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**LINKAGE TO CARE OF HIV CLIENTS FOLLOWING DIAGNOSIS IN ENGCOBO
SUB-DISTRICT, EASTERN CAPE.**

BY

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**A MINI DISSERTATION SUBMITTED IN FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE: MASTERS IN PUBLIC HEALTH**

AT



**THE UNIVERSITY OF FORT HARE
IN THE FACULTY OF HEALTH SCIENCES**

SUPERVISOR

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APRIL 2022

DECLARATION

I, Sandiso Clement Mthini , 201928021, hereby declare that to the best of my understanding this research project submitted to the University of Fort Hare for the Degree of Masters in Public

Health is my original work, is solely owned by me and submitted for the first time ever with intentions of obtaining a qualification.

Signature



Date 13/04/2022



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DECLARATION ON PLAGIARISM

I, Sandiso Clement Mthini, 201928021, confirms and declares that, this research is my work. It has never been published or submitted in any of the universities including the University of Fort Hare. The regulations of the department and the university regarding to the plagiarism are well understood.

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DEDICATION

To my family for understanding, support, and encouragement throughout the journey.



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CERTIFICATION

This mini dissertation entitled “Linkage to care of HIV clients following diagnosis in Engcobo Sub-district, Eastern Cape” meets the regulations governing the award of the degree of Master of Public Health at the University of Fort Hare, and has its approval for its contribution to scientific knowledge literary presentation.

Signature: 

Date: 13.04.2022_____

Dr N. Mangi (Supervisor).



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ACKNOWLEDGEMENTS

I would like to thank God for taking care of me throughout my research. It would be a great pleasure to appreciate my supervisor, Doctor Nozuko Mangi for a flabbergasting passion and support from the beginning until the end.

Lastly, the special acknowledgement to the following:

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- Study participants who gave it all and not even a single one has withdrawn despite that they were free to do so.
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ABSTRACT

Background: “Linkage to care” is an essential strategy in place for the retention of HIV diagnosed clients on treatment. It is vital throughout the management and care of an HIV client.

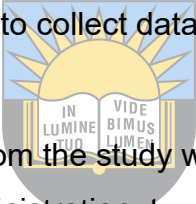
Aim of the study was to explore the effectiveness of “linkage to care” of HIV clients following the diagnosis in the Engcobo sub-district, Eastern cape.

Methodology: Qualitative, explorative, descriptive study design was used to explore and describe the effectiveness of “linkage to care” of HIV clients following diagnosis in the Engcobo sub-district. The population for the study were all healthcare workers, who are involved in the program of “linkage to care” of HIV positive clients.

Purposive Sampling was used to select professional nurses, Community healthcare workers, Lay counsellors, linkage officers who are involved in the linkage of HIV

positive patients and the facility managers whom their facilities provide HIV care services. Interview guide was used to collect data and Tesch’s method was used to analyse data.

Findings: Themes that emerged from the study were flexible time to “linkage to care”; use of different policies; administration; team activities and “linkage to care” benefits.



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Recommendations:

Training on “linkage to care”; case management model; TIER.NET system upgrade/ linkage App development, patient information packs; standardised extended hours; transport assistance/outreach mobile services.

Conclusion

“Linkage to care” is a team effort, it needs collaboration and knowledge. Despite the implementation of a linkage program, there are challenges that the department of health needs to act on as addressed on researcher’s recommendations.

LIST OF ACRONYMS AND ABBREVIATIONS

CHC Community Health Centre

CDC Centre for disease control

uLTF unconfirmed lost to follow

PHC Primary Health Care

WHO World Health Organization



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1. CHAPTER ONE

1.1. INTRODUCTION

“Linkage to care” is of paramount on client retention to care strategy. It is essential throughout the HIV management and care. “Linkage to care” is necessary for ART initiation and ART outcomes. “Linkage to care” following the diagnosis refers to the strategy which seeks to immediately link HIV-diagnosed clients and retain them in the healthcare system (Shamu et al., 2019).

Clients who do not honour their visits to the clinic, within their first year on antiretroviral therapy (ART) have more than twice the mortality rate compared to those who honour all of their appointments (Lowane & Lebese, 2022). Those who cease ART are likely to have HIV/AIDS-related illnesses and eventually demise (Lowane & Lebese, 2022; Kayabu, Ngocho & Mmbaga, 2018; Eyawo et al., 2017). A late presentation of ART patients to HIV care and prophylactic treatment against opportunistic infections may lead to more rapid disease progression and transmission of HIV to their partners (Kayabu, Ngocho & Mmbaga, 2018). Hence, HIV positive clients need to be linked to HIV care, and the “linkage to care” has to be closely monitored to avoid defaulting and deaths caused by negligence. Darboe (2019) concurs with monitoring of clients on ART to detect treatment resistance early.

The success of a global strategy “90-90-90” HIV management goals relies on the new number of HIV cases, “linkage to care”, and sustained antiretroviral therapy (ART) (Venter et al., 2018; Herce et al., 2019). Hence, the program of “linkage to care” of HIV clients has to be monitored and evaluated for its effectiveness. Each corner in the world needs to know the progress regarding the 90-90-90 strategy. In the selected district, “linkage to care” is uncertain. Therefore, “linkage to care” needed to be explored for its effectiveness.

Several interventions for “linkage to care” such as Universal Test and Treat (UTT), patient empowerment, and community outreach are needed to improve linkage and retainment of HIV patients (Wennerstrom et al., 2015). After intervention of strength-

based management with the introduction of patient's navigators/ linkage officers in the USA, the linkage of patients for viral load completion rate increased from 60% to 78% and 49% to 64% at 12 months and 6 months respectively (Giordano, 2018), but the effectiveness of linkage strategies in Engcobo is indeterminate therefore need to be explored and described.

Based on this success, CDC decided that "linkage to care" strategy should be the standard of care for HIV testing programs as well as for clinic staff who work with HIV clients and linking them to care (Giordano, 2018). TB/HIV care was being funded by CDC for care and treatment, the program was obliged to comply with needs and recommendations from CDC, hence the introduction of linkage officers in Engcobo sub-district, which has to be evaluated.

The goal for "linkage to care" strategies is to link HIV client immediately after the diagnosis and retain them in care. Once a client visits the healthcare facility, "linkage to care" should be checked if adhered to by all healthcare providers who work within the HIV care program.



Categories of clients missed in the facility depend upon the period after they have missed an appointment, and the interventions are done. Categories are discussed below:

- Early missed patient, a day to three (3) weeks.
- Late missed patients, three (3) weeks to three (3) months,
- Unconfirmed lost to follow above three (3) months until the patient is declared as a loss to follow up (Three integrated electronic register (TIER.NET)).
- If a patient spent 56 days without treatment, that patient is called a defaulter (national indicator data set (NIDS)).

Eastern Cape Department of Health (DOH) contracted TB/HIV care, a nongovernmental organization (NGO) in 2016. This NGO, TB/HIV care, created vacancies for linkage officers with the responsibility of linking HIV clients to care, but there was no available literature that evaluated the effectiveness of such an intervention.

1.2. PROBLEM STATEMENT

The effectiveness of linking HIV clients to care following diagnosis in the Engcobo sub-district was indeterminate. In the HIV treatment cascade, there is a gap, where clients were not accounted for between HIV diagnosis, lab processes, and ART initiation. These gaps posed a challenge in management and retention to care of HIV clients after diagnosis. Therefore, “Linkage to care” is a very important HIV program in the management of the clients after diagnosis.

Studies demonstrated that ART reduces the chances of having HIV-related conditions and complications (Shamu et al., 2019; Fancourt & Finn, 2019; Berntsen et al., 2019). The SA government formulated strategies and policies to address these gaps, but there is minimal literature on exploration and describing the effectiveness of “linkage to care” of HIV clients. Therefore, this study has added valuable literature to the body of knowledge.

It was well studied that clients who cease taking their antiretroviral treatment were at high risk of illnesses and death due to HIV/AIDS-related conditions (Fancourt & Finn, 2019; Kayabu, Ngocho & Mmbaga, 2018). Therefore, “linkage to care” had to be continuously monitored and evaluated to identify barriers to care, improve care, and retain clients to care.

A summative evaluation for the 90-90-90 strategy was due in the year 2020. Therefore, this study was critical to assess the efficiency of “Linkage to care”, the initiation and sustainability of antiretroviral therapy (ART).

1.3. AIM OF THE STUDY WAS:

To explore the effectiveness of “linkage to care” of HIV clients following diagnosis in the Engcobo sub-district.

1.4. OBJECTIVES WERE:

- To explore and describe the time lag between testing and “linkage to care” of HIV clients following HIV diagnosis in the Engcobo sub-district.
- To assess and describe efficiency of “linkage to care” of HIV clients following HIV diagnosis in the Engcobo sub-district.

1.5. RESEARCH QUESTIONS WERE:

- What is the time lag between testing and “linkage to care” of HIV clients after diagnosis in Engcobo sub-district?
- How efficient is the “linkage to care” of HIV clients after diagnosis in Engcobo sub-district?



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1.6. THE SIGNIFICANCE OF THE STUDY

The study has helped to identify underlying factors hindering “linkage to care” of HIV clients after diagnosis and assist in determining the effectiveness of linkage strategies in the linkage and retention of HIV clients to care, in Engcobo sub-district. It would also inform and influence policy decisions on the “linkage to care”.

The study has added to the existing body of knowledge literature on “linkage to care” following diagnosis, and was one of the most essential studies, especially at Ngcobo in the Eastern Cape. The study has illustrated the possibility to control one of the quadruple diseases, which is HIV/AIDS.

1.7. DELIMITATIONS OF THE STUDY

The study was limited to six (6) clinics in the Engcobo sub-district, that were supported by TB/HIV care with linkage officers. Participants were healthcare workers directly involved in the implementation of the “linkage to care” strategies.

