

# HIV Incidence and Experiences for Concurrent Methadone and Antiretroviral Therapy Use among people recovering from Opioid use Disorder in Kisauni Clinic, Mombasa, Kenya

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# Background

- Opioid Use Disorder (OUD), major contributor to new HIV & infectious yearly
  - Both injecting drug users (IDUs) and non-injecting drug users are at risk
- Methadone Maintenance Treatment (MMT) endorsed as a Harm Reduction intervention OUD (*WHO, 2005*)
- Effectiveness of MMT averted up to 54% of new HIV cases (*MacArthur et al., 2012*)

# Problem statement

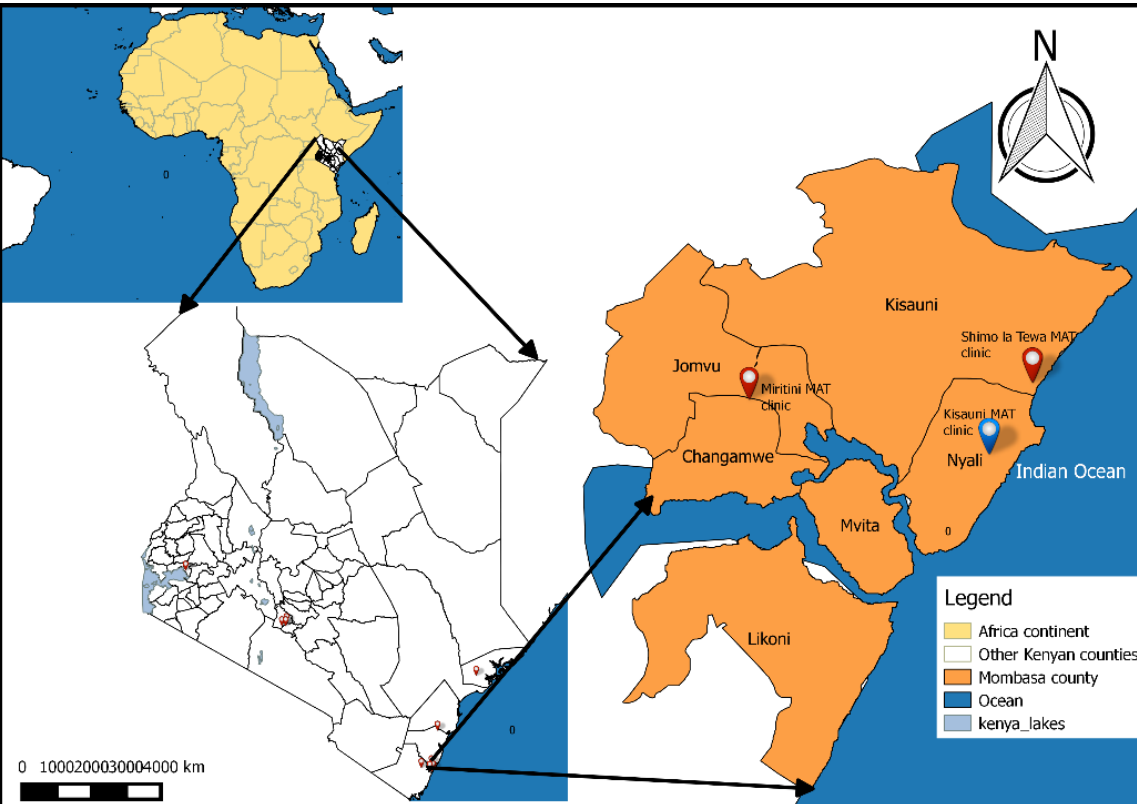
- Kenya Adopted MMT program in 2014
  - Prevent further spread of HIV, Mitigate effects of Injecting (*Key Populations, 2015*)
  - Methadone drug of choice (*MoH Protocol, 2017*)
- Kisauni MAT clinic:
  - New cases of HIV still reported among MMT clients in 2021
    - Approximately 3.4% tested in June were HIV positive (*MoH, 2021*)
- Inadequate information on:
  - Drivers of HIV infections among clients on MMT treatment

# Objectives

- Specific objectives
  - To determine HIV seroconversion rate among injectors and non-injectors opioid recovery addicts enrolled in MAT program in Kisauni MAT clinic, 2025-2022
  - To identify risk factors associated with HIV seroconversion
  - To explore facilitators and barriers on concurrent use of Methadone and ART enrolled in MAT program in Kisauni MAT clinic, 2025-2022

