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iLink Study in South Africa: What Promotes Linkage to and Retention in Care in People Living with HIV?

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Abstract

There is a need to understand which factors influence the engagement of HIV positive individuals in the HIV cascade in South Africa due to its nationwide high prevalence of HIV cases. Therefore, different strategies had been proposed to curb the epidemic; one of which is financial incentivisation. The effectiveness of financial incentivisation has been debated, and therefore this study aimed at uncovering the extent to which financial incentives influence the engagement in linkage to and retention in care in people living with HIV (PLHIV). Dataset from the iLink study conducted in the inner city of Johannesburg, South Africa was analysed to understand the impact financial incentives have on PLHIV. This was done through a qualitative cross-sectional study of adult PLHIV who completed the LinkMe2Care study. The interviews were coded and analysed according to Braun's and Clarke's thematic analysis. Five main themes emerged from the analysis covering opinions on financial incentives, effects of financial incentives, and facilitators and barriers to linkage to and retention in care. Participants did not change their extrinsic motivation into intrinsic. Thus, financial incentivisation was not successful in boosting the engagement of PLHIV in the HIV cascade, in this specific setting. However, financial incentives enabled participants to provide for their unmet needs which is deemed a positive. Although financial incentivisation failed to influence the engagement in linkage and retention in care in this study, the demand for some incentive still exists. Hence, interventions dispensing non-financial incentives (e.g. food vouchers) should be considered. Additionally, by targeting up-stream factors (public clinics, unemployment), rather than exchange of money for desired behaviour, the engagement of PLHIV in the HIV cascade could improve. Further research, however, into the effects of financial incentivisation on PLHIV is recommended to understand the influence further.

List of Abbreviations

ART	Antiretroviral Therapy
HCV	Hepatitis C Useability and Performance Study
HIVST	HIV Self-Test
LTC	Linkage to Care
PLHIV	People Living with HIV
MDM	The Multiple Domain Model
SDT	The Self Determination Theory
TA	Thematic Analysis
UTT	Universal-test-and-treat Policy
VL	Viral Load
WHO	World Health Organization

Introduction

South Africa is one of the countries with the highest number of HIV infections, both in nominal terms with 7.8 million HIV positive citizens and in prevalence with almost 20% HIV positive aged 15-49 (World Health Organization, 2020b, 2020a). With eastern and southern Africa accounting for almost a half of newly detected cases (Joint United Nations, 2021), there is a need to swiftly combat the epidemic. This can be achieved through timely linkage to care (LTC) and initiation of the anti-retroviral therapy (ART) with a subsequent viral suppression (Dombrowski, 2020; UNAIDS, 2014). Thus, understanding factors possibly influencing the engagement in linkage to and retention in care is imperative.

Therefore, Maughan-Brown et. al (2021) emphasise it is important to link populations to care as soon as possible to ensure the Treat All approach is successful. The mission of the Treat All approach is to facilitate the early detection of HIV positive individuals, and immediately initiate ART regardless of viral load (VL) and CD4 count¹ (World Health Organization, 2015, 2016). By doing so, Granich et al. (2009) predicts the Treat All approach may bring reduction of HIV transmissions to one HIV-positive case per 1000 people within 10 years (Takarinda et al., 2016).

In response to the World Health Organisation's (WHO) proposed Treat All approach, the South African government implemented the universal-test-and-treat policy (UTT) in September 2016 (Motsoaledi, 2016). The UTT started by executing home-based self-tests that helped the 90-90-90 UNAIDS initiative to reach its first goal of informing 90% of HIV positive individuals about their status (Joint United Nations, 2017). The other two "90s" target 90% of those diagnosed with HIV to engage in ART and ultimately for 90% of those HIV positive patients on ART, to be virally suppressed (UNAIDS, 2014). However, the subsequent LTC,

¹CD4 count is a test that unveils how many CD4 cells one has in one's blood. CD4 cells account for destroying foreign objects such as viruses or bacteria in one's body to prevent any damages to the organism (*How CD4 Counts Help Treat HIV*, 2021, p. 4; Leeme et al., 2021).

ART adherence, and viral suppression are not up to expected rates in South Africa which can sabotage the possible advantages of early HIV detection (Joint United Nations, 2021; Maughan-Brown et al., 2021).

To avoid disrupting the linkage to care process, interventions and programmes targeting HIV testing uptake (e.g. mobile trucks, HIV self-tests) became popular and helped to diagnose a great number of HIV positive individuals (Bassett et al., 2015; Njau et al., 2021). Yet, linkage to and retention in care still lag behind in the sub-Saharan region, including South Africa (Koduah Owusu et al., 2019). It will stand to reason then, that new strategies have to be deployed to help deal with linkage to and retention in care. Wainberg et al. (2016) mention financial incentivisation which is deemed promising since it has manifested its potential with varying results in different fields, as well as in HIV care.

Even though a significant amount of research on the matter of HIV epidemic has been conducted, science still faces difficulty in answering what promotes linkage to and retention in care in PLHIV. Most of the research focuses on ART adherence rather than linkage to and retention in care (Tarantino et al., 2021). Consequently, there is disproportioned scientific evidence of factors that promote linkage to and retention in care. In the context of the HIV prevention cascade, research thus far omits to a significant extent the interconnections between each of the steps. The HIV cascade involves different steps, all focused to obtain a primary goal of virally suppressing the majority of PLHIV. The cascade includes, firstly, the screening testing of individuals for detecting the virus; secondly, LTC through connecting the newly diagnosed patients with HIV clinics; thirdly, initiation of ART with the subsequent step of ART adherence; and lastly, the main goal of viral suppression (Centers for Disease Control and Prevention, 2014; Kay et al., 2016).

By focusing on two parts of the HIV cascade, linkage to and retention in care, and its success rate while being financially reinforced, this study adds to the scientific realm about the

potential of financial incentivisation and linkage and retention. Thus, this study bridges the gap between what occurs during the first, second, and third steps of the HIV cascade. It does so through analysing qualitative data to understand PLHIV' experiences and feelings which cannot be fully contained by quantitative studies.

In addition to this, the information obtained from the interviews has the potential to help build future projects related to the field of linkage to and retention in the HIV cascade in South African, namely in the context of cities with diverse populations, like Johannesburg (Cooperative Governance & Traditional Affairs, 2020). Policy advisors can draw from the information obtained to create new policies and interventions that are evidence-based to combat the HIV epidemic. By doing so, the current study demonstrates its social relevance.

With that said, the question of how to maintain and improve linkage to and retention in care with the goal of viral suppression needs further exploration. Thus, this thesis aims to present the experiences and opinions of people living with HIV (PLHIV) with financial incentivisation and whether such reinforcement may have positive, or negative, effects on linkage to and retention in care.

Existing Literature

The HIV cascade is important in mapping the process PLHIV need to undergo to be virally suppressed. Testing is a major step in the cascade and can be boosted by HIV self-tests (HIVST) as the uptake of them is higher than in standard HIV testing facilities. However, higher HIVST uptake does not automatically transcribe into better follow-up with confirmatory testing, which is considered to be the beginning of LTC (Njau et al., 2021). Such results are supported by South African data on success rates of LTC. For instance, Johnson et al. (2017) reported the national percentage of LTC is at 57%. Further, Nicol et al., (2022) in their study

reported LTC, within the first three months of diagnosis, to be at 83%, yet the rate of retention in care after 12 months was 46%.

Which steps could improve the number of people linked to and retained in care are not clear; however, possible solutions exist. For instance, financial incentivisation seems to be on a rise of its popularity and Brown et al. (2018) purport this by placing emphasis on financial incentives as a feasible tool which could possibly help to improve any stage of the HIV cascade. Equally, Fahey et al., (2020) found that small financial incentives improved retention in care and viral suppression of PLHIV in Tanzania. However, another study on financial incentivisation from Thirumurthy et al. (2019) did not find a link between viral suppression and financial incentives in a study on PLHIV in Uganda. Therefore, given the potential financial incentivisation has it is imperative to study its efficiency thoroughly to determine whether or not it could be a suitable tool in combating the HIV epidemic in South Africa. To add to that, based on the conflicting results, this study tries to analyse what factors play a role behind successful financial incentivisation by looking at barriers and facilitators of the HIV cascade.

That said, a systematic review from low, middle, and high-income countries delivered by Hendricks et al. (2021) presented possible barriers and facilitators on the Kaufman framework. The framework was chosen as the most suitable theory to adequately capture all possible barriers and facilitators and draws on the socio-ecological model. Five levels that affect HIV related behaviour are incorporated. First, on the individual level, fear (social stigma, side-effects of ART) and sociodemographic factors (gender, younger age, or lower education) were common barriers to LTC and ART adherence/retention. The interpersonal level was defined by family relationships which play a role of facilitators (supportive partners) or barriers (domestic violence, or lack of autonomy for women). Social stigma and discrimination were identified as the major barriers on the community level, and peer support and support groups

as facilitators. At the institutional level, a stigma posed by healthcare workers was perceived as a significant barrier. The financial costs of care and transport, having a low income, and the distance to the facility were identified as barriers on the structural level (Hendricks et al., 2021). To support these findings, another systematic review analysing barriers and facilitators of the HIV cascade published by Ammon et al. (2018) described the same barriers as the aforementioned study.

Theoretical Framework

From a social science perspective, one must address both individual and environmental level theories to understand the studied problem from different perspectives. That being said, individual level theories explain one's behaviour based on the individual characteristics within oneself, like knowledge or beliefs. However, environmental level theories also bring into account that the environment one is embedded in can influence one's behaviour (National Cancer Institute, 2005). Hence, the Self Determination theory (SDT), as an individual level theory, and the Multiple Domain Model (MDM), as an environmental level theory, were chosen to explain the influence financial incentives have on linkage to and retention in care.

