YYYY)
Siginecha ya wopanga kafukufuku	Date (DD/MM/YYYY)

APPENDIX 6A: Consent letter for in-depth interviews with service providers

Study Title: Barriers and Facilitators to the Uptake of HIV Testing Services (HTS) Among Adolescents and Young Adults in Machinga District, Malawi: a qualitative exploratory study.

Principal Investigator: Mr. Joseph Sakala, Master of Public Health student, College of Medicine.

Research Supervisor: Professor William Stones, Lecturer, College of Medicine.

PART 1: INTRODUCTION

My name is Joseph Sakala, a student at the College of Medicine studying for the Master of Public Health degree and I am conducting a research study on factors underlying the uptake of HIV testing services among adolescents and young adults in Machinga District. You have been sampled to participate in this research study because you are provider for youth-friendly health services (YFHS)/HIV testing services (HTS) working in the study catchment area. This consent form has explanations of the research study and the part that you are required to play in the study. You are asked to read this consent form carefully and take as much time as you need.

Participation in the study

Participation in the study will be voluntary. If you feel uncomfortable with any specific questions being asked, you may decline to answer them. If you feel comfortable as the discussion progresses, you are free to take us back to the questions you avoided and answer them. You may also withdraw from the study completely at any stage of this process, and your answers will not be used.

Purpose of the study and type

The purpose of the study is to explore the factors that encourage as well as discourage HIV testing amongst young people in Machinga district and to recommend strategies that would contribute towards promoting the uptake of HIV testing services among adolescents and young people in the district. The information you will be asked to provide will be used to help provide insights towards the achievement of this objective. The research will be done around Machinga District Hospital and Ntaja Health Centre. The study will only involve participants taking part in in-depth interviews with the investigators.

Study procedures and duration

About 6 providers of youth-friendly health services and HIV testing services will participate in the in-depth interviews. Participants will be from both of the 2 targeted health facilities. The interviews will be done face to face, during which notes will be taken, and they will take about 30 minutes. You will not be asked for names or any other identifying information.

Potential risks

The only risk of participating in this study is a breach of confidentiality for you; however, your privacy and the confidentiality of your data will be protected by anonymizing your name and destroying the recorded conversation after the final analysis. In addition, the information provided will not be shared with anyone who is not involved with the research. The data provided will only be used for the dissertation, and will not be disclosed to any third party, except as part of the dissertation findings, or as part of the supervisory or assessment processes of the College of Medicine.

Costs and Compensation

You will not be provided any incentive to take part in the research. However, you will be given MWK2000 for your time and travel expense.

Who to Contact:

If you decide that you wish to withdraw from the study later after you have already participated in the study, please write to me at Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** or e-mail me at: jo.sakala@yahoo.com no later than 31st March, 2019 and I will be able to remove your responses from my analysis and findings, and destroy your responses. If you will decide that I should only use some of the responses and not others, please state so in your communication. In case you determine that something has gone wrong with this research please contact the COMREC secretariat, Private Bag 360, Chichiri, Blantyre 3. Telephone: 01 871 911.

PART 2: CERTIFICATE OF CONSENT

I have read the foregoing information. I have had the opportunity to ask questions about it

and any questions I have been asked have been answered to my satisfaction. By signing below, I consent voluntarily to being a participant in this study.

Signature/Thumbprint of Participant	Date (DD/MM/YYYY)
Signature of Investigator	Date (DD/MM/YYYY)

APPENDIX 6B: Kalata yopempha chilolezo chotenga nawo mbali pakafukufuku kwa ogwira ntchito yoyeza magazi komanso kuthandiza a chinyamata pa nkhani za umoyo

Mutu wa Kafukufuku: Zinthu zotchinjiriza komanso zinthu zokopa achinyamata kuyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ayi m'boma la Machinga, Malawi.

Wofufuza: Joseph Sakala, wophunzira ku sukulu ya College of Medicne.

Woyang'anira Kafukufuku: Professor William Stones, Mphunzitsi ku sukulu ya College of Medicine.

GAWO 1: MAU OYAMBA

Dzina langa ndine Joseph Sakala, wophunzira ku sukulu ya ukachenjede ya College of Medicine ndipo ndikupanga kafukufuku wokhudza achinyamata pa zinthu zomwe zimawatchinjiriza komanso kuwakopa poyezetsa magazi kuti adziwe ngati ali ndi kachirombo koyambitsa matenda a Edzi kapena ai m'boma la Machinga. Mwasankhidwa kutenga nawo mbali pa kafukufukuyu chifukwa ndinu munthu wogwira ntchito yoyeza magazi komanso kuthandiza achinyamata pa za umoyo yemwe mukugwilira ntchito mudera lomwe kafukufukuyu akuchitika. Kalata ya chilolezoyi ikufotokoza zokhuza kafukufukuyi komanso zomwe inu mungachite potenga nawo mbali mu kafukufukuyi. Mukufunsidwa kuti mutenge nthawi yanu powerenga kalatayi ndipo kuti muwerenge mosamala.

