



# **Implementing complex HIV treatment support strategies for female sex workers living with HIV: a realist-informed evaluation**

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# Background

In South Africa, HIV treatment delivery and engagement in care is complex and multidimensional.

62% of female sex workers (FSW) living with HIV

- Half on antiretroviral therapy (ART)
- <40% are virally suppressed



# Siyaphambili Study

Tested two adaptive HIV treatment support strategies aimed to promote retention and viral suppression among 777 FSW living with HIV and not virally suppressed



Decentralized Treatment  
Provision (**DTP**)



Individualized Case  
Management (**ICM**)



# Siyaphambili Study

Tested two adaptive HIV treatment support strategies aimed to promote retention and viral suppression among 777 FSW living with HIV and not virally suppressed



Decentralized Treatment  
Provision (DTP)



Individualized Case  
Management (ICM)

No difference in 18-month retention and viral suppression between strategies (16% in DTP and 14% in ICM, p-value: 0.455)



# Research Question

Why and under what conditions were the HIV treatment support strategies tested in Siyaphambili appropriate for FSW, feasible and implemented as designed (with fidelity), and effective at promoting HIV viral suppression among FSW living with HIV?

*Treatment support strategies tested in Siyaphambili:*

- Decentralized treatment provision (DTP)
- Individualized case management (ICM)



# Methods

- **In-depth interviews** with FSW from the Siyaphambili Study (n=36)
- **Key informant interviews** with implementors and program staff (n=12)
- Data were collected between **March 2021 – January 2022**
- **Semi-structured interview guide** used based on the Consolidated Framework for Implementation Research (CFIR)



# Methods - analysis

Data were deductively coded in Atlas.ti based on the Consolidated Framework for Implementation Research (CFIR) domains/constructs.

- 1 CFIR analysis, identifying determinants of implementation
  - Rated valence and strength across CFIR constructs and strategies
- 2 Iteratively applied critical realist evaluation principles + retrodeductive inference to identify interrelationship of CFIR constructs and generated **‘Context+Mechanism=Outcome’ configurations**
  - CFIR constructs used to label configuration components
  - Implementation outcomes of appropriateness, feasibility, fidelity, and effectiveness were classified as ‘high’ or ‘low’



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# Results

## 36 in-depth interviews with FSW

- Median age was 31-35 years old
- 88% operated from indoor venues (brothel/guest house/private home)
- Varied exposure to and participation with assigned strategies over time

## 12 key informant interviews with implementors

- Nurses, case managers, peer navigators, drivers, team leaders
- 83% female
- 83% over the age of 30 years old