Self Determination Theory

In attempts to explain and understand what motivation is and how it is driven, Deci and Ryan (1985) proposed the SDT to enlighten the processes behind. The theory distinguishes between intrinsic and extrinsic motivation which are both driven by different factors. Intrinsic motivation is a motivation to engage in a certain behaviour out of pure joy and/or interest. The latter assumes that one is motivated to do something based on external stimuli like rewards or punishments. That said, extrinsically motivated individuals often engage in certain behaviours based on, for instance, monetary rewards (Czaicki et al., 2018; Deci & Ryan, 2015; Ryan &

Deci, 2000). That is, some can be intrinsically motivated to be teachers out of pure enjoyment and interest in the profession without looking at other benefits arising from working as a teacher (e.g. longer holidays or societal prestige). Yet, others can teach for the reward in form of a wage or longer holidays, making them extrinsically motivated to perform a teaching job.

The SDT also incorporates three other factors that influence intrinsic motivation which are regarded as basic psychological needs. Those are: autonomy, competence, and relatedness and each relate to the success of maintaining intrinsic motivation. Autonomy addresses the importance of an individual being autonomous rather than controlled, as control, whether rewarding or punishing, hinders the maintenance of intrinsic motivation (Deci & Ryan, 2015; Ryan & Deci, 2020). Competence, which can be regarded as self-efficacy, is best understood as a “feeling of mastery, a sense that one can succeed and grow” (Ryan & Deci, 2020, p. 2). Lastly, relatedness defines a sense of belonging and is obtained through “respect and caring” (Ryan & Deci, 2020, p. 2).

In connection with financial incentivisation, the incentives play a role of extrinsic motivation, and as proposed by the SDT, if all the basic psychological needs are nurtured correctly, then extrinsic motivation may turn into intrinsic motivation (Czaicki et al., 2018; Deci & Ryan, 2015; Ryan & Deci, 2000). However, there is a scientific dispute about this matter as the SDT also explicitly proposes that incentivisation may eventually undermine intrinsic motivation in the long run. The theory stipulates one will internalise the behaviour, and transform the extrinsic motivation into intrinsic motivation, when one sees the positive results the ART has on one’s body. Yet, in reality, one can link to and retain in care exclusively as a result of financial stimulation, resulting in an immediate abandonment of the behaviour when incentives are not provided (Czaicki et al., 2018; Galárraga et al., 2013).

The Multiple Domain Model

The MDM model is an environmental level theory, and therefore covers for factors the SDT does not directly address (Kaufman et al., 2014; Zimmerman et al., 2007). Introduced by Zimmerman et al., (2007), the MDM model broadens the theory of Planned Behaviour to a theory that spreads across various realms. The MDM possesses that factors external to the individual are equally important as factors internal to the individual. The model consists of five different domains that can influence one's behaviour – situational/contextual (distance to the healthcare facility, or cost of the travels), social psychological (norms and self-efficacy), personality and social environmental (healthcare workers, family relationships), and social-structural (socio-economic status) (Kaufman et al., 2014; Zimmerman et al., 2007). Kaufman et al. (2014) mention that there is scientific evidence that the MDM can explain an individual's health-related behaviour (Johnson et al., 2010; Kaufman et al., 2014; Mehrotra et al., 2013; Xiao et al., 2010).

Combined Theoretical Framework

To explain behaviours of participants in this study, a model was created that uses the SDT as a basis and was enriched by parts of the MDM (see Figure 1). The model anticipates that not only extrinsic or intrinsic type of motivation influences behaviour, but also other environmental and individual factors play a role in the decision making of PLHIV. The three factors were chosen on the premiss of the SDT which also incorporates three needs. However, autonomy was switched with social/contextual domain as the author anticipates its low influence.

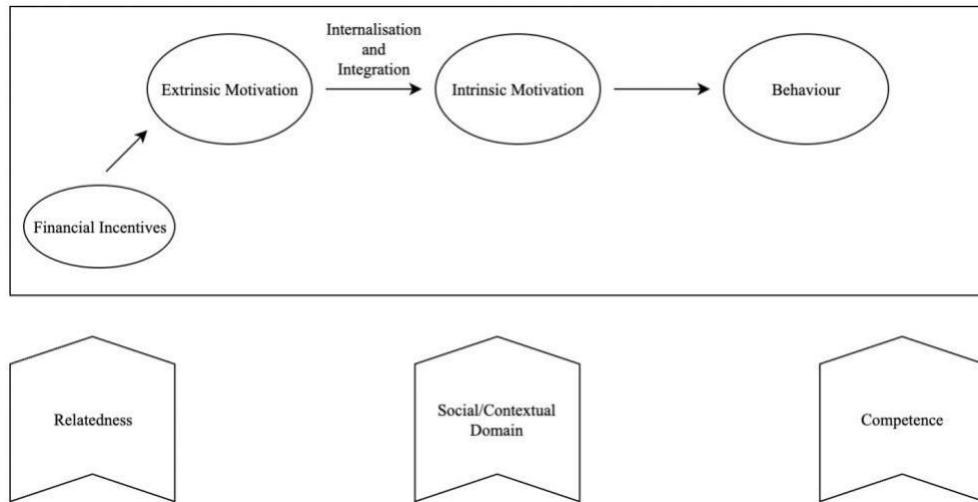


Fig. 1 - Current study's framework model adapted by the author and inspired by Ryan & Deci (2000); Xiao et al. (2010)

The model predicts that if one is stimulated by financial incentives (extrinsic motivation) one internalises and integrates reimbursed behaviours into intrinsic motivation (linkage to and retention in care). Thus, goal behaviour becomes embedded in one's lifestyle. However, three other factors influence one's ability to engage in different behaviours: 1) relatedness; 2) social/contextual domain; 3) competence. If all three factors are positively influenced, the chances of financial incentives helping to change motivation from extrinsic into intrinsic increase.

Relatedness in this model corresponds with the characteristics of Zimmerman's et al. (2007) social environmental domain which relates to family and healthcare professionals' relationships with the individual. Social/contextual domain was added into the model since the SDT does not account for such influences such as travel costs, distances between facilities, or unemployment. Since these factors play an important role in linkage and retention (Kebaabetswe et al., 2020), they were added into the framework. Last factor that can impact whether or not one engages in a certain behaviour is competence. Competence in the SDT is interchangeable with the MDM's social psychological domain, which is self-efficacy.

The research question can be answered with the help of this framework as it addresses the aspects related to financial incentivisation with regards to linkage to and retention in care.

Current study

The focus of the current study is to understand the variables that influence linkage to and retention in care while receiving financial incentives and address these factors in the context of the iLink study, which was carried out in the inner city of Johannesburg, South Africa. The iLink study is nested within the LinkMe2Care study which aim was to “determine whether HIV-infected men and women are more likely to achieve or maintain HIV virologic suppression if offered financial incentives vs. no incentives” (University of Pennsylvania, 2021). Participants were divided in the ratio of 1:1 into the intervention and control groups and monitored for six months to analyse the influence financial incentives have on the engagement within the HIV cascade. After the six months period, participants were asked to participate in the iLink study’s exit interviews which focused on their experiences with and opinions about the financial incentives, LTC, ART adherence, and viral suppression.

The data from the iLink study are used in this study which aims to address the following research question: “How did the experience of financial incentivisation influenced linkage to and retention in care for PLHIV?”. The research question is followed by expectations for the outcomes, as it is expected that financial incentivisation plays some role in the engagement of PLHIV in the HIV care cascade. It is anticipated that for some participants the extrinsic motivation, in the form of financial incentives, influenced one’s motivation to engage in linkage to and retention in care, resulting in shifting one’s motivation to intrinsic. Further, other factors related to environmental and individual factors are expected to play a role, resulting in a stronger or weaker urge to engage in a behaviour. However, based on the scientific dispute about positive effects of financial incentivisation, it is also anticipated that extrinsic motivation

was not changed into intrinsic motivation for the majority of participants based on environmental and individual factors mentioned in the current study's theoretical framework.

Methods

Study Design and Setting

The current study's design is qualitative given the nature of the research question and dataset. Qualitative research is described by addressing questions that are difficult to answer with numbers, such as why and how questions (Tenny et al., 2022). Thus, the research question of this study shows its qualitative characteristic by asking "How did the experience of financial incentivisation influenced linkage to and retention in care for PLHIV?". Additionally, this study expands on the LinkMe2Care quantitative study with the ultimate goal of deepening understanding of the quantitative results provided.

This is a qualitative cross-sectional study of HIV positive adults (aged 18 or more) who participated in the LinkMe2Care study. The dataset from the iLink study was provided by the Ezintsha Research Centre. Set in the inner city of Johannesburg, the study touches upon the most affected part of the city where most immigrants, sex workers, and other vulnerable key populations live. The HIV prevalence in the inner city of Johannesburg is high. Yet, despite the fact that the area does not thrive compared to other South African cities, it is equipped with various hospitals and community interventions that help to ease the burden of the HIV epidemic (Rees et al., 2017).

Study Sample

Participants who were eligible to join the study if they were 18 years or older, completed the LinkMe2Care study, and had a cell phone to conduct the interview with. All participants were

deemed to have signed the consent form and understood it. Younger men and women were prioritized.

Participants were regarded as ineligible when consent forms were not signed and/or refused to disclose information that was asked in the interviews. Additionally, participants who were seen as a threat to the study's outcomes, by being intoxicated or ill, were also excluded from the study.