1.8. OPERATIONAL DEFINITION OF KEY TERMS

“**Linkage to care**” means the referral of HIV diagnosed clients to HIV care, initiated on antiretroviral therapy (ART) and retained in the HIV care programme (Shamu et al., 2019).

Linkage means forming a connection.

Care means the provision of the necessary healthcare services for the health, welfare, maintenance, and protection of an HIV positive client.

HIV clients means a person infected by HIV.

Diagnosis means an identification of the HIV infection.



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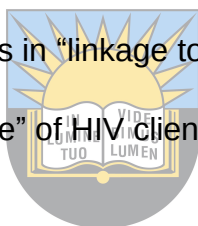
CHAPTER TWO

2.1 literature review

The literature concerning “linkage to care” of HIV clients was very limited in the Engcobo sub-district, Eastern Cape Province. In searching for information related to the “linkage to care” and the roles of healthcare providers in the “linkage to care,” google scholar, NCBI, PubMed, and BMC journals were used. A search on “linkage to care” and the roles of healthcare providers was conducted in the period of August-October 2019, using key terms such as “Linkage to care”, Barriers to HIV care, time lag, management of HIV clients.

The literature for this study was reviewed under the following headings:

- “Linkage to care”
- Barriers to “linkage to care” of HIV clients.
- Roles of healthcare providers in “linkage to care” of HIV clients.
- Strategies for “linkage to care” of HIV clients following the diagnosis.
- Prevalence of HIV.



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2.2. LINKAGE TO CARE

“Linkage to care” following the diagnosis referred to the strategy in place to ensure that HIV-diagnosed individuals are immediately linked to HIV care and retained in the healthcare system. The HIV “linkage to care” strategy is best viewed as a process where clients that were totally out of care are now getting full package of care and retained in healthcare system (Giordano, 2018). Linking HIV clients into HIV care and antiretroviral therapy was the fundamental HIV prevention strategy to minimize the spread of HIV infections. Hence, the evaluation of “linkage to care” strategy was necessary to be conducted in Engcobo sub-district.

HIV clients do move back and forth along the HIV continuum of care thus affecting the benefit of being in care (Giodarno, 2018). Shamu et al. (2019) state that a number of clients are lost before ART initiation, hence the UTT strategy was

implemented, but this strategy has not been assessed and evaluated in Engcobo sub-district facilities. Therefore, a study is needed to ascertain UTT implementation.

Clients who stop taking ART are more likely to be sick and die due to the HIV/AIDS related complications (Kayabu, Ngocho & Mmbaga, 2018; Fancourt & Finn, 2019; Berntsen et al., 2019). Hence, the barriers to HIV care should be closely monitored. Giordano (2018) many patient factors were regarded as barriers to HIV care, which were young age, stigma, and socioeconomic resources. Nevertheless, there were few studies done in Eastern Cape to identify barriers of “linkage to care”. The reviewed literature suggests that barriers to HIV care cannot be generalized, they need to be closely monitored in facilities rendering HIV care services. Hence, the study sort to explore the effectiveness of HIV care in the Engcobo sub-district.

“Linkage to care” strategy seeks to address the second 90 of the “90-90-90” strategy, which states that 90% of the HIV clients must be initiated and sustained on antiretroviral therapy (Berntsen et al., 2019). Antiretroviral therapy (ART) reduces the HIV-related mortality rate of 95% (Berntsen et al., 2019).

In China, out of 89% clients which were linked to care, by the first year in treatment in 2014 they were at 71%, in the second year, 2015, were at 46%. This stat suggested that the attrition rate on “linkage to care” was likely to take place in more extended periods (Wong et al., 2018).

Three strategies were created in New York to enhance linkage and retention to care, and these strategies are “Antiretroviral Treatment and Access to Services, Peer Support, and appointment Procedures (Addison et al., 2019). The study showed shortcomings in the number of clients and even those that were enrolled did not receive the full package of care (Addison et al., 2019). The authors recommended sufficient staff capacity to ensure that interventions are aligned better with clients’ needs and clinical environment.

A study conducted in Sub-Saharan Africa showed the highest loss of HIV clients on pre-ART were 46%, and only 68% of eligible clients were initiated on ART (Govindosamy, Ford & Kranzer, 2012). More robust post-test health talks interventions, clubs, and empowerment to improve “linkage to care” were suggested by the authors (Machowska et al., 2020; Govindosamy, Ford & Kranzer, 2012).

World Health Organization (2020) reinforced client-oriented interventions, policies that will reduce financial issues and time spent for ART visits, and process barriers like referrals and transfers. In addressing this, WHO (World Health Organisation) implemented a universal test and treat (UTT) strategy of “linkage to care” (WHO, 2018). South Africa has adopted in conjunction with utilization of community health workers and linkage officers from TB/HIV care and other policies such as HTS (HIV Testing Services), and Mother and child policies. Despite the interventions, there was minimal literature to describe and evaluate such interventions in the Eastern Cape province.

The study that has examined an intervention to improve “linkage to care” was the ARTAS (Antiretroviral Treatment and Access to Services) trial, which had suggested that “linkage to care” needs to be closely monitored to ensure the success of antiretroviral treatment therapy (Jean-Philippe et al., 2017). “Linkage to care” of HIV clients following the diagnosis was a significant study, therefore, this study in Ngcobo has explored and described “linkage to care”.

Collaborative interventions are needed to prevent clients from being lost in care (Jean-Philippe et al., 2017), Hence there were strategies like UTT, adherence policies to enhance “linkage to care” of HIV clients. However these strategies needed to be evaluated in the Engcobo sub-district.



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2.3. BARRIERS TO LINKAGE TO CARE

There are many barriers identified by several studies which include young age, Injectable drugs, and substance abuse, Mental health problems, and Stigma (Wong et al., 2018; Giordano, 2018), however, in such studies there were minimal studies conducted in the Eastern Cape, and this brought concern because Eastern Cape may be one of the poorest (with limited resources) and very disadvantaged province.

In a study done in United States in 15 clinics, indicated that many adolescents provided incorrect personal details during initial linkage processes (Philbin et al., 2013). These incorrect personal details pose a challenge in linking the clients for continuity of care. That seemed to be possible anywhere, but when comparing the setting and literacy between US and Engcobo generalisation would not be

convincing. Hence, a study to qualify these barriers need to be conducted. But this study explored “linkage to care”.

Client factors which were regarded as barriers to “linkage to care” are discussed below.

a) Young age

According to Zanoni and Mayer (2014), Youth that was aware of their status in the US was about 41%, however, only 62% that was engaged in care within 12 months and from the engaged only 54% that was virally suppressed. 57% of initiated youth was not retained in care. Only 6% of HIV-infected youth remained virally suppressed. However, in the Engcobo sub-district, little was known about the young age as a barrier to HIV care; therefore, a study had to be conducted to identify barriers to care in Engcobo sub-district.

b) Injectable drugs and substance abuse

Substance users were found to have low adherence to antiretroviral therapy (ART) compared to other people taking ART (Giordano, 2018). Therefore, “linkage to care” for this group of people is contradicting a study which was conducted in 2006 concluded that 59% of drug users were on ART, and there was no association between substance abuse and adherence or the “linkage to care” (Palepu et al., 2006). This contradiction was also a reason for the study to be conducted in Ngcobo sub-district.

c) Mental health problems

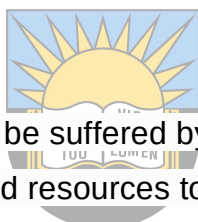
A shortage of adequately trained medical and mental healthcare providers poses a challenge in “linkage to care” of HIV patients (Musinguzi et al., 2017). It also alludes that clients with lower mental health functioning are more likely to be lost in healthcare because it is not easy to advise and give instructions to them (Irvine et al., 2017). However, there was very limited literature to quantify this in Engcobo sub-district.

d) Stigma

There are a number of stigmas faced by minority race or ethnic groups who are living with HIV (Earnshaw et al., 2015). Xhosa people dominate Engcobo; therefore, a relationship between race, ethnicity, and stigma cannot be generalized. It will need to be quantified in the Engcobo sub-district.

The discrimination compromises the strategies that seek to improve “Linkage to care”. When clients are stigmatised, there is likelihood of losing them in care. However, such findings need to be quantified (UNAIDS, 2017). It is suggested that stigma can be linked to the clients that cannot be accounted for in an HIV care program. However, studies are needed to confirm these findings (Valenzuela et al., 2015). Therefore, stigma as a barrier had to be quantified with a study for it to be addressed explicitly in the Engcobo sub-district.

e) Socioeconomic resources



Stigma consequences are likely to be suffered by those that are socioeconomic disadvantaged, as they have limited resources to manage and resist it (Tsai, 2015). Engcobo sub-district is one of the disadvantaged areas in the province, but it could not be generalized that socioeconomic resource was their barrier to HIV care, it needed to be quantified because according to the department of health policy, health facilities should be accessible even in terms of a distance and affordability.

f) Opportunity costs

Lost workdays for clients to obtain health care may lead clients not to attend healthcare services due to a principle of “no work no pay” (Hoffmann et al., 2016). However, Engcobo is a rural area with few job opportunities, something else related to jobs may be leading clients not to be linked in care; therefore, the study had to be conducted to qualify this in Engcobo's geographical settings.

g) Insurances (medical aids)

Dombrowski et al. (2015), indicated that most of the patients who stopped taking their treatment raise insurance as an issue for them not taking treatment. This did

not apply to this study as the study was focusing only on the public sector. However, this would have been on research findings, and no one knew at that point in time what would be the findings in Engcobo sub-district.

The USA would never be the same as South Africa, especially the Engcobo sub-district, these barriers needed to be qualified in the Engcobo sub-district.