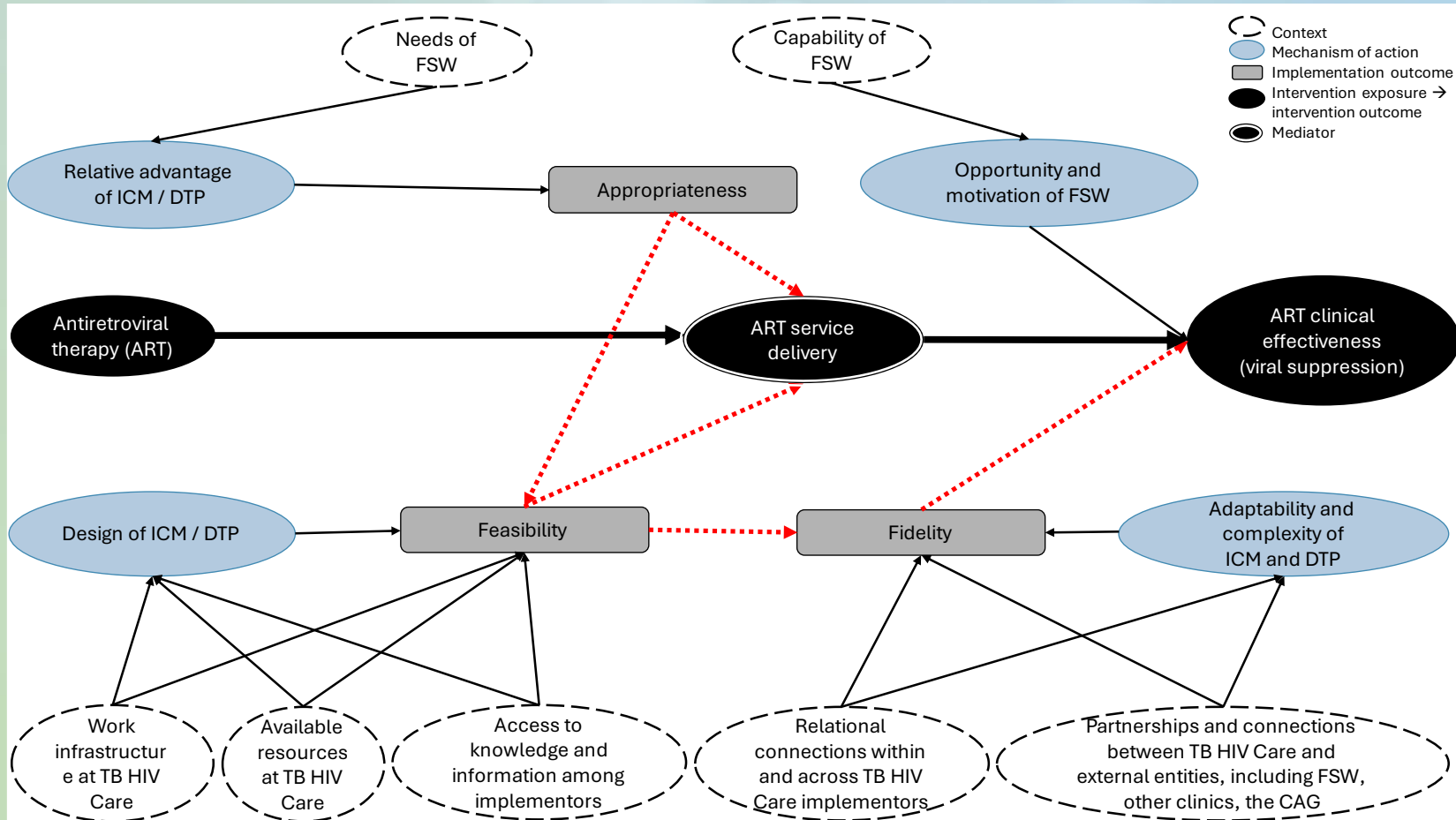


Context

Mechanism

**Outcome**

1	Needs of FSW recipients	+ Relative advantage	= <b>Appropriateness</b>
2	Work infrastructure, available resources, access to knowledge and resources	+ Design	= <b>Feasibility</b>
3	Partnerships, relational connections, and communication	+ Complexity & adaptability	= <b>Fidelity</b>
4	Capability of FSW recipients	+ Motivation & opportunity	= <b>Effectiveness</b>





Context

Mechanism

Outcome

1 Needs of FSW recipients

+ Relative advantage

= **Appropriateness**

*Receiving it is way better because there are no neighbor that look at you and you avoid standing those ridiculous long ques at the clinic it literally takes less than 20 minutes. The convenience of it all is amazing...I think receiving the medication is way fitting for me and it makes everything simpler with little room for defaulting...*  
- FSW DTP → DTP+ICM, IDI08

=

High  
appropriateness

*Some participants didn't want to have their treatment dropped off at their work site because they were concerned about the stigma...The participants would want their treatment to be delivered to a different place like the place where they live.*  
- Implementor, KII11

=

Low  
appropriateness



Context

Mechanism

Outcome

2 Work infrastructure,  
available resources,  
access to knowledge and  
resources

+ Design

= Feasibility

=

High feasibility

*I was trained on the study protocol by a [nurse] from Cape Town. I also got training on the procedures that I need to follow and all the processes around study interventions. I got all the training that I needed...I believe the training was enough for me to carry out the tasks that I was supposed to do. - Implementor, KII03*



Context

Mechanism

Outcome

2 Work infrastructure,  
available resources,  
access to knowledge and  
resources

+ Design

= Feasibility

*Sometimes you'd plan a meeting for a particular day only to find that the participant doesn't pitch for that meeting or there is a shortage of staff and you can no longer have that meeting. Sometimes time would be an issue and we'd leave the office later than we had planned...If a staff member quits there should be ways to recruit another staff member as quickly as possible. There should be other alternatives available for us when the mobile clinic breaks down. – Implementor, KII01*

=

Low feasibility



Context

Mechanism

Outcome

3 Partnerships, relational connections, and communication

+ Complexity & adaptability

= Fidelity

*Sometimes we'd plan to go to a particular site but then we get a call from a [participant's] friends who we rely on for their whereabouts. They'd call and tell us that the [participant] is there and they won't be there for long. We'd have to change routes and go to that [participant] because we know if we miss them that day we won't find them again. - Implementor, KII03*

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High fidelity

*There were also participants who had no phones and lived far from Durban central. This made it hard to drive all the way there only to find that the participant would not be there and we had no way of contacting them to find out when they'd be there. - Implementor, KII11*

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Low fidelity



Context

Mechanism

Outcome

4 Capability of FSW recipients

+ Motivation & opportunity

= Effectiveness

*...the support I received went over the treatment to emotional support so it helped me in more than one aspect. I am satisfied with how everything went from beginning till the end. **I am now more informed** and can share the knowledge with others... **I am now ready to take my pills habitually**... I am now aware that the virus is incurable but controllable if I adhere to my treatment I can live for a long time. - FSW receiving ICM, IDI10*

=

High effectiveness





Context

Mechanism

Outcome

4 Capability of FSW recipients

+ Motivation & opportunity

= Effectiveness

*Sometimes I didn't take my pills every day. I'd go days without taking them sometimes a whole month because I wouldn't be on-site when drop off of treatment happened... I wasn't taking it on time and sometimes I'd run out of pills... I didn't know how to get to the clinic and I lost my phone so I also lost their number... **It's up to me to get my viral load suppressed.** The staff who work in the mobile van did their part by dropping off the treatment. **It's up to me to adhere to treatment.** — FSW receiving DTP, IDI04*

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Low effectiveness



# Discussion

This research identifies the mechanistic pathways exploring **why** and **under what conditions** these complex strategies did or did not work, and our findings:

- Highlights the relevance of context (both for implementors and recipients). *Things can change quickly.*
- Emphasizes the need for relationships (between implementors and recipients and across implementors) - *it leads to engagement, empowerment, and impact.*
- Reinforces the need for contextualized, preference-driven services, resources, and referrals.



# Conclusion

Given the unmet HIV treatment need among FSW living with HIV, decomposing the implementation of multilevel, multicomponent strategies is critical to informing future strategy design, delivering strategies in complex healthcare settings, and optimizing treatment outcomes those at greatest need.



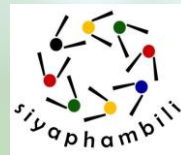
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Clinical Trial registration: NCT03500172

# Thank you

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# Thank you

*Please contact me with questions or comments:*  
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