The qualitative research team was provided with a complete list of all LinkMe2Care study participants which were divided into 4 separate groups according to the way they were recruited. Given that the study's participants did not self-report as anticipated, participants from other HIV programs than STAR initiative were invited for the interviews. Thus, recruitment channels were extended by the Sedia and the Hepatitis C (HCV) useability and performance study, and ANOVA harm reduction initiative. Afterwards, compliance sampling, which is a type of nonprobability sampling in which participants are chosen based on their eligibility and convenient profile (Lavrakas, 2008), was used with no stratified sampling.

Data and Measurements

Exit interviews with 26 participants (six pilot, 20 study) were conducted after the completion of the LinkMe2Care study between July and August 2021. The interviews were carried out in the participant's preferred language by two trained interviewers skilled in several of the South African languages, following a semi-structured questionnaire. Each of the interviews lasted between 18 to 35 minutes. The interviews were then transcribed, and where needed, translated into English by an independent translator. The transcriber noted important parts of the interviews which were not able to be translated into English without damaging the context².

² For instance, using terms such as "Sisi" (which means sister and is used to show respect to any woman) or "Baba" (which means father and is used to show respect to an elderly man).

To collect the data, semi-structured interview guides (see Appendix 1) were used and gave the interviewers the possibility of asking additional questions to uncover more underlying information about the studied problem. The line of questioning addressed the study experience, including the motivation to stay in the study for the six months period, and motivation to retain in care. Other questions covered LTC and adherence to ART. More emphasis was put on the experience of financial incentivisation and participant's thoughts, and attitudes, towards financial incentives in HIV care.

The first set of questions addressed which study arm the participant was in, and how they got recruited to ensure they understood the questions posed in the guide. Second, the interviewers touched upon the questions related to LTC, covering the motivation to perform a confirmation test. The next section questions on ART adherence, experiences with ART and how COVID-19 measures affected obtaining the medicine. Finally, the interview guides asked about financial incentivisation putting more emphasis on the experiences, thoughts, and opinions about the matter. Depending on the way the participants were recruited into the study, they were asked additional questions about reminders sent mostly via Short Message Service (SMS) or telephone calls. These were meant to remind participants to collect their ART medication.

Data Analysis and Management

This study is the first to analyse the iLink data. Prior to this study analysis, five independent researchers from the Ezintsha coded four interviews to develop the initial codebook. The initial codebook was then considered by the author when creating a final codebook (see Appendix 2) used to guide the analysis. When the two codebooks were compared, the majority of codes matched with each other which points to adequate reliability of the codes. For the development

of the codebook and subsequent analysis of the interviews, the NVivo Qualitative Data Analysis tool was used.

To understand the coded data, thematic analysis (TA), developed by Braun and Clarke (2006, 2012), was chosen for the evaluation, as the TA is used to give insight into themes (patterns of meaning) across the dataset and is a flexible tool of qualitative analysis consisting of six subsequent steps (Braun & Clarke, 2012). First, familiarisation with the data takes place by repeated reading of the data. Becoming familiar with the dataset's content is the aim of this initial phase. The second step concerns generating initial codes which help to answer the research question. Further, the third step consists of searching for themes that are regarded as “areas of similarity and overlap between codes” (Braun & Clarke, 2012, p. 61). The next step concerns reviewing potential themes and their coverage of the dataset. This connects to the fifth step that involves an in-depth analysis of the created themes, as well as their naming. Lastly, one generates a report which builds on all of the steps above (Braun & Clarke, 2012).

All interviews were conducted via telephone. Electronic data and transcripts were stored on the password restricted Ezintsha server in password protected folders, as well as in YoDa-folder provided by the Utrecht University.

Results

Participant Demographics

In total 26 HIV positive patients who participated in the LinkMe2Care study agreed on providing the research team with the exit interviews for the iLink study (see Appendix 3). Gender ratio was 12 women and 14 men. The average age was 40 years old, ranging from 27 to 55 years old. Information on the employment status was disclosed by 22 participants; 15 were unemployed by the time of the intervention, 7 employed. The unemployment rate in this study (31.8%) is similar to the actual one in South Africa (34.5%) (Stats SA, 2022).

Key Themes and Participants

After finishing the thematic analysis, five key themes emerged: 1) opinions on financial incentivisation, 2) financial incentives as a facilitator to HIV cascade, 3) financial incentives as an opportunity to provide for needs, 4) positive factors influencing linkage to and retention in care, 5) negative factors influencing linkage to and retention in care.

For related numbers of mentions in different themes by participants, see Appendix 4.

Opinions on Financial Incentivisation

In this theme, participants' perceptions of the usage of financial incentives to improve the engagement in the HIV cascade are discussed. The analysis uncovered three main attitudes towards the reimbursements. Firstly, the greater number of participants perceived financial incentives as a necessity to join and/or continue with the study. The notion arose from the reality that the monetary reimbursements enabled the participants to provide for their needs, without which they would not be able to carry on with the study. Such needs were electricity, food, or transport costs. Thus, the participants expressed that financial incentivisation is a crucial tool for PLHIV to link to and retain in care.

“Yes (...) it is important that people must be given that money because a person is able to get transport and be able to be motivated to attend the study when they are needed there.”

- Participant 18

“Yes, it is necessary because it is a motivation and frankly speaking people would not come if it were not for the money including me.”

- Participant 9

“I could see from the people we came there with that they really needed the money. Others had left their children with nothing to eat, they came to get some rent money or maybe there is no electricity.”

- Participant 1

Secondly, a smaller proportion of subjects framed financial incentives as a “bonus” on the path for a better well-being. As such, participants disclosed that the reimbursements played little to no role on their decision making to join and advance in the study.

“Like, I think it would depend on an individual because we all think the same. On my side, I would continue because this is for my health, I am not doing it for money. Yes, when the money is there, that is a bonus, I take it as a bonus.”

- Participant 22

“No, it didn’t have anything to do with joining the study, it was just a bonus.”

- Participant 20

Lastly, a small group of participants described financial incentivisation as an inaccurate tool to motivate PLHIV to link to and retain in care. They argued that individuals should not be motivated to engage in the HIV cascade using money. Instead, PLHIV should be purely motivated by their interest in their well-being and health. That is, the main motivator should be one’s responsibility towards oneself.

“Yea people should not go to studies chasing money, they must join based on their health, because they want to take care of their health.”

- Participant 5

“Mh, what is important sisi is that each individual must take care of themselves. Sometimes, these incentives [programs] do not work, what remains important is people taking an individual initiative to take care of themselves. (...) So, that is why I am saying money doesn’t always work because people pay attention to the money, whereas they need to pay attention to their health.”

- Participant 4

Financial Incentives as a Facilitator to HIV Cascade

This theme portrays the benefits of financial incentivisation apprehended in the interviews. The financial incentives enabled participants to buy necessities like food or cover transport costs which made it easier and possible for them to advance in the study. The subjects often

expressed that without the reimbursements, they would be forced to discontinue the study since without proper diet and transport costs covered, one cannot take and collect the medicine.

“Like I said in the beginning, when you do not work, it does help a lot because you can buy food so you can take your medication well.”

- Participant 22

“It is helpful for transport like me. I am from Thokoza. I take three taxis to come here, so it is necessary.”

- Participant 24

Moreover, a small part of participants saw the opportunity to get reimbursed for linking to and retaining in care as a starting point in their journey to better health. This suggests that that being financially motivated to link to and retain in care turned into a pure interest in their health by internalising and integrating the desired behaviour. Participants showed compliance with what the current study’s theoretical framework predicts. That is, financial incentives helped to shift one’s extrinsic motivation into intrinsic motivation. Nonetheless, other factors like relatedness or competence are yet to be discussed to test the framework’s reliability.

“And during the process, you win the person, you take them out of the mentality that they need to get rewarded for everything, more so because it will benefit the person. You slowly take it out of their mind that this is for your own good, so even if you get R10 for it, the fact is you are doing it for your life. In most cases, it’s to encourage. I think it is. It makes a person eager to start. Along the process, you win them off and make them aware that they don’t need to do this for the money, this is my life, I am being accountable for my responsibilities.”

- Participant 20

Financial Incentives as an Opportunity to Earn Money

While financial incentives showed to be a positive influence on PLHIV in specific cases, this theme uncovers the negative effects they have on the engagement in the HIV cascade. The majority of participants often disclosed that without financial incentives their needs would not

be fully met. By needs participants mentioned food, transport costs or rent which were scarce due to their financial situation.

“It is necessary because it helps a lot on transport and in getting some food, it helps a lot. Especially if you are unemployed like us.”

- Participant 21

“(…) it is necessary a lot because people who are taking this treatment, they need to have food to eat and on the other hand you do not work, it sometimes gets hard, so this money helps in that situation.”

- Participant 10

Participants were ultimately interested in the incentives because they provided money and for their unmet needs. Yet, the expectations for individuals receiving the incentives were to encourage PLHIV in initiating an interest in changing their health behaviour. However, for a majority of participants the morphosis of extrinsic into intrinsic motivation did not happen.

“Eh, the fact that I knew that when I am done, I will get money. Because I am unemployed, I know I will be able to get myself some vegetables and food with the money, that’s why I was motivated. (…) I live in Soweto, but I know that I will get money and I will have leftover for vegetables.”

- Participant 14

“You continue collecting your treatment because you know that there is a study that is going to give you money for that should you go.”

- Participant 6

Positive Factors Influencing Linkage to and Retention in Care

Given that participants expressed their opinions on financial incentivisation, they also expressed what other factors motivated them to adhere to ART and try to become virally suppressed regardless of financial incentives. Thus, four main facilitators were discovered in the interviews. Participants communicated that being healthy, having their own feeling of

responsibility, gaining knowledge about HIV, and study staff's kindness, were also motivators behind them linking to and retaining in care.