The researcher had given the go-ahead to say, “Patient and clinic barriers to consistent care should be compassionately and constructively identified and addressed” (Giordano, 2018). Therefore, this kind of study had to be conducted at the Engcobo sub-district so that the barriers to HIV care were specifically addressed. The generalisation might lead to fruitless expenditures

In South Africa, despite the patient’s stigma towards HIV, they were worried about clinic hours which were not aligned with their availability, long waiting times, problems related to facility visit schedules, and discourtesy from staff, but healthcare workers were promising to be in control of administrative barriers, without recognising that patients are suffering (Bogart et al., 2013). Therefore, these concerns brought attention and interest to know more about the role of healthcare workers in the “linkage to care” of HIV clients, evaluation of “linkage to care”, and identification of “linkage to care” barriers in rural, illiterate, and geographically disadvantaged clinics in the Engcobo sub-district.

2.4. ROLES OF HEALTH CARE WORKER IN LINKING HIV CLIENTS

All the strategies and policies establish “linkage to care” of HIV patients are implemented by healthcare workers. Strategies and policies detailed on the following headings; however, there was minimal literature which describe and evaluate the roles of healthcare workers in the linkage of HIV patients in the Engcobo sub-district.

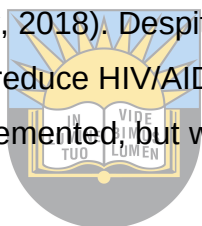
The following policies and strategies were implemented by healthcare workers, but the question of “are the policies and strategies correctly implemented in the Engcobo sub-district?” was another question that had to be researched.

2.4.1. POLICIES FOR “LINKAGE TO CARE” OF HIV CLIENTS

There were several policies to address “linkage to care” and retention of HIV patients; these were discussed below:

a) UNIVERSAL TEST AND TREAT (UTT)

The policy states that “All HIV positive children, adolescents, and adults, regardless of CD4 count, should be offered antiretroviral treatment” (Shamu et al., 2019). Clients that were already on Pre-ART programmes should be initiated on ART, however, consent should be taken. Those who refuse shall be kept on counselling sessions (Hopkins, Doherty & Gray, 2018). Despite this, the policy sort to address delays in the “linkage to care” and reduce HIV/AIDS associated death rate and morbidity rate. The policy was implemented, but with very limited literature to describe and evaluate the policy.



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b) TB/HIV CARE “LINKAGE TO CARE” POLICY

In 2016, TB/HIV care NGO created vacancies for linkage officers to facilitate “linkage to care” of HIV clients with specific purposes and responsibilities, “Ensure the spread and integration of lessons learned about how to engage communities to improve the quality of services, retention in care, and adherence treatment. Strengthen linkages between the community health departments and HIV/PMTCT/TB clinics. Work closely with the community health department to establish community-based structures that will create demand for HIV/AIDS care treatment. Work closely with stakeholders that are supporting health services to create demand for health services in the community. Coordinate activities with health facilities to ensure that the services provided are adequate and can meet the demand created. Strengthen linkages between the community health departments and the HIV/AIDS clinics.

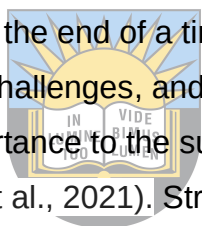
Community mobilization for HIV/AIDS prevention, care, and treatment, PMTCT, and HIV services” (TB/HIV care, 2016).

This was the strategy trying to enhance “linkage to care” by the Eastern Cape Department of Health, and there was very limited studies that evaluated this strategy.

All of the above policies were to be implemented in healthcare facilities based on the three streams of care (acute, mother-and-child, and chronic care), hence the following strategies, to improve “linkage to care”.

2.5. STRATEGIES TO IMPROVE “LINKAGE TO HIV CARE”

All Strategies require to be monitored during their implementation phase and evaluated at mid-term and towards the end of a time frame. Monitoring include Identification of operational gaps, challenges, and need for improvement or change of strategy, may be of utmost importance to the success of the “linkage to care” program (Giordano, 2018; Jahun et al., 2021). Strategies to improve "Linkage to care" are discussed below:



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Universal Test and Treat (UTT) in 2018 was initiated to minimise delays to HIV care and improve linkage to care (Iwuji et al., 2018). This strategy states that patients diagnosed with HIV should be initiated immediately after testing positive for HIV and the patient is ready. This is an excellent policy to improve the second 90 of a “90-90-90” strategy. This strategy states that 90% of HIV patients should be receiving sustained antiretroviral therapy by 2020 (Shamu et al., 2019). Therefore, UTT might improve “linkage to care”. The effectiveness in implementation of the UTT strategy need to be evaluated in the Engcobo sub-district.

In Sub-Saharan Africa, lay workers were trained to carry out healthcare activities in the community of linking patients to healthcare facilities for continuity of care. This strategy facilitated the identification of clients in need for “linkage to care” and barriers to this strategy were also identified (Lees et al., 2012). South Africa also contracted community healthcare workers to strengthen a continuum of care by use of linkage to care. However, very limited studies described and evaluated community

healthcare worker's implementation of a continuum of care concerning HIV care in the Engcobo sub-district.

In 2016, the Eastern Cape Department of Health contracted TB/HIV care, non-governmental organisation, with linkage officers responsible for linking HIV patients to care (Mbengashe, 2016). However, there are few studies conducted to assess the roles of TB/HIV care linkage officers in linking HIV patients to the HIV care program. There is very minimal literature to describe the role of the linkage officer in linking newly diagnosed HIV client in the Engcobo sub-district.

Post-test counselling: A patient should be counselled after a testing procedure and be provided with HIV-related services, identify, and address any possible barriers, and sets out referral pathways with the patient where possible (National consolidated guidelines, 2015). Therefore, all HIV patients should be assisted by a healthcare provider with the use of standardised adherence forms to maximise adherence. However, there is uncertainty if this strategy is implemented in Engcobo subdistrict

Mother-baby pair care is integrated with basic antenatal care (BANC) visits. PMTCT had an attached “linkage to care” plan called adherent message, which healthcare providers should use to ensure successful linkage and retention of HIV positive pregnant women. Nevertheless, there was minimal literature describing if the health care providers are implementing the strategy.

The evaluation of the effectiveness of the “linkage to care” of HIV clients in the Engcobo sub-district is less studied. “Linkage to care” in Engcobo sub-district need to be evaluated, and that would help to identify barriers and describe the roles of healthcare providers in implementation of this strategy.

2.6. “LOST TO FOLLOW UP” ON ART PROGRAMME IN AFRICA

One of the challenges facing the health system in Africa is the non-continuity of care, particularly in poor, rural areas (Alizadeh et al., 2019). This study continue to explain that In Uganda, about 60% of hospital outpatients were “lost to follow-up on ART”. A system for tracing defaulters was established where tracer’s payments

were based on their performance in returning clients to care. In all the different clinical services, retention improved, however, they varied, and HIV management remained the poorest in implementation (Alizadeh et al., 2019). Therefore, the “linkage to care” strategy for the HIV program needed to be intensified and closely monitored especially in disadvantaged areas like Engcobo sub-district.

According to the UNAIDS (2018), 90% of HIV positive client were aware of their status, 62% retained in care and 54% had suppressed viral load. Then suggested that “Linkage to care” needs to be intensified to minimize HIV/AIDS-related deaths.

Data related to “90-90-90” strategy revealed that in South Africa, is behind with 38% to the second 90 (UNAIDS, 2018). This gap calls for improvement to the “linkage to care” strategy, however in Engcobo sub-district there was very minimal literature evaluated related to the “linkage to care”. Scott et al. (2005) states that Engcobo subdistrict is deep rural, and the HIV services were lower than at Khayelitsha in the Western Cape with the rate of 0,9 in the Engcobo and 4,1 at Khayelitsha. However, there was still a very minimal literature that seeks to evaluate “linkage to care” of HIV clients in the Engcobo subdistrict.



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2.7. HIV PREVALENCE IN THE EASTERN CAPE

According to TAC Eastern cape state of the report (2018):

District	Population (2018)	Total pop (HDB)	PLHIV	HIV prevalence	Total on ART 2015	Total on ART 2017
Alfred Nzo	866646	867 86	103 22	11.9	41591	60023
Amathole	972188	880 790	96 786	11.0	40281	54608
Buffalo City	834 998	834 998	103 173	12.4	40359	50707
Chris Hani	818915	840 055	100 575	12.0	39436	49327
Joe Gqabi	371240	372 913	42 641	11.4	17805	23317
Nelson Man dela Bay	1298412	1 263 049	106 070	8.4	44604	56462
OR Tambo	1298412	1 457 386	178 204	12.2	76645	96052
Sarah Baart man	522720	479 920	40 030	8.3	19341	24237

This table made is clear that as Eastern Cape province, 61% of PLH who on treatment, at Chris Hani district where Engcobo sub-district is situated, only 49% of people living with HIV were on antiretroviral therapy. This statistic was before the implementation of a “universal test and treat” (UTT) strategy and TB/HIV linkage strategy in 2018; therefore, a study to evaluate UTT and TB/HIV linkage strategies in Engcobo sub-district is a need.

Policies and strategies are to be well described so that they can be easy to implement, monitor and evaluate.

2.8. Conclusion

In this literature review the policies and linkage strategies has been Identified as the important aspects of “linkage to care”. Gaps in this reviewed literature are, a) very minimal literature talking to the “linkage to care” in Engcobo sub district, as the sub-district was once found to be slow on implementing HIV testing services compared to Khayelitsha in the Western cape. b) it was difficult to generalize the literature to an extent that it can best suit the Engcobo setting. Therefore, this revealed an uncertainty about the linkage of HIV clients in Engcobo sub-district. This study has explored and described the effectiveness of linking HIV clients to care following their diagnosis in the Engcobo sub-district. The study has added to the body of knowledge related to effectiveness of “linkage to care”.