Kutenga nawo mbali mu kafukufuku

Dziwani kuti kutenga nawo mbali mu kafukufukuyi ndikosakakamizidwa. Dziwaninso kuti mukavomela kutenga nawo gawo mu kafukufukuyi, muli ndi ufulu osayankha mafunso ena kapena kumuletsa ofunsa mafunso pa nthawi yomwe inu mwafuna.

Cholinga cha Kafukufuku ndi mtundu wa kafukufuku

Cholinga chenicheni cha kafukufukuyi ndikufufuza zinthu zomwe zimatchinjiriza komanso kukopa achinyamata kuyezetsa magazi m'mboma la Machinga, komanso kufufuza njira zomwe zingatsatidwe kuti mchitidwe woyezetsa magazi upite patsogolo pakati pa achinyamata. Mfundo zomwe mutagawane nafe zithandiza kuunikira mozama pakupititsa patsogolo mchitidwe oti achinyamata aziyezetsa magazi. Kafukufukuyi achitika m'mboma la Machinga m'madera ozungulira chipatala chachikulu cha Machinga komanso chipatala chaching'ono cha Ntaja.

Otenga nawo mbali azizangofunsidwa kuti anene mwatsatanetsatane maganizo awo pankhani yoyezetsa magazi pakati pa achinyamatayi.

Zotsatidwa pa Kafukufuku

Pafupifupi wogwira ntchito yoyeza magazi komanso kuthandiza achinyamata pa za umoyo 6 atenga nawo mbali mu kafukufukuyi ndipo azafunsidwa mafunso. Otenga nawo mbali akhala ochokera kuzipatala zonse ziwiri zomwe zasankhidwa mukafukufukuyu. Kufunsa mafunso kuzakhala pakati pa wofufuza yemwe azizalemba zokambirana ndi wotenga nawo mbali aliyense payekha payekha. Mafunsowa azatenga mphindi pakati pafupifupi 30. Dziwani kuti dzina lanu silizafunsidwa ndikulembedwa paliponse mu kafukufukuyi.

Chiwopsezo potenga nawo mbali mu kafukufuku

Chiwopsezo chomwe chingabwere pakutenga nawo mbali mu kafukufukuyi ndi kuphwanyiridwa chinsinsi chanu. Koma dziwani kuti chinsinsi chanu chizasungidwa poyesetsa kuti dzina lanu lisazafunsidwe ndikulembedwa paliponse mu ma lipoti athu. Powonjezera apo, mudziwenso kuti ndemanga zanu zizasungidwa bwino ndipo amene atazagwiritse ntchito ndemanga zimezi ndiwokhawo amene atenga nawo mbali yofufuza mu kafukufukuyi. Ndemanga zanu zizagwiritsidwa ntchito mu kafukufuku yekhayu basi. Ndemanga zanu zizangogwilitsidwa ntchito ngati mbali ya maphunziro malingana ndi zofunika ku College of Medicine basi.

Phindu kapena zoluza mukatenga nawo mbali mukafukufuku

Dziwani kuti simuzalandira malipiro kapena chipepeso chilichonse potenga nawo mbali mukafukufukuyi. Komabe ngakhale zili choncho, muzapatsidwa 2000 Kwacha yokuthandizani mayendedwe komanso chifukwa cha nthawi yanu.

Nkhawa kapena Mafunso

Ngati mungasinthe maganizo pa mwana wanu kutenga nawo mbali pakafukufukuyi mutapereka kale mayankho anu, muli ololedwa kutero ndipo dziwitsani yemwe akuyendetsa kafukufukuyi polembera keyala iyi: Joseph Sakala, Johns Hopkins Centre for Communication programs, P.O. Box 346, Blantyre**,** kapena tumizani kalata mwanjira yamakono ya intaneti kukeyala iyi: jo.sakala@yahoo.com pasanafike pa 31 March 2019, ndipo mayankho anu adzachotsedwa. Ngati mungafune kuti mayankho anu ena agwiritsidwe ntchito koma mayankho anu ena

asagwiritsidwe ntchito chonde tidziwitseni izi pakalata yomwe mungalembe ndikufotokoza mwatsatanetsatane. Mwanjira ina iliyonse mutakhala ndi dandaulo kapena mafunso ena alionse, Chonde tumizani madandaulo anu onse kapena china chirichonse chokhudza kafukufukuyu kwa akulu akulu oyendetsa za kafukufuku ku sukulu yaukachenjede ya zaumoyo ya College of Medicine pa keyala iyi: COMREC Secretariat, Private Bag 360, Chichiri, Blantyre 3. Lamya: 01 871 911.