"Like I said, I do this out of love, not because of the money. It's all because we want to improve our knowledge."

- Participant 12

"This is an individual responsibility; one must be self-motivated."

- Participant 4

According to the theory, one's competence and relatedness play a role in converting extrinsic motivation into intrinsic. Smaller group of participants expressed positive feelings towards the friendly staff that comforted them and mentioned that it helped them with linking to care. That is, the relatedness part of the theoretical framework was positively influenced. Furthermore, the competence factor was also fulfilled when one's sense of self-realisation and responsibility emerged in the dataset. As such, the urge to be responsible, knowledgeable, and self-aware correlate with self-efficacy.

"(...) that time I found out that I am HIV positive I had lots of thoughts and I thought that my life is over, but through the counselling I got from the Ezintsha guys, they did not take me as an animal, they did not take me like a different person they counselled me in a way that made me gain strength of going to the clinic to start my ARVs."

- Participant 10

"Can you imagine finding out something like that and being treated with warmth? They counselled me, and that calmed me down. Some people get really stressed when they get told something like this but I was lucky to find good counsellors there."

- Participant 3

Negative Factors Influencing Linkage to and Retention in Care

Not only facilitators were mentioned, but also barriers, both explicitly and implicitly. A key problem that hindered the process of linkage and retention mentioned by the participants were lack of money/unemployment, travel costs, and negative clinic experience. Often these barriers were mentioned in relation as to why financial incentivisation is needed for people to link to and retain in care. Implying that if financial incentives are not provided, PLHIV would not be interested in linkage and retention. In theory, this could be a sign that the scientific dispute about financial incentives not being able to turn extrinsic motivation into intrinsic might be true.

“(...) it is okay and it is necessary for instances like you had called someone to come and you find that person you called wants to come but they do not have money for transport you see.”

- Participant 19

“I need the money because I do not work. People always need money, regardless of how much money you have. When you are unemployed, any money, no matter how little, is helpful.”

- Participant 6

These barriers can also be discussed in relation to the theoretical framework's factor of social/contextual domain which are travel costs, distances to and from the healthcare facility, and/or lack of money/unemployment. As shown, these environmental factors play an imperative role in deciding whether or not to engage in linkage and retention.

“(...) it is important that people must be given that money because a person is able to get transport (...).

- Participant 18

“I probably wouldn't have gone to test if there was no money involved and that's the truth.”

- Participant 2

Moreover, the negative experiences at the clinic showed reluctance to collect the medicine and be adherent, due to long queues and unfriendly personnel at the public clinics.

“One thing I can suggest is that maybe we could collect our medication from you [Ezintsha] because clinics have long queues. And to be seen by your own doctors because they are much better than public clinic ones. (...) they are friendly and they are caring, unlike at the clinic.”

- Participant 5

Discussion

The aim of this study was to assess how the utilisation of financial incentivisation among adult PLHIV influences their engagement in linkage to and retention in care. As shown in the LinkMe2Care study (Majam et al., n.d.), financial incentivisation failed to spark an interest in changing one's health behaviour. The current study reported similar results. The majority of participants joined and continued with the study, based on the promise of financial reimbursements. Such monetary support was used to cover for necessities like transport costs or food. Based on the findings from this study, the influence financial incentives have on linkage to and retention in care in PLHIV is fairly small.

That said, some of the fundamental barriers to HIV cascade is transportation costs to and from the clinic, low income, or healthcare costs (Hendricks et al., 2021; Kebaabetswe et al., 2020). By providing monetary support for PLHIV, the aforementioned barriers may be diminished. In order to progress in the study, the financial incentives showed positive influence in cases where participants would normally not be able to collect the medicine and eat food before taking it.

When considering the expectations for the outcomes of the current study, all were fulfilled. Financial incentivisation did not change the extrinsic motivation into intrinsic in a majority of participants. For a fairly small proportion of two participants, however, the theoretical framework was successful. This small group of participants demonstrated that if

given financial incentives and positive attitude from healthcare workers, their motivation tended to shift from extrinsic into intrinsic.

The theoretical framework predicted that if all factors (relatedness, social/contextual domain, competence) have a positive influence, the internalisation and integration of extrinsically motivated behaviours into intrinsic will most likely happen. In the majority of cases, negative environmental factors like the lack of money/unemployment played a major role in the process of changing the health behaviour. That said, even though participants could have been positively influenced by the health professionals alongside with high self-efficacy and family support, the fact that lack of money/unemployment and the struggle for basic needs were present, diminished the potential changes in their health behaviour. Moreover, the majority of participants were subject to changing their behaviour based on their interest in their health. Yet, they joined and continue with the study solely based on the financial incentives, not intending to change their behaviour. Thus, extrinsic motivation combined with other factors like persistent unemployment, resulting in the failure to change motivation into intrinsic.

As aforementioned, the LinkMe2Care intervention carried out in the inner city of Johannesburg, South Africa, did not prove to be effective in the specific setting it was conducted in (Majam et al., n.d.). This environment is strongly divergent in its social structure (Rees et al., 2017), compared to that in a similar study of El-Sadr et al. (2017) that was carried out in the USA. The explanation as of why their study found positive associations may lie within the different demographic environments. That is, the socio-economic status, the surrounding environment, and other factors may have contributed to the different outcomes of both studies. Moreover, the success of Linnemayr et al. (2017) can potentially be that they distributed smaller amounts of money more frequently to the participants. In behavioural economy theory, this can contribute to better outcomes related to behaviour (Linnemayr et al.,

2017). This is different to the LinkMe2Care study and could be a potential explanation as of why the participants did not change their health behaviour.

Moreover, conflicting results in the realm of financial incentives are a standard. For instance, El-Sadr et al. (2017) reported a significant increase in viral suppression in the intervention arm of their study. Correspondingly, Linnemayr et al. (2017) found promising results of financial incentivisation in the field of HIV care and prevention. Yet, Pettifor's et al. (2016) and Thirumurthy's et al. (2019) studies reported no link between financial incentives and improvement in HIV related behaviour. Both unsuccessful studies gave out conditional cash transfers based on expectations for changing behaviour. Instead of targeting the exchange of money for a certain health behaviour, Pettifor et al., (2012) hypothesize that by targeting “up-stream factors that affect HIV risk” (Pettifor et al., 2012, p. 1736) could yield better results. In this study, up-stream factors of lack of money/unemployment demonstrated its imperative influence on the engagement in HIV care. Therefore, the failure to deliver positive results could be attributed to the way the intervention was carried out. If the intervention rather targeted the up-stream factors first, the outcomes could have been different.

Strengths and Limitations

This study's strengths lie within the study design and participants themselves. The experiences and feelings about financial incentivisation were derived after the LinkMe2Care study ended. Thus, participants were able to disclose their opinions and feelings on the matter shortly after, making it easier for them to express their opinions and remember crucial details. Further, the study was conducted in a natural environment (the inner city of Johannesburg) of the participants from which stems the ecological validity, and shows relevance for the intended populations. Further, a semi-structured interview guide was used to gain information from the

participants which is deemed as a strength since it allows flexibility in the line of questioning. Hence, additional information on the subject was obtained.

In addition, after the 26 interviews, the obtained information was repeated without yielding new information on the success of financial incentivisation in PLHIV. This points to adequate saturation which is seen as a strength in this study. Moreover, since this thesis has been a qualitative sub-study of the LinkMe2Care study, the internal validity is high; the cause and effect is explained further in the exit interviews pointing to financial incentives being the denominator for all the results. With regards to external validity and generalizability, these results could also be beneficial to other sub-Saharan countries where similar conditions apply.

The main limitation of this study is that due to the lack of STAR participants reporting back, inconsistencies in the knowledge and grasp of the study from different study arm recruits showed. STAR recruits understood the study better compared to other channels like ANOVA, Sedia and HCV. Moreover, due to the recruitment complexities, interview guides were interchangeably used. However, the main themes were covered with each participant who also gave in-depth insights on the use of financial incentives. That said, it was still possible to answer the research question without further issues.

Additionally, a social desirability bias may be another limitation of this study since it is possible that participants answered to satisfy the interviewers because they felt compelled to do so. Nevertheless, this study still provides valuable findings as it explored a new strategy from which lessons can be learnt.

Research Implications & Recommendations

The implication of this study are that financial incentivisation might not be the solution of poor linkage to and retention in care. However, participants demonstrated a need for different necessities which helped them to advance in the study. While monetary reimbursements may

not be the answer, the persistent need for some type of incentive may be. Therefore, it is recommended for public health specialists to consider creating new interventions that would be based on the needs of PLHIV to ensure their advancement in the HIV cascade. Further, based on the information obtained from the interviews, participants often disclosed their dissatisfaction with public clinics in regard to waiting times and negative treatment from the healthcare professionals. With that being said, it is proposed to policy makers to contemplate a possible public health institutions reform to improve public care.

Nonetheless, this study identified unemployment as one of the major barriers to linkage to and retention in care. Once unemployment has stabilised, it is anticipated that linkage and retention will be on the uptake. Thus, it is suggested that public health professionals should concentrate on targeting up-stream factors, rather than simple exchange of money for desired behaviour as it can possibly improve the engagement in linkage and retention.