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CHAPTER THREE

METHODOLOGY

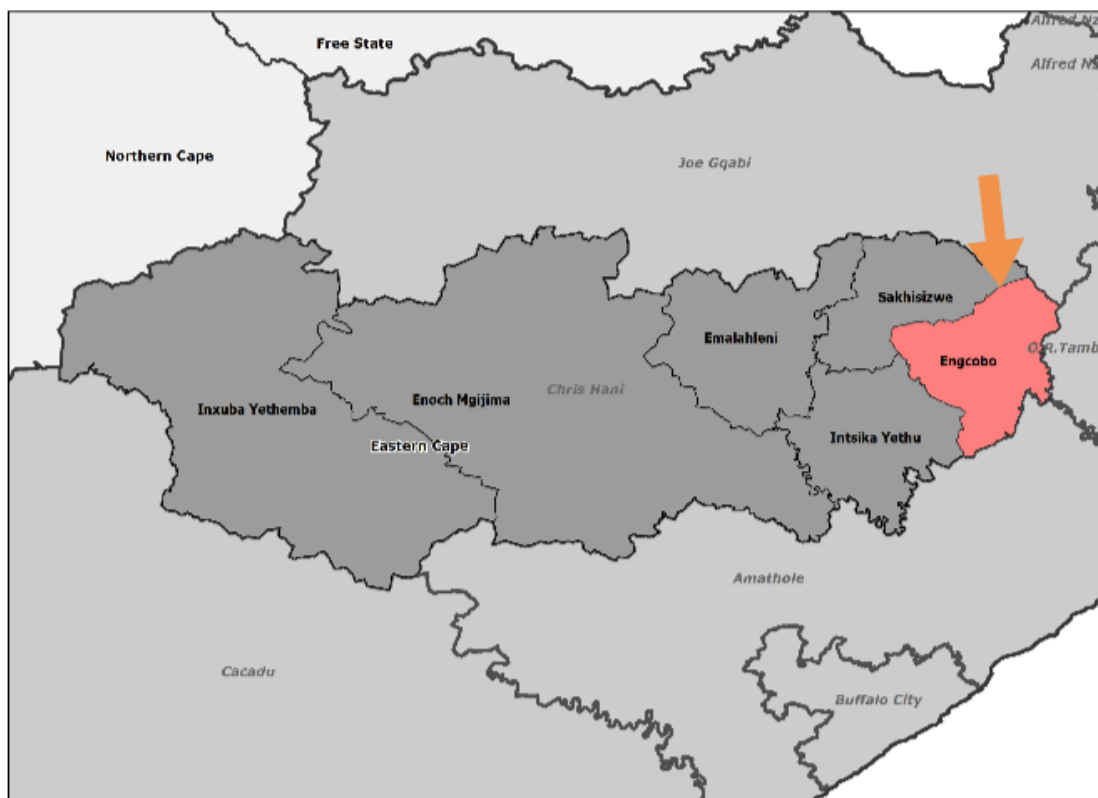
3.1. Introduction

This research method and the rationale behind is outlined in this chapter. It also describes the research designed chosen for the purpose of the study, the sample, population, Tools/instruments used, trustworthiness, and procedures followed during data collection as well as ethical consideration elements.

3.2. SETTING

The description of physical, social, and culture of a location and participants where the research was conducted is dealt with below.

3.2.1. Geography of the Engcobo sub-district, Eastern Cape Province



In the map above, the pink zone pointed with an orange arrow is Engcobo sub-district.

Engcobo sub-district is located in the Chris Hani District of the Eastern Cape with a population of 162000 with 0,28% growth per annum. Engcobo contributes to the HIV

positivity rate to the district with 6,227%, Eastern Cape Province with 7,014%, and to national with 7,448% (Municipal Demarcation Board,2018).

The study was conducted in six (6) high volume facilities with TB/HIV care linkage officers out of the 23 facilities, Engcobo CHC, Zwelakhe CHC, All Saints Gateway clinic, Boklen clinic, Qumanco clinic, and Manzana clinic at Engcobo sub-district. All of the six facilities provide three (3) streams of care, 1) Acute and emergency, 2) Chronic conditions and 3) Maternal and child's health. All consulting rooms provide PICT (provider-initiated counselling and testing) and HTS (HIV testing services). All the facilities are within the distance of fifteen (15) kilometres from Engcobo town, and they vary with directions. Two (2) clinics are on the west side of a town, three (3) clinics on the east side of the town, and one (1) clinic is within the distance of three (3) kilometres from town, southeast.

3.3. RESEARCH DESIGN

In this study, an explorative, descriptive design was used to elicit effectiveness of “linkage to care” of HIV clients. The descriptive design was used to enable a researcher to gain more knowledge and understanding, and also generate new ideas to improve a system in place. Exploratory descriptive design allowed the researcher to dig more about the topic. Participants were given open discussions to generate new knowledge about their experiences (Hunter, McCallum & Howes, 2019). Exploratory descriptive design considers different ideas in coming up with one solution. It also enables the benefits of comparison, benchmarking, and efficiency (Hay et al., 2020).

3.3.1. RESEARCH APPROACH

Qualitative research approach works best on human understanding and experiences, it gives useful results when implemented extremely thorough, carefully, and methodologically correct (Nowell et al., 2017).

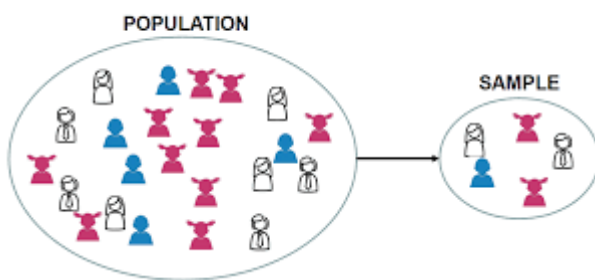
Qualitative approach for the study was chosen because qualitative methods are used to develop a conceptual framework for understanding participants perspectives (Sevilla-Cazes et al., 2018). Qualitative approach was used to explore details of lived experiences of participants (Boyle et al., 2021). However, in this paper, the research

approach used to gain insight and understanding on time lag between HIV testing and “linkage to care” and the efficiency of “linkage to care” following diagnosis in the Engcobo sub-district, Eastern Cape.

3.3.2.1. POPULATION

The graph below shows population versus sample (Data science;18 February 2021).

Population and Sample



What is population of a study? The population for this study were all healthcare workers, who are involved in the “linkage to care” of HIV positive patients in the selected facilities. When a researcher encompasses different factors, that is suggestive of the best sample used. The study should have clear population so as to come up with clear and accurate sampling (Tenny et al., 2017).

Sample was purposive, only professional nurses, Community healthcare workers, Lay counsellors, linkage officers who are involved in the linkage of HIV positive clients and the facility managers where their facilities provide HIV care services.

3.3.2.2. SAMPLING PROCEDURE

Non-probability sampling: Out of the five (5) sampling techniques that may be used which are “quota sampling, convenience sampling, purposive sampling self-selection and snowball” (Vehovar, Toepoel & Steinmetz, 2016). The “purposive sampling” technique was used because it provides a researcher with courtesy to choose participants based on their relevance to the study. Participants maybe

recruited by a researcher based on the virtue of their qualities to be informative, until data saturation (Ilker, Sulaiman & Rukayya, 2016).

The researcher purposely sampled Professional nurses, Community healthcare workers, Lay counsellors, TB/HIV care linkage officers, and the facility managers who work in the “linkage to care” of HIV clients after diagnosis.

3.3.2.3. INCLUSION CRITERIA

Professional nurses, Community healthcare workers, Lay counsellors, TB/HIV care linkage officers, and the facility managers who are involved in the “linkage to care” of HIV clients and on duty on the data collection day.

3.3.2.4. EXCLUSION CRITERIA

Professional nurses, linkage officers and Community healthcare workers who were not involved in the “linkage to care” of HIV clients.

those involved in the “linkage to care” of HIV clients but not on duty on the data collection day.



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3.4. RESEARCH INSTRUMENT

Interview guide was developed by a researcher. The tool had four (4) sections, section 1 was dealing with demographics, section 2 describing the time lag between testing and “linkage to care”, section 3 describing effectiveness of “linkage to care” and section 4 was eliciting reasons for not linking HIV clients to care after diagnosis. Voice recorder (with the participants consent), pen and paper used to document down the information given by the participants. Probing questions for interview guide also used in group discussions.

3.5. DATA COLLECTION PROCEDURE

Focus groups were formed from each participating facility because they allow collection of multiple inputs in one gathering and thorough discussions. Group discussions may give great results within a short period of time and relevantly cost effective. The interviews were conducted in English. Data was collected in six (6) selected facilities, which are the following: Engcobo CHC, Zwelakhe CHC, All Saints Gateway clinic, Boklen clinic, Qumanco clinic, and Manzana clinic. An hour (60 minutes) was allocated for a focus group discussion in each clinic, but the researcher was flexible as long as they still gave relevant information and needed more time.

Participants interviewed with the use of an interview guide to direct the conversation to “linkage to care”. The interviewer probed further to get more understanding of “linkage to care”. Probing was conducted in English. The participants encouraged to give their opinions in improving “linkage to care”. Data was collected using audio recorder, pen, and paper.

The collection of data was conducted until saturation, where there was no new information received.



3.6. TRUSTWORTHINESS

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Participants were given unique codes as their names so as to ensure that the data cannot be associated with individuals, that ensured participants give as accurate information as they can. Group discussion conducted having facility managers involved.

3.6.1. Credibility

Since the study is describing/ trying to get sense of “linkage to care” from participants understanding. The participants were given an opportunity to judge the credibility of the results. A detailed explanation about the research was given to the participants and credibility was achieved through a prolonged engagement between researcher and participants and matching of words with their voice. Prolonged engagement will build trust and rapport between researcher and participants.

3.6.2. **Transferability**

The researcher did a thorough work, describing the research context and the assumptions central to the research question. Transferability for this study, was ensured by comparisons of findings of participants and applied it to others and the results to a different context.

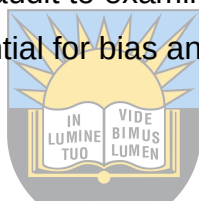
3.6.3. **Dependability**

The researcher was responsible for describing changes that occurred in the setting and how these changes affected the way the researcher approached the study, and there were no changes.