GAWO 2: KUTSIMIKIZA KUVOMEREZA KUTENGA NAWO MBALI

Ndapanga chisankho mwaufulu wanga ndipo ndawerenga komanso ndamvetsa ndondomeko yonse yakafukufukuyu mwaufulu wanga ndimosakakamizidwa mwamtundu wina ulionse ndikuvomereza kutenga nawo mbali pakafukufuku. Kusaina zitanthauza kuvomereza kutenga nao mbali pakafukufuku.

Siginecha/Chala cha wotenga nawo mbali	Date (DD/MM/YYYY)
Siginecha ya wopanga kafukufuku	Date (DD/MM/YYYY)

APPENDIX 7: Letter requesting permission to conduct research

C/O. P.O Box 44,
LIWONDE
Cell: 0999 292 363
Date: _____

The District Health Officer
Machinga District Health Office
P.O Box 44,
MACHINGA

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN HEALTH FACILITIES AND THEIR CATCHMENT COMMUNITIES IN MACHINGA

Dear Sir/Madam

My name is *Joseph Sakala* and I am a Master of Public Health student at the University of Malawi's College of Medicine. The research I wish to conduct for my Master's dissertation involves exploration of factors that act as barriers and facilitators to the uptake of HIV testing services among adolescents and young people in Machinga district. This project will be conducted under the supervision of *Professor William Stones* of the College of Medicine. I would like to conduct the research at and around the catchment areas of Machinga District Hospital and Ntaja Health Centre.

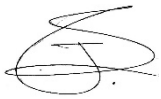
In those health facilities, I would like to have In-depth Interviews with the adolescents and young people in the communities around the health facilities on top of having another set of in-depth interviews with youth-friendly health services and HIV Counselling and testing service providers randomly selected from the two facilities and some non-governmental institutions such as Population Services International and the One Community Project in the district. I am hereby seeking your consent to conduct the study in the district with these two facilities of yours as my entry points.

I have provided you with a copy of dissertation proposal which includes copies of the data collection tools; and consent and assent forms to be used in the research process.

Upon completion of the study, I undertake to share the full research report with your office. If you require any further information, please do not hesitate to contact me on jo.sakala@yahoo.com .

Thank you for your time and consideration in this matter.

Yours sincerely,



Joseph Sakala

MPH Student, University of Malawi, College of Medicine

APPENDIX 8: Study budget

Table 6: *Study Budget*

Item Description	**Quantity/ Units**	**Unit Cost (MK)**	**Frequency/ Days**	**Total (MK)**
Data collection allowances for research assistants	2	10,000*	6**	120,000
Data - coding allowances for research assistants	2	10,000	4	80,000
Participant compensation (adolescents)	32	1,000*	1	32,000
Participant compensation (service providers)	6	2,000*	1	12,000
Sub-Total				**244,000**
Fuel	15 litres/day	890	3	53,400
Sub-Total				**53,400**
Airtime	3	500	5	7,500
Sub-Total				**7,500**
Hard Cover Notebooks	3	800	1	2,400
Pens	3	150	2	900
Paper Rim	1	3,500	1	3,500
Sub-Total				**6,800**
TOTAL BUDGET				**311,700**
10% COM overhead				**31,170**
GRAND TOTAL				**342,870**

APPENDIX 9: Copy of the study approval certificate

CERTIFICATE OF ETHICS APPROVAL

This is to certify that the College of Medicine Research and Ethics Committee (COMREC) has reviewed and approved a study entitled:

P12/18/2554 - Barriers and facilitators to the uptake of HIV Testing Services (HTS) among adolescents and young adults in Machinga District, Malawi: a qualitative exploratory study version 2 dated 19 November 2018 by Mr. Joseph Sakala

On 22-Dec-18

As you proceed with the implementation of your study, we would like you to adhere to international ethical guidelines, national guidelines and all requirements by COMREC some of which are indicated on the next page for your study

22-Dec-18

Dr. YB. Mlombe - Chairperson (COMREC) — Date