Conclusion

This study has shown that the experience of financial incentivisation in PLHIV did not influence the engagement in linkage to and retention in care. By doing so, this study contributed to the research of financial incentivisation in PLHIV in the South African context. Moreover, this study uncovered that a demand for some alternate type of incentive is still needed, and it is important to address these needs of PLHIV. In the context of high unemployment rates, the South African government should provide additional support to help reduce the stress of PLHIV to achieve possibly greater success in combating the HIV epidemic. Further, this study addressed the positive and negative factors of linkage to and retention in care, which should be considered when creating new interventions targeting the engagement in linkage and retention, to maximise the success.

Nevertheless, the implications of this study are relevant for research into the value of financial incentives, as thus far, whether financial incentives do or do not promote linkage to and retention in care remains dubious. A systematic review of all sub-Saharan studies on financial incentivisation is recommended to further understand its effects.

References

- Ammon, N., Mason, S., & Corkery, J. M. (2018). Factors impacting antiretroviral therapy adherence among human immunodeficiency virus-positive adolescents in Sub-Saharan Africa: A systematic review. *Public Health, 157*, 20–31. <https://doi.org/10.1016/j.puhe.2017.12.010>
- Bassett, I. V., Regan, S., Mbonambi, H., Blossom, J., Bogan, S., Bearnot, B., Robine, M., Walensky, R. P., Mhlongo, B., Freedberg, K. A., Thulare, H., & Losina, E. (2015). Finding HIV in Hard to Reach Populations: Mobile HIV Testing and Geospatial Mapping in Umlazi Township, Durban, South Africa. *AIDS and Behavior, 19*(10), 1888–1895. <https://doi.org/10.1007/s10461-015-1012-3>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological*. (pp. 57–71). American Psychological Association. <https://doi.org/10.1037/13620-004>
- Brown, B., Galea, J. T., & Dubé, K. (2018). Crucial but understudied: Incentives in HIV research. *The Lancet HIV, 5*(2), e61–e62. [https://doi.org/10.1016/S2352-3018\(17\)30196-0](https://doi.org/10.1016/S2352-3018(17)30196-0)
- Centers for Disease Control and Prevention. (2014). *Understanding the HIV Care Continuum*. https://www.cdc.gov/hiv/pdf/dhap_continuum.pdf
- Cooperative Governance & Traditional Affairs. (2020). *PROFILE: city of johannesburg METROPOLITAN GAU*. 34.

- Czaicki, N. L., Dow, W. H., Njau, P. F., & McCoy, S. I. (2018). Do incentives undermine intrinsic motivation? Increases in intrinsic motivation within an incentive-based intervention for people living with HIV in Tanzania. *PLOS ONE*, 13(6), e0196616. <https://doi.org/10.1371/journal.pone.0196616>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Springer US. <https://doi.org/10.1007/978-1-4899-2271-7>
- Deci, E. L., & Ryan, R. M. (2015). Self-Determination Theory. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 486–491). Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.26036-4>
- Dombrowski, J. (2020). *Core Concepts—Linkage to HIV Care—Screening and Diagnosis—National HIV Curriculum*. <https://www.hiv.uw.edu/go/screening-diagnosis/linkage-care/core-concept/all>
- El-Sadr, W. M., Donnell, D., Beauchamp, G., Hall, H. I., Torian, L. V., Zingman, B., Lum, G., Kharfen, M., Elion, R., Leider, J., Gordin, F. M., Elharrar, V., Burns, D., Zerbe, A., Gamble, T., Branson, B., & for the HPTN 065 Study Team. (2017). Financial Incentives for Linkage to Care and Viral Suppression Among HIV-Positive Patients: A Randomized Clinical Trial (HPTN 065). *JAMA Internal Medicine*, 177(8), 1083. <https://doi.org/10.1001/jamainternmed.2017.2158>
- Fahey, C. A., Njau, P. F., Katabaro, E., Mfaume, R. S., Ulenga, N., Mwenda, N., Bradshaw, P. T., Dow, W. H., Padian, N. S., Jewell, N. P., & McCoy, S. I. (2020). Financial incentives to promote retention in care and viral suppression in adults with HIV initiating antiretroviral therapy in Tanzania: A three-arm randomised controlled trial. *The Lancet HIV*, 7(11), e762–e771. [https://doi.org/10.1016/S2352-3018\(20\)30230-7](https://doi.org/10.1016/S2352-3018(20)30230-7)
- Galárraga, O., Genberg, B. L., Martin, R. A., Barton Laws, M., & Wilson, I. B. (2013). Conditional Economic Incentives to Improve HIV Treatment Adherence: Literature

- Review and Theoretical Considerations. *AIDS and Behavior*, 17(7), 2283–2292.
<https://doi.org/10.1007/s10461-013-0415-2>
- Granich, R. M., Gilks, C. F., Dye, C., De Cock, K. M., & Williams, B. G. (2009). Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: A mathematical model. *The Lancet*, 373(9657), 48–57. [https://doi.org/10.1016/S0140-6736\(08\)61697-9](https://doi.org/10.1016/S0140-6736(08)61697-9)
- Hendricks, L., Eshun-Wilson, I., & Rohwer, A. (2021). A mega-aggregation framework synthesis of the barriers and facilitators to linkage, adherence to ART and retention in care among people living with HIV. *Systematic Reviews*, 10(1), 54.
<https://doi.org/10.1186/s13643-021-01582-z>
- How CD4 Counts Help Treat HIV*. (n.d.). WebMD. Retrieved March 15, 2022, from <https://www.webmd.com/hiv-aids/cd4-count-what-does-it-mean>
- Johnson, B. T., Scott-Sheldon, L. A. J., & Carey, M. P. (2010). Meta-Synthesis of Health Behavior Change Meta-Analyses. *American Journal of Public Health*, 100(11), 2193–2198. <https://doi.org/10.2105/AJPH.2008.155200>
- Johnson, L. F., Dorrington, R. E., & Moolla, H. (2017). Progress towards the 2020 targets for HIV diagnosis and antiretroviral treatment in South Africa. *Southern African Journal of HIV Medicine*, 18(1), 8. <https://doi.org/10.4102/sajhivmed.v18i1.694>
- Joint United Nations. (2017). *Ending AIDS Progress Towards the 90-90-90 Targets*.
https://www.unaids.org/en/resources/documents/2017/20170720_Global_AIDS_update_2017
- Joint United Nations. (2021). *Fact Sheet—World AIDS Day 2021*.
https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf
- Kaufman, M. R., Cornish, F., Zimmerman, R. S., & Johnson, B. T. (2014). Health Behavior Change Models for HIV Prevention and AIDS Care: Practical Recommendations for a

- Multi-Level Approach. *Journal of Acquired Immune Deficiency Syndromes* (1999), 66(Suppl 3), S250–S258. <https://doi.org/10.1097/QAI.0000000000000236>
- Kay, E. S., Batey, D. S., & Mugavero, M. J. (2016). The HIV treatment cascade and care continuum: Updates, goals, and recommendations for the future. *AIDS Research and Therapy*, 13(1), 35. <https://doi.org/10.1186/s12981-016-0120-0>
- Kebaabetswe, P., Manyake, K., Kadima, E., Auletta-Young, C., Chakalisa, U., Sekoto, T., Dintwa, O. M., Mmalane, M., Makhema, J., Lebelonyane, R., Bachanas, P., Plank, R., Gaolathe, T., Lockman, S., & Holme, M. P. (2020). Barriers and facilitators to linkage to care and ART initiation in the setting of high ART coverage in Botswana. *AIDS Care*, 32(6), 722–728. <https://doi.org/10.1080/09540121.2019.1640843>
- Koduah Owusu, K., Adu-Gyamfi, R., & Zamzam, A. (2019). Strategies To Improve Linkage To HIV Care In Urban Areas Of Sub-Saharan Africa: A Systematic Review. *HIV/AIDS - Research and Palliative Care, Volume 11*, 321–332. <https://doi.org/10.2147/HIV.S216093>
- Lavrakas, P. (2008). *Encyclopedia of Survey Research Methods*. Sage Publications, Inc. <https://doi.org/10.4135/9781412963947>
- Leeme, T., Mine, M., Lechiile, K., Mulenga, F., Mosepele, M., Mphoyakgosi, T., Muthoga, C., Ngidi, J., Nkomo, B., Ramaabya, D., Tau, M., Tenforde, M., Hayes, R., & Jarvis, J. (2021). Utility of CD4 count measurement in the era of universal antiretroviral therapy: An analysis of routine laboratory data in Botswana. *HIV Medicine*, 22(1), 1–10. <https://doi.org/10.1111/hiv.12951>
- Linnemayr, S., Stecher, C., & Mukasa, B. (2017). Behavioral economic incentives to improve adherence to antiretroviral medication. *AIDS*, 31(5), 719–726. <https://doi.org/10.1097/QAD.0000000000001387>