3.6.4. **Confirmability**, the researcher documented the procedures for checking and rechecking the data throughout the study. After the study has been conducted, there was data audit to examine the data collection and make judgements about the potential for bias and distortion.

3.7. **DATA ANALYSIS**

Tesch's method used to analyse the data (Tesch, 2013). When using this method, a researcher listened to the audiotapes and transcribed everything that was said in the tape.



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3.7.1. **Tech's method**

Qualitative data analysis was done using tech's method analysis framework with eight (8) steps which are briefly below:

- a) Read throughout the information thoroughly.
- b) The researcher started with one document, and while going through the document, the question of "what is this about?" kept in mind, not based on the content but based on the topic of a document.
- c) After going through the information, the researcher formed columns on paper and grouped similar topics together with representative topics.
- d) Code were given to the topics and located next to the appropriate texts. When new ideas about the data were coming up, they were noted separately.

- e) Then the key words were put into categories and reduced by grouping those that are related to each other.
- f) An alphabetical arrangement of codes made after the decision of categories.
- g) Preliminary analysis was conducted after the categories had been put together focusing on content for each category.
- h) Recoding was made in existing data, and the organising system helped with giving structure to the report (Tesch, 2013).

3.8. ETHICAL CONSIDERATION

The researcher obtained an ethical clearance certificate (2021=03=09=MthiniS) from the University of Fort hare Research Ethics Committee (UREC).

The ethics approval letter and documents to be used, such as the informed consent, proposal, and interview tool, were sent to the Eastern Cape department of health, Chris Hani district, Engcobo local service area, and the facilities for the permission. A researcher received permission to conduct research from the province, district, and the sub-district department of health.

Confidentiality, Anonymity and Privacy were preserved by ensuring that no personal information may be revealed and linked with a participant, even in the cases where the notes are requested.

Respect and dignity for the participants were observed throughout the process as they were fairly treated, everything was explained to them, the purpose of the study, how important is their participation and it was explained to them that there is no wrong or right information they will provide.

As the research involves human participants, the researcher was principled, assured participants that information will never be used against them, and they voluntarily participate with their consent. Participants were informed of their rights for their information to be kept protected by a researcher. Data will not be accessed and after completion all the tapes will be demolished. Anonymity was maintained by coding the participants. They were even informed that it is upon them to withdraw at any stage of the research.

3.8.1. Informed consent

All the participants signed a written consent, acknowledging that everything has been explained to them and it's their choice whether to participate or stop participating at any stage of the study.

3.8.2. Justice

There was not any kind of coercion and exploitation in trying to have participants. Selection was fair and just throughout the study.

3.8.3. Privacy and confidentiality

Personal information of participants will not be publicly accessed, and Participants were coded, therefore, it is unlikely for any data to be associated with individual participants (Polit & Beck 2012; Saunders, Kitzinger & Kitzinger, 2015).

The researcher identified a venue with the participants where the participants can engage freely with their discussions kept privately and confidentially.



3.8.4. DESSEMINATION OF FINDINGS

The Eastern Cape department of health will be provided with findings and recommendations, that will open a door to allow the department to present the findings or invite a researcher for presentations. The participants will be given feedback in the form of an article so that they can work on improving their services using the findings. Networks and communities of practice will be used as an innovative way of disseminating and facilitating the application of knowledge from research findings. The findings will also be published by the accredited journals.

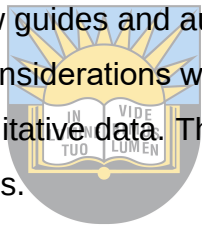
The thesis will be published by the University of Fort Hare and will be available in the university library.

3.8.5. DATA STORAGE

Data is stored in locked cupboard and the dissertation will be kept for not less than 5 years after the completion of the research. Immediately the study is completed the results publication will be in the dissertation form for the university community and any other interested individuals to have access on them and in accredited journals nationally and internationally.

3.9. CONCLUSION

The study was conducted in Engcobo subdistrict and the qualitative research approach was used, relevant procedures were followed to ensure scientifically sound data collection processes, interview guides and audio recorders used to collect the data and trustworthy and ethical considerations was observed. The Tech's method then used to analyse collected qualitative data. The following chapter will dwell more on results and discussion of findings.



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CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. INTRODUCTION

In this chapter an exploratory and more detailed analysis of the responses of participants, were carried out and the central ideas from the discussions were extracted. Participants were coded to ensure confidentiality. The qualitative data analysis was carried out using Tech's method and deriving themes from discussions of the six focus groups. This part of the analysis involved highlighting the important phrases and words used in the discussions. The phrases and words were extracted and interpreted in order to identify the themes that emerge from the discussions. These are compiled into tables giving the results of the study.

4.2. Demographic characteristics.

The table 1 below indicates representation of participants according to their categories at work, namely professional nurses and Community healthcare workers working in the "linkage to care" of HIV clients, Lay counsellors, TB/HIV care Case officers, and the facility managers.

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Table 1. Participants descriptive analysis.

CATEGORY	FREQUENCY	PERCENTAGE
Facility manager	6	12
Professional nurse	15	30
Lay counsellor	12	24
Case officer	6	12
Community healthcare workers	11	22
Total	50	100

4.3. Themes and categories

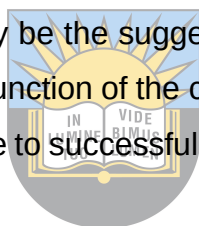
4.3.1. Time lag between testing and “linkage to care”.

Table 2 below shows the results on the time lag between testing and “linkage to care”.

Table 2. Time lag to linkage

Themes	Sub-themes
Flexible time	Indeterminant
	Indefinite
	6months/Year

The results shows that time lag to linkage is dependent on the client, “linkage to care” is continuous and there is no timeframe for a successful linkage of a client to care. As such, while 6 months/one year may be the suggested duration, the study shows that the time to successful linkage is a function of the client attitude and behaviour towards the linkage process. Therefore, time to successful linkage can be classified as flexible.



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4.3.2.1. Efficiency of “linkage to care”.

Table 3.1. Efficiency of “linkage to care” results.

Theme	Sub-themes
Policies	Guidance
	Follow up care
Administration	Linkage team
	Team roles
	TIER.NET
Team activities	ART initiation

	Counselling
	Rapport
	HIV testing
	Data capture
	Tracing
Clinical benefit	Viral load suppression
	Medication delivery
	Change of regimen
Social benefit	Lifestyle change
	Savings; money and time
	PMTCT
	Disclosure
Institutional benefit	Reduction (infection, mortality, morbidity)

The results revealed that participants apply different policy frameworks for different activities associated with client “linkage to care”. These policies give guidance on testing, relevant treatment to be used, when and how to initiate antiretroviral treatment, and what follow up care do HIV positive clients need and when.

The results show that linkage team, team roles and TIER.NET are paramount in ensuring the successful linkage of an HIV positive client and they are classified as administration on the results. Linkage team is responsible for creating rapport, counselling, testing, initiating clients on antiretroviral treatment, capturing on TIER.NET, follow up support and tracing those who don’t honour their appointments, and this is summarised into one theme which is called team activities.

There are three benefits of “linkage to care” which are discussed during linkage namely, 1) clinical benefits, are those that have to do with the treatment, 2) social benefits, are nonmedical benefits accruing to the client and 3) institutional, are those benefits that are accrued by the health system and society at large.

4.3.2.2. REASONS FOR NOT LINKING HIV CLIENTS TO CARE

On group discussions trying to establish an efficiency in linking HIV positive clients to care, reason for not linking HIV clients to care came up more frequently and caught the attention of the researcher. Below is the consolidated list of themes in the subthemes column and the refined themes in the themes column.

Table 3.2. Results on the reasons for not linking HIV clients to care at times.

Themes	Sub-themes
Disbelief	Denial
	Refusal
Cultural	Traditional medicine
	Religion
Administrative	Waiting time
	Staff attitude
	Transfers
Medical factors	Side effects
	Morbidities
	Mental health
client safety	Security
	Proximity
	Crime

The themes in the above table are denial, refusal, traditional medicines, mental health cases, comorbidities, waiting times, staff attitudes, religion, nondisclosure, side effects, contract workers, security, proximity and crime

Themes from the six group discussions were consolidated into one set of themes. These were relooked at and the categories were reduced to five broad themes for

describing situations in which “linkage to care” can not be possible, namely Disbelief, Cultural, Administrative, Medical and client safety.

4.4. DISCUSSION OF RESULTS

4.4.1 Theme1: Time lag between testing and “linkage to care”.

In the United State, national HIV/AIDS strategy developed in 2015 was aimed at increasing linkage rate. It stated that 85% of clients diagnosed as HIV positive should be “linked to care” within the period of one (1) month, from the previous timeframe of 3 months (Hall et al., 2016).

Time between HIV testing and linkage to care ascertainment found to vary by the study, it ranges from 1 to 12 months (Sharma et al., 2015). Linking 50% of seroconverters to care was taking 4,9 years (Hansoti et al., 2019; Maheu-Giroux et al., 2017). The time to “linkage to care” of men becomes shorter over the calendar time, the older the man, the shorter the time to the “linkage to care” (Maheu-Giroux et al., 2017). However, despite the counselling done by healthcare workers, the time to successful linkage is dependant to the patient’s perceptions on the processes of “linkage to care” in Engcobo subdistrict. It can be classified as flexible as the results shows it as indefinite, indeterminant and 6months/year. It is also noted that the same day initiation is part of the activities they render post HIV diagnosis. Below are direct quotes from the participants:

“It doesn’t have time frame; some patients will deny the condition and we will have to wait for a patient to accept and see a need to be on care. It’s a continuous process it differs with individuals, but it’s plus/minus a year”.

“..., we only measure the results, like does the patient honor his/her appointments, virally suppressed. It can be 6 months, or one year”.