- Majam, M., Phatsoane, M., Wonderlik, T., Rhagnath, N., Singh, L., Rademeyer, M., Thirumurthy, H., Schmucker, L., & Lalla-Edward, S. (n.d.). *Incentives to promote linkage to HIV care and viral suppression among HIV self-screening test users who obtain a reactive result*. [Manuscript submitted for publication].
- Maughan-Brown et al., B. (2021). Poor rates of linkage to HIV care and uptake of treatment after home-based HIV testing among newly diagnosed 15-to-49 year-old men and women in a high HIV prevalence setting in South Africa. *AIDS Care*, 33(1), 70–79. <https://doi.org/10.1080/09540121.2020.1719025>
- Mehrotra, P., Zimmerman, R. S., Noar, S. M., & Dumenci, L. (2013). A Test of an Adapted Multiple Domain Model in Predicting Sexual Behaviors Among Unmarried Young Adults in India. *Journal of Sex Research*, 50(2), 116–127. <https://doi.org/10.1080/00224499.2011.635321>
- Motsoaledi, A. (2016). *Minister Aaron Motsoaledi: Health Dept Budget Vote 2016/17 | South African Government*. <https://www.gov.za/speeches/debate-health-budget-vote-national-assembly-10-may-2016-dr-aaron-motsoaledi-minister-health>
- National Cancer Institute. (2005). *Theory at a Glance: A Guide for Health Promotion Practice (Second Edition)*. U.S. Department of Health and Human Services. <https://stacks.stanford.edu/file/druid:ww888hr0839/theory.pdf>
- Nicol, E., Basera, W., Mukumbang, F. C., Cheyip, M., Mthethwa, S., Lombard, C., Jama, N., Pass, D., Laubscher, R., & Bradshaw, D. (2022). *Linkage to HIV care and early retention in care rates in the Universal Test-and-Treat era: A population-based prospective study in KwaZulu-Natal, South Africa* [Preprint]. In Review. <https://doi.org/10.21203/rs.3.rs-1434864/v1>
- Njau, B., Damian, D. J., Abdullahi, L., Boule, A., & Mathews, C. (2021). The effects of HIV self-testing on the uptake of HIV testing, linkage to antiretroviral treatment and social

- harms among adults in Africa: A systematic review and meta-analysis. *PLOS ONE*, 16(1), e0245498. <https://doi.org/10.1371/journal.pone.0245498>
- Pettifor, A., MacPhail, C., Hughes, J. P., Selin, A., Wang, J., Gómez-Olivé, F. X., Eshleman, S. H., Wagner, R. G., Mabuza, W., Khoza, N., Suchindran, C., Mokoena, I., Twine, R., Andrew, P., Townley, E., Laeyendecker, O., Agyei, Y., Tollman, S., & Kahn, K. (2016). The effect of a conditional cash transfer on HIV incidence in young women in rural South Africa (HPTN 068): A phase 3, randomised controlled trial. *The Lancet Global Health*, 4(12), e978–e988. [https://doi.org/10.1016/S2214-109X\(16\)30253-4](https://doi.org/10.1016/S2214-109X(16)30253-4)
- Pettifor, A., MacPhail, C., Nguyen, N., & Rosenberg, M. (2012). Can Money Prevent the Spread of HIV? A Review of Cash Payments for HIV Prevention. *AIDS and Behavior*, 16(7), 1729–1738. <https://doi.org/10.1007/s10461-012-0240-z>
- Rees, H., Delany-Moretlwe, S., Scorgie, F., Luchters, S., & Chersich, M. F. (2017). At the Heart of the Problem: Health in Johannesburg’s Inner-City. *BMC Public Health*, 17(S3), 554, s12889-017-4344–2. <https://doi.org/10.1186/s12889-017-4344-2>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Stats SA, S. S. A. (2022). *South Africa’s youth continues to bear the burden of unemployment.* / *Statistics South Africa*. <https://www.statssa.gov.za/?p=15407>

- Takarinda, K. C., Harries, A. D., & Mutasa-Apollo, T. (2016). Critical considerations for adopting the HIV ‘treat all’ approach in Zimbabwe: Is the nation poised? *Public Health Action*, 6(1), 3–7. <https://doi.org/10.5588/pha.15.0072>
- Tarantino, N., Lowery, A., & Brown, L. K. (2021). Adherence to HIV Care and Associated Health Functioning among Youth Living with HIV in Sub-Saharan Africa. *Aids Reviews*, 22(2), 3838. <https://doi.org/10.24875/AIDSRev.20000101>
- Tenny, S., Brannan, G. D., Brannan, J. M., & Sharts-Hopko, N. C. (2022). Qualitative Study. In *StatPearls*. StatPearls Publishing.
<http://www.ncbi.nlm.nih.gov/books/NBK470395/>
- Thirumurthy, H., Ndyabakira, A., Marson, K., Emperador, D., Kamya, M., Havlir, D., Kwarisiima, D., & Chamie, G. (2019). Financial incentives for achieving and maintaining viral suppression among HIV-positive adults in Uganda: A randomised controlled trial. *The Lancet. HIV*, 6(3), e155–e163. [https://doi.org/10.1016/S2352-3018\(18\)30330-8](https://doi.org/10.1016/S2352-3018(18)30330-8)
- UNAIDS. (2014). *90-90-90: An ambitious treatment target to help end the AIDS epidemic*. 40.
- University of Pennsylvania. (2021). *Financial Incentives to Promote Linkage to Care and Viral Suppression Following HIV Testing: A Randomized Controlled Trial* (Clinical Trial Registration No. NCT04431154). clinicaltrials.gov.
<https://clinicaltrials.gov/ct2/show/NCT04431154>
- Wainberg, M. A., Hull, M. W., Girard, P.-M., & Montaner, J. S. G. (2016). Achieving the 90–90–90 target: Incentives for HIV testing. *The Lancet Infectious Diseases*, 16(11), 1215–1216. [https://doi.org/10.1016/S1473-3099\(16\)30383-8](https://doi.org/10.1016/S1473-3099(16)30383-8)

World Health Organization. (2015). *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV*. World Health Organization.

<https://apps.who.int/iris/handle/10665/186275>

World Health Organization. (2016). *Progress Report 2016, Prevent HIV, Test and Treat All*.

<https://apps.who.int/iris/bitstream/handle/10665/251713/WHO-HIV-2016.24-eng.pdf>

World Health Organization. (2020a). *Estimated number of people (all ages) living with HIV*.

<https://www.who.int/data/gho/data/indicators/indicator-details/GHO/estimated-number-of-people--living-with-hiv>

World Health Organization. (2020b). *Prevalence of HIV among adults aged 15 to 49 (%)*.

[https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-hiv-among-adults-aged-15-to-49-\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-hiv-among-adults-aged-15-to-49-(-))

Xiao, Z., Palmgreen, P., Zimmerman, R., & Noar, S. (2010). Adapting and applying a multiple domain model of condom use to Chinese college students. *AIDS Care*, 22(3), 332–338. <https://doi.org/10.1080/09540120903193609>

Zimmerman, R. S., Noar, S. M., Feist-Price, S., Dekthar, O., Cupp, P. K., Anderman, E., & Lock, S. (2007). Longitudinal Test of a Multiple Domain Model of Adolescent Condom Use. *Journal of Sex Research*, 44(4), 380–394.

<https://doi.org/10.1080/00224490701629506>

Appendix 1 – Interview Guides

Version 2.0

02 FEBRUARY 2021

FOR CONTROL PARTICIPANTS- SEDIA/HCV/ANOVA (CLINIC BASED)

SEMI STRUCTURED INTERVIEW GUIDE FOR INCENTIVES TO PROMOTE LINKAGE TO CARE AND VIRAL SUPPRESSION

INSTRUCTIONS

1. This interview is intended to be an informal conversation to collect information on study participants perspectives, opinions, motivations, and recommendations for linking to care, adherence to medication and attaining viral suppression.
2. Each interview must be audio recorded ONLY after the informed consent form has been signed.
3. There are two levels of questions:
 - a. **# Main questions:** the questions that the principal investigator wants to get answers to
 - b. **Probes:** the questions that you as the moderator could ask respondent in order to get greater clarity on certain issues and more information about the main question
4. *Instructions/suggestions to the moderator are in italics.*
5. **The space provided** is for summarising the main points and general impressions. Include information on body language/ non-verbal cues. These summaries should be more than just yes/no, but not longer than a few sentences of bullet points. They do not need to be detailed, as the details are captured on the recording.

If the interviewer is different from the person consenting:

Hello, my name is _____. Welcome. Thank you for agreeing to speak with me. Please make yourself comfortable.

Today I would like us to discuss your experiences with HIV screening, why you decided to access care and your motivations to get/stay healthy. We will also get your views on incentives and their role in health.

1

Version 2.0

02 FEBRUARY 2021

Please note that I simply want to hear your views, and there is no right or wrong answer; everything you say is important. Feel free to speak openly and use any language or words that best describe your experiences. Your real name will not be written anywhere, which means that no one will know it was you who said something. The voice files and notes will be kept private and safe. The discussion will take about 30 minutes.

Do you have any questions at this point?

Date of interview: ____/____/____

Interviewer name: _____

Guide # _____ Arm: _____

2

STUDY EXPERIENCE

What did they tell you about the study?	STUDY EXPERIENCE
<p><i>Discuss: how did you joint the study , find out what client understood about the study. Probes: study process and stages - did you feel well informed; +/- experiences</i></p> <p>- Make reference to the flow chart</p>	
Why did you decide to join the study?	STUDY MOTIVATION
<p><i>Probes: wanted to get better, viral suppression, money, referral from study staff</i></p>	

3

Why did you test for HIV?	
<p>Motivations for checking their HIV status.</p> <ul style="list-style-type: none"> - HCV Probes: Had you ever tested for HIV before the study? Why did you test for HIV that day? Would you have otherwise tested if not through the study? - Anova/Sedia Probes: unknown status; tests regularly? If so, how often (mos, yrs, new partners?); Anticipating a positive result 	
Why did you share your HIV positive result?	
<p>- Motivations to disclose their HIV positive result with the study. Probes: Did you want to disclose your results, or did you feel persuaded to disclose your results? How did you disclose your result? (whatsapp/text)</p> <p>NB: Not applicable for HCV</p>	
Why do you think you participated in the study until the end?	STUDY RETENTION
<ul style="list-style-type: none"> - Motivations for staying in the study and attending the exit interview. Probes: reimbursement (travel/time); wanted to know your viral load results after six months. 	