When CD4 count is taken at 3 months/more after diagnosis, that client was regarded as delayed to “linkage to care” (Croxford et al., 2018), whereas, in Engcobo a patient needs to have been taken all viral load bloods in due course, viral load must be

suppressed, and a patient should be eligible for decanting in order for a patient to be declared as linked to care.

Direct quote *“At 3months we take blood for creatinine, at 6 months blood for creatinine and viral load then at 12 months we take bloods for viral load, if a patient has managed to avail him or herself for all those bloods, viral load is less than 50, that patient is successfully linked to care”*.

However, viral load is used to measure the benefits of prompt “linkage to care” versus the delayed “linkage to care” (Hall et al., 2016). Moreover, in understanding the “UTT” strategy, clients need to be promptly linked and kept on medical care after diagnosis to be considered it as successful and avoid harm e.g., resistance mutations (Mwanguzi et al., 2022). Therefore, it is evident that viral load is not used as a measure to assess eligibility of an HIV positive client to the “linkage to care”, rather, to measure a success or response of a client to ART.

“Linkage to care” has been made quicker by the world health organisation strategy (UTT) as it is cutting off long processes that were necessary before the client is initiated on ART e.g., “HIV staging”, referrals and waiting for CD4 counts results (Shamu et al., 2019). South Africa has adopted the universal test and treat which states that HIV positive patients shall be linked to care on the same day they are diagnosed with HIV (Shamu et al., 2019). In order for a client to be “successfully linked to care”, the client needs to be cooperative and compliant to the healthcare providers counselling, *“we consider client as successfully linked if compliant to the schedules, and there are no missed appointments”* however, adherence is associated with early retention of linked HIV positive clients to care (Mwanguzi et al., 2022).

It is evident that Engcobo Sub-district implements an integrated “linkage and early retention” to care program which makes it difficult for employees to distinguish between “linkage to care” and early “retention to care”. They are implemented as one package of care following the HIV diagnosis. As much as it is important to find HIV clients, it serves no purpose if HIV positive patients are not engaged in their care. Therefore, it is necessary for participants to be trained on “linkage to care” as required by South African government. Health care workers need to be precise with the time frame expected of them to link HIV positive patients to care. They need to have same definition of “linkage to care” with the department of health. However, initiating clients

on ART only without having measures to retain such patients is not enough. Integrated approach of linkage and early retention to care is the most useful and important strategy.

4.4.2.1. Theme 2: Efficiency of “linkage to care”.

“University of Alabama at Birmingham (UAB) Emergency Department” (UAB-ED) conducted research at UAB 1917 HIV/AIDS Clinic, where medical laboratory technicians (MLT) were doing HIV testing. The clinic created a linkage to care coordinator position whose job is to look after all individuals who tested positive for HIV (Galbraith et al., 2016). The medical laboratory technician (MLTs) would contact coordinators once they get HIV positive results. The coordinator contacts all the clients tested positive requesting them to come, to ensure that they are initiated within one (1) week of diagnosis. MLTs document all results in the electronic health record (HER) and deliver them to a physician, as well as the packet of HIV related material which outlines the next step on the “linkage to care”, provides post-test counselling guidance, and basic HIV information (Galbraith et al., 2016). Numerous activities in Implementation of CDC HIV testing and treatment guidelines resulted to the findings that “linkage to care” of the newly diagnosed is taking place promptly (Owusu, Adu-Gyamfi & Ahmed, 2019). It was then recommended that “adherence to medication” should be supplemented with emphasis on “adherence to care” (Owusu, Adu-Gyamfi & Ahmed, 2019). However, in Engcobo sub-district, adherence is the client’s responsibility even though they get support from the healthcare providers. Client’s attitudes and behaviours result to the good/poor “adherence to care” on antiretroviral therapy. Therefore, there should be a scheduled health education with a standardised updated content on the importance of being linked and adherent to HIV care.

Vertical model of HIV care, where HIV positive patients were cared in isolation from other patients was nullified by who and when (Perissinotto et al., 2019). An integrated approach introduced to test, treat and link patients to the HIV care program to reduce lost-to-follow up during care (Perissinotto et al., 2019). Thereafter, the test and treat (UTT) guidelines that require “all persons who test HIV positive to be started on antiretroviral therapy” (ART) were developed (Alhaj et al.,

2019; Shamu et al., 2019) and such guidelines are being implemented in Engcobo subdistrict. Even though there is very minimal literature related to the sufficient linkage of HIV positive clients which is still within the period of 5 years, this study added to the literature related to “linkage to care” of HIV diagnosed patients. Alhaj et al. (2019) & Shamu et al. (2019) state that HIV testing, treatment guideline, primary care guides “universal test and treat” and the integration approach of HIV care are the key elements needed to achieve quick and sufficient linkage of HIV positive patients to care.

Engcobo sub-district was using the following in trying to achieve sufficient linkage to HIV care:

- **POLICIES**

WHO provides guidance to worldwide countries on policies that seek to prevent the spread of infection, diagnose infected and “linking and retaining” them to care. It has been found that even though there were number of policies implemented widely, those that seek to enhance access to “HIV testing” were very few or limited (Cawley et al., 2017).



Below are the direct answers from the participants related to policy usage:

“We use HIV Testing Services (HTS) policy to guide us what legal framework we consider testing a person for HIV. The National consolidated guidelines for the management of HIV for adults, adolescents, children and infants” guides us as to when to initiate, when to take bloods, and decide on what drugs are relevant to be used to a patient. IPT policies also used to prevent TB”.

“Universal test and treat (UTT) used to ensure that patients are initiated on ART on the same day they are diagnosed with HIV. Adherence guidelines (AGL) to ensure that the patient is compliant to the facility schedules and recommendations, so that we keep our patients on care, and make use of decanting SOPs to minimize facility visits but patients remain linked and know what actions you take when you are seeing a viral load count”.

“Adult primary care used when a patient also present other condition beside HIV”.

Therefore, Engcobo Sub-district uses different policy frameworks in activities related to the “linkage to HIV care”. These policies are giving guidance on testing, choosing appropriate treatment, ART initiation, “linkage to care” and follow up care. This is

effective on the “linkage to care”, nevertheless, it remains the client responsibility to disclose and adhere to treatment which poses a bit of a challenge on effective linkage.

- **ADMINISTRATION**

“Linkage to care” strategies at an operational level prevent issues that may lead patients not to be linked to care. Such strategies need to have human resource as an input, “linkage to care” algorithm and sustainability plan (Gilman et al., 2012). According to Cunningham et al. (2018) lay personnel were used to navigate HIV positive clients as peers, in trying to destigmatize the program as well as the condition itself. However, the study reveals that Engcobo Sub-district linkage team, and their roles are composed of, namely, HAST counsellors for testing, case officer as a friend/buddy of the patient, professional nurse as the one who initiates the patients on ART and data capture who captures each visit on TIER.NET. This is working very well in the “linkage to care” of an HIV client.

The mobile health (m-health) technology in sub-Saharan African countries was found to be more popular in usage, as it was used to remind clients about their visit dates, in trying to enhance adherence. Whereas, e-health, electronic health record, which is used as clinical record. This record is also useful in trainings and recruitments, as well as in client’s diagnosis keeping (Bervell & Al-Samarraie, 2019). However, in South Africa, TIER.NET is used to monitor client’s visits, status, and outcomes. Data is verified through auditing of clinical records to identify discrepancies, especially on retention and mortality rates (Etoori et al., 2020). Engcobo Sub-district uses TIER.NET as part of an administration strategy to link HIV diagnosed patients to care. However, the department of health should consider upgrading the TIER.NET system/having an App that will send appreciation SMSs, linkage, and adherence to care benefits, return dates reminders and viral load suppression congratulation SMSs to all the newly diagnosed clients to be registered on the system.

- **LINKAGE TEAM ACTIVITIES**

The responsibility of the bridge counsellors to work as intervention specialists was changed, they were then working as outreach to render HIV services to the community especial to those that are “known positive”, throughout the state (Swygard et al., 2018). 61 health departments were funded for routine HIV prevention activities which includes “HIV testing, linkage to and reengagement in HIV care, HIV partner services” (Beltrami et al., 2018). According to Mizuno et al. (2018) patient navigation which is an intervention that seeks to improve “linkage to care” and assist clients to find a breakthrough in the complicated healthcare services, was used as the linkage and retention strategy. The strategy was addressing social issues that may hinder with “linkage to care”. Clinical professionals were responsible for the provision of enhanced counselling in trying to eliminate social factors that may serve as barriers to care. They were assisting with facility visit plan, remind clients, and help them throughout a visit of a day (Cunningham et al., 2018). However, the study shows that Engcobo Sub-district provides same day ART initiation, continuous adherence counselling, follow-up visits, community/telephonically tracing, home visits, courtesy calls, treatment support, disclosure counselling, encourage illhealth reporting, transfer request, and build team-patient relationships.

“we have case management...we offer PICT then the client get tested by lay counselors, if tested HIV positive, lay counselor calls a case officer/linkage officer and introduce him/her to the patient as the new friend/buddy, case officer/linkage officer calms and reassure the patient, explains the whole journey to the patient now that the patient has tested positive, they exchange numbers, then case officer/linkage officer takes a patient to a nurse, then a nurse initiates the patient on antiretroviral treatment. Case officers /linkage officers remind patients prior their appointment dates. When patient misses his/her appointment, case officers /linkage officers trace the patient telephonically, if that is failing, they then trace patients physically”. “Open file for a patient, ensure that you take proper address, names and surname, phone number of a patient”.

“After a patient has been attended, files are given to the data capturer to register a patient on TIER.NET”.

This is evidence that case management is being implemented in Engcobo sub-district as there are cadres responsible for “linkage to care” and “early retention” of everyone diagnosed with HIV. Case management found to be yielding results in the “linkage to care” program. It was cheaper and easy to implement whenever an “HIV positive” client was found (Wilson et al., 2013).