4

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HEALTH SEEKING BEHAVIOUR/ LINKAGE TO CARE

3. Are you currently on ART?	LINKAGE TO CARE: ART INITIATION
<ul style="list-style-type: none"> - If yes, Get the participant to discuss motivation to initiate ART. - Probes: any difficulties, did they start and stop? Did covid affect ART adherence? - Probes: Referral and information provided by the study staff; Wanted to get better; Was viral suppression a goal for you? - If not, why not? <p>Please tell me about taking your HIV medication over the past few months?</p> <ul style="list-style-type: none"> - Probes: any difficulties(side effects), did they start and stop? Did covid affect ART adherence? - Probes: Referral and information provided by the study staff; Wanted to get better; Was viral suppression a goal for you? 	

INCENTIVES / REIMBURSEMENTS

During the study you received some payments. What are your opinions about these payments?	INCENTIVES: STUDY
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5

<p>Opinion on the payments you received: R150 time and travel. Do you <i>think reimbursements are necessary?</i> (Money for travel and time)</p>	
What are your thoughts about rewarding people to take care of their health?	INCENTIVES: GENERAL
<ul style="list-style-type: none"> - Thoughts on incentives. Probes: <i>Should it be done?</i> - If yes, why do you feel they think the payment they received is necessary (for yourself)? Probe: <i>What difference you think it would make?</i> - If no, why not? - Do you think that incentives would encourage others to take their medication? Probes: <i>If so, recommendations for incentives – types, amounts etc.?</i> 	

6

Any suggestions for improving the study?	FEEDBACK/RECOMMENDATIONS
What could be done better. Probes: distribution, screening, enrolment, engagement, exit processes, reimbursement...	

7

FOR CONTROL PARTICIPANTS- STAR (COMMUNITY DISTRIBUTION)

SEMI STRUCTURED INTERVIEW GUIDE FOR INCENTIVES TO PROMOTE LINKAGE TO CARE AND VIRAL SUPPRESSION

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2. Each interview must be audio recorded ONLY after the informed consent form has been signed.
3. There are two levels of questions:
 - a. **# Main questions:** the questions that the principal investigator wants to get answers to
 - b. **Probes:** the questions that you as the moderator could ask respondent in order to get greater clarity on certain issues and more information about the main question
4. *Instructions/suggestions to the moderator are in italics.*
5. The space provided is for summarising the main points and general impressions. Include information on body language/ non-verbal cues. These summaries should be more than just yes/no, but not longer than a few sentences of bullet points. They do not need to be detailed, as the details are captured on the recording.

If the interviewer is different from the person consenting:

Hello, my name is _____. Welcome. Thank you for agreeing to speak with me. Please make yourself comfortable.

Today I would like us to discuss your experiences with HIV screening, why you decided to access care and your motivations to get/stay healthy. We will also get your views on incentives and their role in health.

1

Please note that I simply want to hear your views, and there is no right or wrong answer; everything you say is important. Feel free to speak openly and use any language or words that best describe your experiences. Your real name will not be written anywhere, which means that no one will know it was you who said something. The voice files and notes will be kept private and safe. The discussion will take about 30 minutes.

Do you have any questions at this point?

Date of interview: ____/____/____

Interviewer name: _____

Guide # _____ Arm: _____

2

STUDY EXPERIENCE

What did they tell you about the study?	STUDY EXPERIENCE
<p><i>Discuss: how did you joint the study , find out what client understood about the study. Probes: study process and stages - did you feel well informed; +/- experiences</i></p> <p>- Make reference to the flow chart</p>	
Why did you decide to join the study?	STUDY MOTIVATION
<p><i>Probes: wanted to get better, viral suppression, money, referral from study staff</i></p>	

3

Why did you test for HIV? Motivations for checking their HIV status. <ul style="list-style-type: none"> - HCV Probes: Had you ever tested for HIV before the study? Why did you test for HIV that day? Would you have otherwise tested if not through the study? - Anova/Sedia Probes: unknown status; tests regularly? If so, how often (mos, yrs, new partners?); Anticipating a positive result 	
Why did you share your HIV positive result? - Motivations to disclose their HIV positive result with the study. Probes: Did you want to disclose your results, or did you feel persuaded to disclose your results? How did you disclose your result? (whatsapp/text) NB: Not applicable for HCV	
If not for the study, would you have gone to a health facility to confirm your results? <ul style="list-style-type: none"> - Reasons for getting the confirmatory test done. Probes: What made/motivated you to confirm your HIVSS result? Would you have confirmed your HIVSS result without the reimbursement for your time and travel? If yes, why? 	
Why do you think you participated in the study until the end?	STUDY RETENTION

4

<ul style="list-style-type: none"> - Motivations for staying in the study and attending the exit interview. Probes: reimbursement (travel/time); wanted to know your viral load results after six months.

HEALTH SEEKING BEHAVIOUR/ LINKAGE TO CARE

Are you currently on ART? <ul style="list-style-type: none"> - If yes, Get the participant to discuss motivation to initiate ART. - If not, why not? 	LINKAGE TO CARE: ART INITIATION
Please tell me about taking your HIV medication over the past few months? <ul style="list-style-type: none"> - Probes: any difficulties(side effects), did they start and stop? Did covid affect ART adherence? - Probes: Referral and information provided by the study staff; Wanted to get better; Was viral suppression a goal for you? 	

5

INCENTIVES / REIMBURSEMENTS

During the study you received some payments. What are your opinions about these payments?	INCENTIVES: STUDY
Opinion on the payments you received: R150 time and travel. Do you <i>think reimbursements are necessary?</i> (Money for travel and time)	
What are your thoughts about rewarding people to take care of their health?	INCENTIVES: GENERAL
<ul style="list-style-type: none"> - Thoughts on incentives. Probes: <i>Should it be done?</i> - If yes, why do you feel they think the payment they received is necessary (for yourself)? Probe: <i>What difference you think it would make?</i> - If no, why not? 	

6

<ul style="list-style-type: none"> - Do you think that incentives would encourage others to take their medication? Probes: <i>If so, recommendations for incentives – types, amounts etc.?</i> 	
Any suggestions for improving the study?	FEEDBACK/RECOMMENDATIONS
What could be done better. Probes: <i>distribution, screening, enrolment, engagement, exit processes, reimbursement...</i>	

7

FOR INTERVENTION PARTICIPANTS- STAR (COMMUNITY DISTRIBUTION)

SEMI STRUCTURED INTERVIEW GUIDE FOR INCENTIVES TO PROMOTE LINKAGE TO CARE AND VIRAL SUPPRESSION

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Hello, my name is _____. Welcome to the discussion and please make yourself comfortable.

Today I would like us to discuss your experiences with HIV screening, why you decided to access care and your motivations to get/stay healthy. We will also get your views on incentives and their role in health.

Please note that I simply want to hear your views, and there is no right or wrong answer; everything you say is important. Please feel free to speak openly and use any language or words that best describe your experiences. Your real name will not be written anywhere, which means that no one will know it was you who said something. The voice files and notes will be kept private and safe. The discussion will take about 30 minutes.

Do you have any questions at this point?

Date of interview: ____ / ____ / ____

Interviewer name: _____

STUDY EXPERIENCE

How did you join the study?	<u>STUDY EXPERIENCE</u>
<ul style="list-style-type: none"> Discuss how participant was recruited, what were you told, experience with staff (attitudes) and consenting process. Probes: study process and stages; +/- experiences; find out what client understood) Reference flow chart. 	
Why did you decide to join the study?	<u>STUDY MOTIVATION</u>
Probe: referred by study staff, viral suppression, etc Motivations for checking their HIV status <ul style="list-style-type: none"> Probes: Previously unknown; tests regularly? If so, how often (mos, yrs, new partners?); Anticipating a positive result; curious about test? 	
Why and how did you share your HIV positive result?	
Motivations to self-report their HIV positive result. Probes: Did they find it easy or felt persuaded to disclose their results? How did you share your result? (whatsapp/ text).	
Why did you come back/finish the study	<u>STUDY RETENTION</u>
Motivations for staying in the study and attending the exit interview. Probes: wanted to get better; wanted to know their viral load results after six months.	

HEALTH SEEKING BEHAVIOUR/ LINKAGE TO CARE

If not for the study, would you have gone to a health facility to confirm your results?	LINKAGE TO CARE: CONFIRMATORY
<ul style="list-style-type: none"> Reasons for getting the confirmatory test done. Probes: What made/motivated you to confirm your HIV+ result? 	
Are you currently on ART?	
If not, why not? If yes, get the participant to discuss motivation to initiate ART.	LINKAGE TO CARE: Confirmatory and ART INITIATION
<ul style="list-style-type: none"> a. Probes: Referral and information provided by the study staff; Wanted to get better; Was viral suppression a goal for you? b. Probes: any difficulties, did they start and stop? Did Covid affect ART adherence? 	
Please tell me about taking your HIV medication over the past few months?	
<ul style="list-style-type: none"> Discuss overall experience of ART. Probes: truly adherent (yes/no); Motivations behind adherence to ART and clinic visits (want to get better, viral suppression); Did COVID/lockdown affect adherence in any way? 	LINKAGE TO CARE: ADHERENCE

During the study you received some payments. What are your opinions about these payments?	INCENTIVES: STUDY
Opinion on the payments you received: <ul style="list-style-type: none"> R75 confirming your status R150 time and travel for confirmation R20 x 6 months for picture (if with whatsapp) R300 for viral suppression <ul style="list-style-type: none"> DID THESE Incentives and reimbursements motivate your participation in the study? Would they have reported their result if there was no incentive provided Thoughts on the amount and frequency What did you use the money for? What are your opinions on reimbursements for travel and time? What are your thoughts on people being rewarded for their health? Do you think rewards have an impact on people taking care of their health? Recommendations on other kinds of incentives. 	