- **BENEFITS OF “LINKAGE TO CARE”**

The Engcobo Sub-district also market or elaborate more on the benefits of a linked HIV patient to care.

“During post-test counselling we inform patients once they started on treatment their CD4 count will improve, patient will be virally suppressed, there will be reduced chances for a patient to get opportunistic infections”.

Maughan-Brown et al. (2018) recommend that more studies need to be conducted to determine effectiveness of a post-test counselling and structured health messaging on the benefits of early initiation and “linkage to care”. Antiretroviral therapy limits chances of spreading HIV infections further, “undetectable=untransmittable or U=U” (Baral et al., 2019). After following up 76000 virally suppressed males that that were not using condom when having sex with their male partners, it was determined that there was no infection case that can be associated with them (Calabrese & Mayer, 2019). The findings from this added to the knowledge and served as evidence that WHO recommendations are implemented and educating people that “people who are HIV virally suppressed cannot sexually transmit the virus” (Calabrese & Mayer, 2019). Therefore, all clients on ART should be monitored at prescribed schedules to ensure that they are virally suppressed so that they can be linked to care and be decanted. However, the participants in this study revealed that there are benefits of “linkage to care”, which are mentioned below:

a) CLINICAL BENEFITS

clinical benefits are benefits in relation to the treatment e.g. viral load suppression, medication delivery/decanting, zero positive PCR and early changing of regimen should the first regimen fail.

b) SOCIAL BENEFIT

The nonmedical benefits, having to do with the client such as lifestyle changes, saving time and money for clinical visits, PMTCT knowledge, support group, de-stigmatisation, and high chances of disclosure.

c) INSTITUTIONAL BENEFITS

Benefits that are related to the health system and society at large, e.g reduction of infection (undetectable=untransmittable or U=U, morbidity, and mortality).

The above benefits give an overall package of “linkage to care” of the HIV diagnosed clients in Engcobo subdistrict. Therefore, this is evident that Engcobo subdistrict has a strategy of case management model, to provide effective and sufficient linkage of HIV positive patients to care following the diagnosis. However, the department should consider implementing the case management model throughout the district and have capable human resource for successful implementation of the model. Refresher trainings on the policies related to the linkage of HIV positive patients to care is also recommended by the researcher. The department should consider having the patient information pack with the content about clinical benefits, social benefits, and institutional benefits. Then the newly diagnosed patients get the pack.

4.4.2.2. Reasons for not linking HIV clients to care.

During interviews in trying to get data on the efficiency of linking HIV positive clients to care, reasons for not linking them came to the fore unprompted and attracted attention. Below is what transpired when the data on the reasons for not linking HIV patients to care was analysed:

- a) Disbelief, which talks to the clients refused to accept results (the denial) and those who accept the results but refuse initiation to treatment for no reason (refusal).

“Patient denied the results, she was claiming to be seeing 1 line in a test, despite that I even came to the lay counselor as the second opinion, I couldn’t link that patient to care”. “we have cases where, patients test positive but refuse to be initiated on treatment, they come clear to say I do not want a treatment...”.

- b) Cultural, are those who opted for traditional medicine and those who reason their refusal on religious basis.

“...other patient accepted that he is positive but refused to start ART, stating that he is going to try traditional medication, if they fail, its then that he can come to the facility”. “I had cases where patients refused stating that their religion doesn’t allow them to take treatment”.

- c) Administration, “linkage to care” failed because of waiting times, staff attitudes and self transfers.

*“One other patient requested to be initiated in Cape Town and promised to come and take referral letter since then we could not get hold of that patient”.
“... complaints of long queues that they have to wait on in the facility”.
“Some patients are complaining of staff attitudes, so they prefer not to come to the facility”.*

- d) Medical factors, “linkage to care” fails because of medical conditions and illnesses associated with antiretroviral therapy.

*“We have cases of mentally disturbed patients; they just do not comply”.
“There are cases where patients test positive but have TB symptoms”. “2 guys said it makes big tummy and insomnia, so they didn’t want to be initiated on treatment”.*

HIV acquisition and “poor linkage and retention” found to be exacerbated by mental illnesses. There was a need to put more focus on mental health as there were gaps identified on mental screening and rehabilitation treatment (Remien et al., 2019). As per the results in Engcobo sub-district, mental illness has impacted negatively on the “linkage and early retention” of HIV positive patients to care. The department of Health should consider having a clear strategy in a mental healthcare policy to address linkage of HIV positive mental healthcare users to HIV care. The rationale behind this is that people who are mentally disturbed usually display features of “disturbed cognition, emotion regulations, malfunctioning in the psychological and biological functioning” (Parcesepe et al., 2018). Therefore, it is evident that mental healthcare users are not always capable of making a sound decision. They need a specialized healthcare service.

- e) Patient safety refers to clients whom their safety is threatened due to the distance they take on their way to a facility.

“They have to come in groups because they are raped on their way to the clinic, so this hinders with treatment initiation and retention”.

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The study findings Engcobo sub-district had similarities with the results for studies conducted by Maughan-Brown et al. (2021) and Liu et al. (2016). Reasons for not linking HIV patients to care was found to be not having time (61%), patients who rejected treatment stating that they will start when they are sick were at 48%, those that were scared of illnesses associated with treatment were at 33% and those that were on denial were at 16% (Maughan-Brown et al. 2021). Liu et al. (2016) indicated that there were barriers to the “linkage to care”, which are: “perceived discrimination from health care providers, lack of guidance and follow-up, clinic time and location inconvenience, privacy and disclosure concerns, psychological burden of committing to HIV care, and concerns about treatment”. These barriers are like those found in Engcobo subdistrict. Whereas, in central Africa, it was found that clients with the CD4 count above 200cells/IL were delayed being initiated on ART. Drug users and heterosexual partners were also associated with the delay to “linkage to care” (Croxford et al., 2018).

The department of health should consider assigning each facility a transport or outreach mobile service which will assist in taking healthcare services to the people, in tracing those who could not be linked and those who cannot be accounted for. The department should consider standardizing facility extended hours.

4.5. Conclusion

The data was analysed using the Tech's method. Engcobo sub-district time lag between the testing and "linkage to care" was flexible. To obtain sufficiency of "linkage to care", Engcobo sub-district found to be using policies, administration, team activities and marketing of "linkage to care" benefits. The reasons why patients are not "linked to care" were: Disbelief, cultural, administrative, medical, and patient safety. The discussion of results conducted using existing literature and that had resulted to the number of recommendations. "Linkage to care" is implemented in the Engcobo sub-district, however, there are gaps that need to be addressed and the recommendations shall be taken into consideration.



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CHAPTER 5

SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1. INTRODUCTION

Chapter reflects on the recommendations that a researcher gave to the department of health based on results and discussions. The recommendations are given for each objective, the time lag between testing and “linkage to care” and efficiency of “linkage to care”.

5.2. SUMMARY OF THE STUDY

A focus of this paper was on exploring “linkage to care” of an HIV patient following diagnosis in Engcobo sub-district.

The background and literature of this study was done through literature review internationally, nationally and in the Eastern Cape Province. The background of the research problem emanate from the lack of literature regarding the “linkage to care” of HIV clients. The literature covered the time clients take to be “linked to care” and efficiency of “linkage to care”. “Linkage to care” has been discovered to be the worldwide health problem according to the study background.

South Africa realised that its efforts in maximizing the linkage of HIV positive patients post diagnosis was not efficient. They had to adopt the World Health Organisation (WHO) strategy which is the “universal test and treat” (UTT) (Shamu et al., 2019). UTT states that HIV positive patients should be linked to care the same day they are diagnosed. In ensuring successful “linkage to care” South Africa has developed a policy outlining activities as the following:

“Provide enhanced post-test counselling, including disclosure support. Inform clients about the tracing and retention in care system. Ask the client’s consent to be traced and discuss the best method by which the client would like to be contacted (by phones, SMS, or home visit). Obtain accurate contact details for HIV diagnosed clients and document at the testing site. Where feasible, the client may be accompanied to the appointment by a community health worker (CHW) or peer (peer navigation to ART initiation service). Schedule a follow-up visit or phone call at a time and date that is convenient to the client. Provide the list of names of patients and the date they are expected to come for their appointment to the referral service at the facility.

Systematically monitor linkage to ART initiation services through logbooks. Identify patients who miss their appointments by more than five days of set appointment date. Trace clients who have missed appointments and reintegrate them into care. Provide additional psychosocial support for clients who return to the facility after tracing. All tracing and retention in care processes must be documented”.

In this study the efficiency of the “linkage to care” was explored looking at the policies used, and activities done in Engcobo sub-district when linking an HIV positive patient to care.

The objectives of this study were:

- To explore and describe the time lag between testing and “linkage to care” of HIV patients following HIV diagnosis in the Engcobo sub-district.
- To assess and describe efficiency of “linkage to care” of HIV patients following HIV diagnosis in the Engcobo sub-district.

The research approach used in this study was a qualitative approach, population were all healthcare workers, who are involved in the “linkage to care” of HIV positive patients. Sample was purposive, only the professional nurses, Community healthcare workers, Lay counsellors, linkage officers who are involved in the linkage of HIV positive patients and the facility managers whom their facilities provide HIV care services.

Focus group interviews conducted to collect data from the six (6) selected high volume facilities, which are the following: Engcobo CHC, Zwelakhe CHC, All Saints Gateway clinic, Boklen clinic, Qumanco clinic, and Manzana clinic.

5.2.1. MAJOR FINDINGS

The major findings in Engcobo sub-district were:

- i) Time lag between testing and “linkage to care” were flexible
- ii) Efficiency of “linkage to care” - policies, administration, team activities
- iii) Reasons for not linking HIV clients to care- Disbelief, cultural, administrative, medical factors, and patient safety.

5.3 LIMITATIONS OF THE STUDY

5.3.1. FOCUS ON HEALTH CARE WORKERS INVOLVED ON “LINKAGE TO CARE”

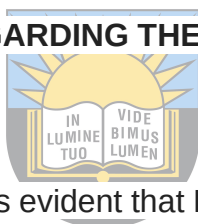
The study excluded professional nurses, linkage officers and Community healthcare workers who were not involved in the “linkage to care” of HIV positive patients and those involved in the “linkage to care” of HIV clients but not on duty on the data collection day.

5.3.2 INABILITY TO BE GENERALIZED TO OTHER AREAS

Study was conducted in Engcobo sub district only, therefore cannot be generalized to other sub districts but can be benchmarked and Research approach was Qualitative.

5.4. RECOMMENDATIONS

5.4.1. RECOMMENDATIONS REGARDING THE TIME LAG BETWEEN TESTING AND “LINKAGE TO CARE”



Looking at the results discussions is evident that Engcobo Sub-district implements an integrated “linkage and early retention” to care program which makes it difficult for employees to distinguish between “linkage to care” and “early retention to care”, they are implemented as one package of care following the HIV diagnosis. As much as it is important to find HIV cases, it serves no purpose if HIV positive patients are not engaged into “linkage to care”, therefore,

- it is necessary for participants to be trained on “linkage to care” as required by South African government.
- Health care workers need to be precise with the time frame expected of them to link HIV positive patients to care and have same definition of “linkage to care” as the department of health. However, having knowledge with regards to the retention problems that the country is experiencing, initiating patients on ART only without having measures to retain such patients is not enough.
- Integrated approach of linkage and early retention to care is the most useful approach that is recommended.

5.4.2. RECOMMENDATIONS REGARDING THE EFFICIENCY OF “LINKAGE TO CARE”

The following themes: policies, administration, team activities, and marketing of clinical benefit, social benefits, and institutional benefits give an overall package of “linkage to care” of the HIV diagnosed patients in Engcobo subdistrict.

It is evident that Engcobo subdistrict has a strategy to provide effective and sufficient linkage of HIV positive patients to care following the diagnosis, however,

- the department should consider implementing the case management model throughout the district and have capable human resource for successful implementation of the model.
- Refresher trainings on the policies related to the “linkage to care” was also recommended.
- The department of health should consider upgrading the TIER.NET system/having an App that will send appreciation SMSs, linkage, and adherence to care benefits, return dates reminders and viral load suppression congratulation SMSs.
- There should be a scheduled health education/counselling session with a standardised updated content on the importance of being linked and adherent to HIV care.
- The department should consider having the patient information pack with the content about clinical benefits, social benefits, and institutional benefits. Then the newly diagnosed clients get the pack.
- The department of Health should consider having a clear strategy in a mental healthcare policy and “National consolidated guidelines for the management of HIV for adults, adolescents, children and infants”, to specialize linkage of HIV positive mental healthcare users to HIV care. It is evident that mental healthcare users are not always capable of making a sound decision. They need a specialised healthcare service.
- The department of health should consider assigning each facility a transport or outreach mobile service which will assist in taking healthcare services to

the people, in tracing those who could not be linked and those who cannot be accounted for.

- The department should consider standardizing facility extended hours.

5.5. Conclusion

Recommendations have been made that the department of health should consider the findings related to the efficiency of “linkage to care” in the selected sub district.



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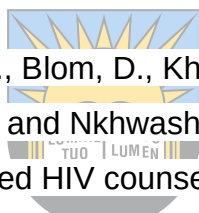
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HEALTH RESEARCH ETHICS COMMITTEE

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ETHICAL CLEARANCE CERTIFICATE REC-100118-054

Certificate Reference Number: **Ref #2021=03=09=MthiniS**
Project title: **Linkage to care of HIV clients following diagnosis at Engcobo Sub-district, Eastern Cape, South Africa**
Nature of Project: Masters of Public Health
Principal Researcher: Mthini S
Student Number: 201928021
Supervisor: Dr N Mangi

On behalf of the University of Fort Hare Health Research Ethics Committee (HREC), I hereby give ethical approval in respect of the undertakings contained in the above -mentioned project and research instruments(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the HREC must be informed immediately of

- ☐ Any material change in the conditions or undertakings mentioned in the document
- ☐ Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the HREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.



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HEALTH RESEARCH ETHICS COMMITTEE

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The HREC retains the right to

- ☐ Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principles or practices are revealed or suspected
 - relevant information has been withheld or misrepresented
 - regulatory changes of whatsoever nature so require
 - the conditions contained in the Certificate have not been adhered to
- ☐ Request access to any information or data at any time during the course or after completion of the project.
- ☐ In addition to the need to comply with the highest level of ethical conduct principal investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to HREC monitoring@ufh.ac.za.

The Ethics Committee wishes you well in your research endeavours.

Yours sincerely

Professor DT Goon
Chairperson: HREC
5th March 2021

APPENDIX B: CONSENT FORM



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INFORMED CONSENT FORM¹

(Edit as Required)



I (*name of participant*) have been
informed about the study by Sandiso Clement Mthini

I understand the purpose, procedures, and risk-benefit ratio of the study.

I have been given opportunity to ask questions about the study and have had
answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may
withdraw at any time without affecting any procedurals that I would usually be
entitled to.

I have been informed about any available compensation or medical treatment if
injury occurs to me as result of study-related procedures.

I understand that I will be given a copy of this informed consent.

I understand that if I have any questions or complaints about my rights as a study
participant, or if I may have concerns about any aspect of the study or the

¹ Approved by UREC (13 November 2019)

researcher/s then I may contact the Chairperson of the Inter-Faculty Research Ethics Committee, Prof. Pumla Gqola or Chairperson of University Research Ethics Committee, Prof Renuka Vithal (details available from the Researcher or by contacting the University of Fort Hare or Website www.ufh.ac.za)

Participant signature:

.....

Consenting for Audio Recording– when necessary

YES / OR

Participant signature

.....

Witness signature:

.....



Data duration – I understand that the information that I provide will be stored electronically and will be used for research purposes now or at a later stage (to be altered according to the study)

Participant signature:

.....

Date:

APPENDIX C: THE INTERVIEW GUIDE

INTERVIEW GUIDE

Thank you very much for availing yourselves to participate in this in-depth interview about “linkage to care” of HIV patients.

1. In your understanding, what does it mean to be linked to care?
2. Do you have policies that you can explain to us that are talking to the linkage of HIV positive clients to care?
3. How long does it take for a client to be successfully linked to care?
4. What are the benefits of linking HIV clients to care?
5. How do you link HIV positive clients in the facility?
6. When you say linkage to care is effective, what do you mean?
7. Please tell me If you have something you want to say regarding “linkage to care” of HIV patients which was not raised during the interview and you believe is very important before concluding?

Conclusion: I would like to extend a word of appreciation for participating in this interview, now I know your linkage of HIV patients. The health care workers will be aware of overall feedback after it has been transcribed, before its published.



APPENDIX D: EASTERN CAPE DEPARTMENT OF HEALTH
APPROVAL LETTER
Province of the
EASTERN CAPE HEALTH

Enquiries: Yvonne Gixela

Tel no: 079 074 0859

Email:

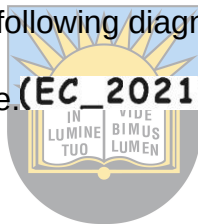
YvonneGixela@echealth.gov.za/ygixela@gmail.com

mate: 25 March 2021

RE: Linkage to care of HIV clients following diagnosis at

Engcobo Sub-district. Eastern cape. (EC_202103_012)

bear Mr S. Mthini



The department would like to inform you that your application for the abovementioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress update on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health

Research Committee secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.

5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.



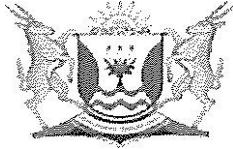
SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTEE

TOGETHER, MOVING THE HEALTH SYSTEM FORWARD



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APPENDIX E: ENGCOBO SUB-DISTRICT APPROVAL LETTER



Province of the

EASTERN CAPE HEALTH

Enquiries : Nontobeko Manqinana
Email: ntobsieofngcobob@gmail.com

Tel: 0833091959

Date: 14 April 2021

RE: Linkage to care if HIV clients following diagnosis at Ngcobob Sub District
Eastern cape. (EC_202103_012)



Dear Mr. S Mthini

The department would like to inform you that your application for the abovementioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and you shall remove or not collect information which can be used to link the participants.
3. The Department of Health expects you to provide a progress update on your study every three months (from the date you receive this letter) in writing.

4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health Research Committee Secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared with the Department of Health as indicated above.

Your compliance in the regard will be highly appreciated.

NE MANQINANA: Signature



APPENDIX F: LANGUAGE EDITING LETTER



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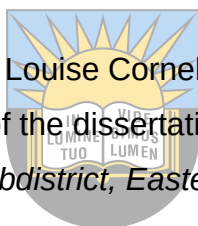
REGCOR

ENTERPRISES PTY LTD

(2015/375453/07)

Date: 12/04/2022

Dear Sir/Madam



This letter is to certify that I, Sarah Louise Cornelius, of Regcor Enterprises Pty Ltd, have completed the initial editing of the dissertation titled *Linkage to care of HIV clients following diagnosis at Engcobo Subdistrict, Eastern Cape* by Sandiso Mthini.

University of Fort Hare

I have ten years of experience in the field, having worked on multiple doctorates. Currently, I am a member of the Professional Editor's Guild (PEG).

This document was edited on the 2nd of March 2022, and I have not reviewed the document since then or seen the changes. It was an initial (first-time) edit and all recommendations and errors were noted in the comments. Any changes or lack of corrections done to the document after editing is not a reflection of the editing services provided. The onus is on the student to make sure the document is fully corrected before final submission even if that requires multiple edits.

Kind Regards

Sarah Louise Cornelius

Professional Editor's Guild

Associate Member

Membership number: COR003

Regcor Enterprises Pty Ltd

Registration no: 2015/375453/07

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