What did you think about the study team contact with you during the study period?	<u>STUDY CONTACT</u>
Probe: Was this contact helpful? What did they think about the messages/reminders? Would they prefer a person calling them instead of an automated text? What is their recommended frequency of contact?	
Any suggestions for improving the study?	<u>FEEDBACK/RECOMMEN DATIONS</u>
What could be done better. Probes: distribution, screening, enrolment, engagement, exit processes, reimbursement?	

Additional questions:

Why didn't you come back/finish the study

FOR INTERVENTION PARTICIPANTS- STAR (COMMUNITY DISTRIBUTION)

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Do you have any questions at this point?

Date of interview: ____/____/____

Interviewer name: _____

STUDY EXPERIENCE

How did you join the study?	STUDY EXPERIENCE
<ul style="list-style-type: none"> Discuss how participant was recruited, what were you told, experience with staff (attitudes) and consenting process. Probes: study process and stages; +/- experiences; find out what client understood) Reference flow chart. 	
Why did you decide to join the study?	STUDY MOTIVATION
Probe: referred by study staff, viral suppression, etc	
Why did you use the self-screen test?	
<ul style="list-style-type: none"> Motivations for checking their HIV status. Probes: Previously unknown; tests regularly? If so, how often (mos, yrs, new partners?); Anticipating a positive result; curious about test? Why did you use the HIVSS kit? Had you used a HIVSS kit before? 	
Why and how did you share your HIV positive result?	
Motivations to self-report their HIV positive result. Probes: Did they find it easy or felt persuaded to disclose their results? How did you share your result? (whatsapp/ text).	
Why did you come back/finish the study	STUDY RETENTION
Motivations for staying in the study and attending the exit interview. Probes: wanted to get better; wanted to know their viral load results after six months.	

HEALTH SEEKING BEHAVIOUR/ LINKAGE TO CARE

If not for the study, would you have gone to a health facility to confirm your results?	<u>LINKAGE TO CARE: CONFIRMATORY</u>
<ul style="list-style-type: none"> Reasons for getting the confirmatory test done. Probes: What made/motivated you to confirm your HIVSS result? 	
Are you currently on ART?	
If not, why not? If yes, get the participant to discuss motivation to initiate ART. <ul style="list-style-type: none"> a. Probes: Referral and information provided by the study staff; Wanted to get better; Was viral suppression a goal for you? b. Probes: any difficulties, did they start and stop? Did Covid affect ART adherence? 	<u>LINKAGE TO CARE: Confirmatory and ART INITIATION</u>
Please tell me about taking your HIV medication over the past few months?	
<ul style="list-style-type: none"> Discuss overall experience of ART. Probes: truly adherent (yes/no); Motivations behind adherence to ART and clinic visits (want to get better, viral suppression); Did COVID/lockdown affect adherence in any way? 	<u>LINKAGE TO CARE: ADHERENCE</u>

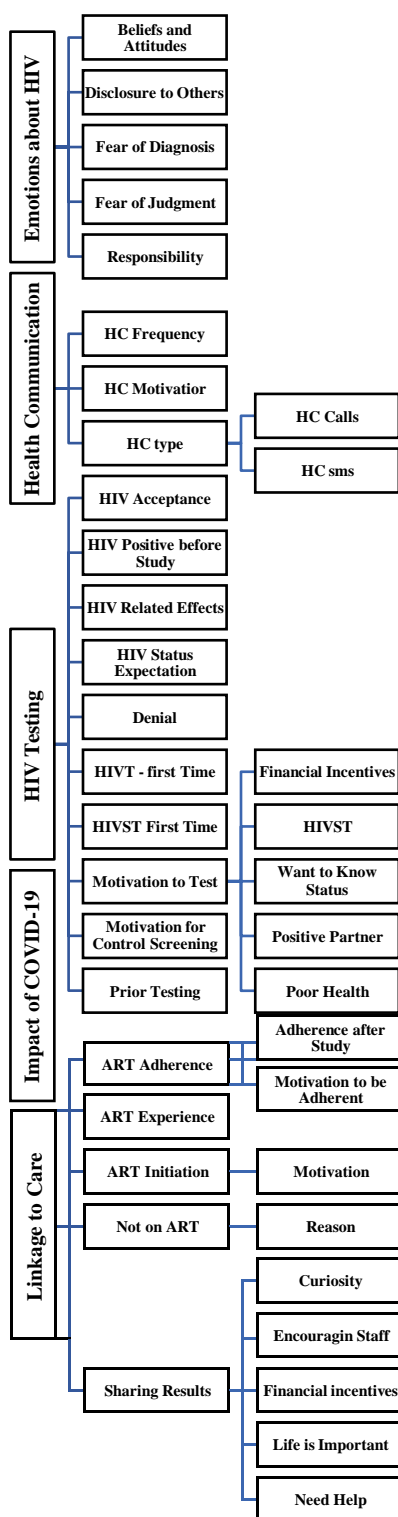
During the study you received some payments. What are your opinions about these payments?	<u>INCENTIVES: STUDY</u>
Opinion on the payments you received: <ul style="list-style-type: none"> o R75 confirming your status o R150 time and travel for confirmation o R20 x 6 months for picture (if with whatsapp) o R300 for viral suppression o • DID THESE Incentives and reimbursements motivate your participation in the study? Would they have reported their result if there was no incentive provided • Thoughts on the amount and frequency • What did you use the money for? • What are your opinions on reimbursements for travel and time? • What are your thoughts on people being rewarded for their health? • Do you think rewards have an impact on people taking care of their health? • Recommendations on other kinds of incentives. 	

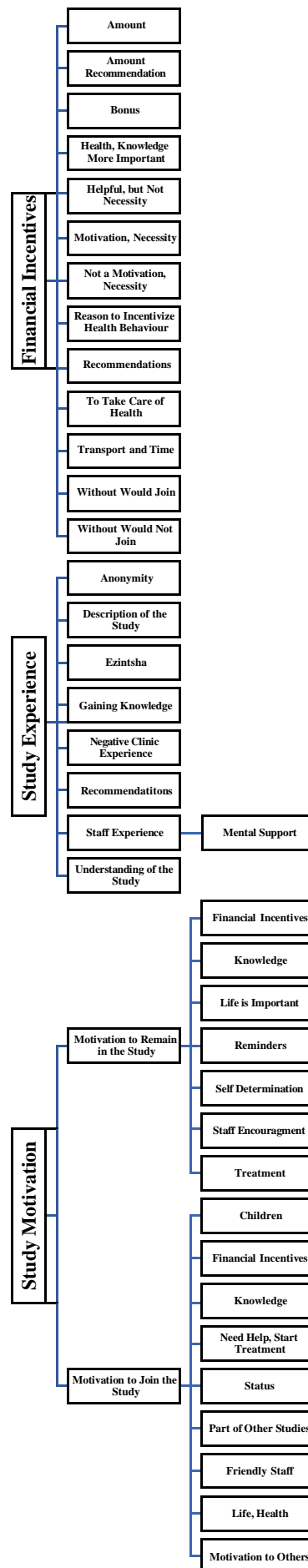
What did you think about the study team contact with you during the study period?	<u>STUDY CONTACT</u>
Probe: Was this contact helpful? What did they think about the messages/reminders? Would they prefer a person calling them instead of an automated text? What is their recommended frequency of contact?	
Any suggestions for improving the study?	<u>FEEDBACK/RECOMMEN DATIONS</u>
What could be done better. Probes: distribution, screening, enrolment, engagement, exit processes, reimbursement?	

Additional questions:

Why didn't you come back/finish the study

Appendix 2 – Code Tree





Appendix 3 – Demographics of Participants

Participant ID	Age	Gender	Employment Status
Participant 1	40	Female	Unemployed
Participant 2	34	Female	Unemployed
Participant 3	43	Female	Unemployed
Participant 4	39	Male	Employed
Participant 5	49	Male	Unemployed
Participant 6	42	Female	Unemployed
Participant 7	44	Male	Employed
Participant 8	43	Male	Unemployed
Participant 9	34	Male	Employed
Participant 10	45	Male	Employed
Participant 11	30	Male	Unemployed
Participant 12	51	Female	Unemployed
Participant 13	50	Male	Unemployed
Participant 14	55	Female	Unemployed
Participant 15	40	Female	Employed
Participant 16	27	Female	Unemployed
Participant 17	45	Male	Employed
Participant 18	55	Male	Unemployed
Participant 19	33	Male	Unemployed
Participant 20	31	Female	Unemployed
Participant 21	41	Male	Undisclosed
Participant 22	40	Female	Undisclosed
Participant 23	33	Male	Undisclosed
Participant 24	34	Female	Unemployed
Participant 25	36	Female	Undisclosed
Participant 26	34	Male	Employed

Appendix 4 – Financial Incentives Overview of Influenced Participant

Opinions on Financial Incentivisation	Mentioned by Participants
FI as a necessity	18
FI as a bonus	4
FI as an inaccurate tool to motivate	3
Financial Incentives as a Facilitator to HIV Cascade	
FI helped to provide for needs	20
FI sparked intrinsic motivation in one's health	2
Financial Incentives as an Opportunity to Earn Money	
Without FI, needs would not be met	17
Morphosis from extrinsic to intrinsic motivation did not happen	24
Positive Factors Influencing Linkage to and Retention in Care	
Being healthy, feeling of responsibility, gaining knowledge	24
Friendly staff helped with linking and retaining	9
Negative Factors Influencing Linkage to and Retention in Care	
Reasons why FI are needed to link to and retain in care	23