# Methodology

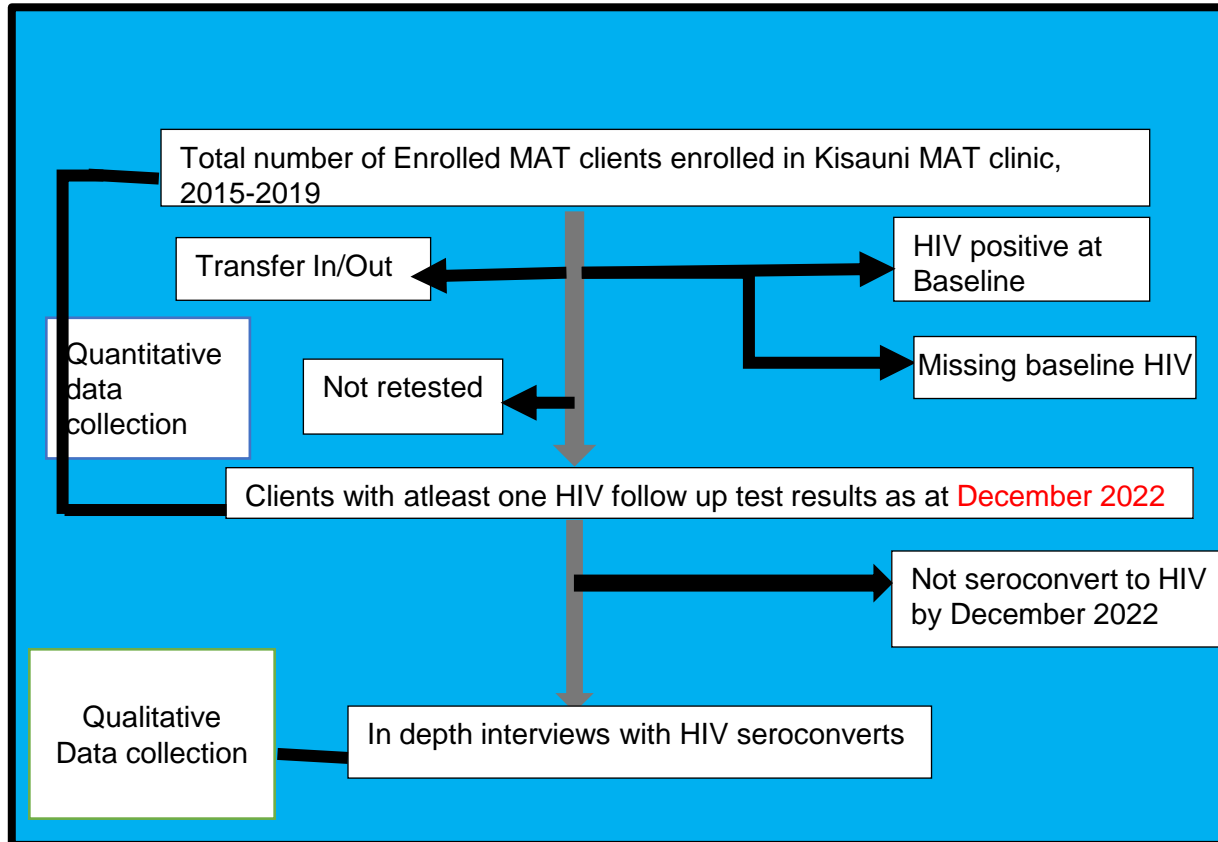
- **Study site**
- Kisauni MAT clinic, Mombasa county
  - Drug trafficking route, Largest port in E.Africa
  - Out patient clinic offering MMT services
- **Study Design**
  - Mixed retrospective cohort study
    - Sequential explanatory approach among OUD
      - Guide the collection of qualitative data
      - Inductive coding
- **Study participants:**
  - PWOD enrolled between 2015 & 2019
  - Test results as December 2022



**Figure 1:** Kisauni MAT clinic in Mombasa County, Kenya.

# Data collection

- Quantitative data collected retrospectively using data abstraction tool
  - Sources: Individual patients' registers, Laboratory registers, and psychosocial registers, HTC register, Pharmacy register
- Qualitative data collected from in-depth interviews with **HIV seroconverts**
  - Face-to-face interviews using a developed interview guide translated to Kiswahili



**Figure 2: A flow diagram illustrating the data collection procedure that was used for this study**

# Data Analysis

## Quantitative data analysis:

- Descriptive, Bivariate & multivariate analysis;
  - Chi square and fisher exact test
  - Variables with p-value  $\leq 0.2$  at bivariate were **conditioned to backward logistics regression**
  - **Factors** with p-value  $\leq 0.05$  their adjusted Risk Ratios (aRR), 95% Confidence Intervals (CI) were considered significant
    - Used Epi info version 7.2 and SPSS version 26

## Qualitative data analysis:

- Transcribed & manually categorize key themes and subthemes
  - Verbatims for key quotes

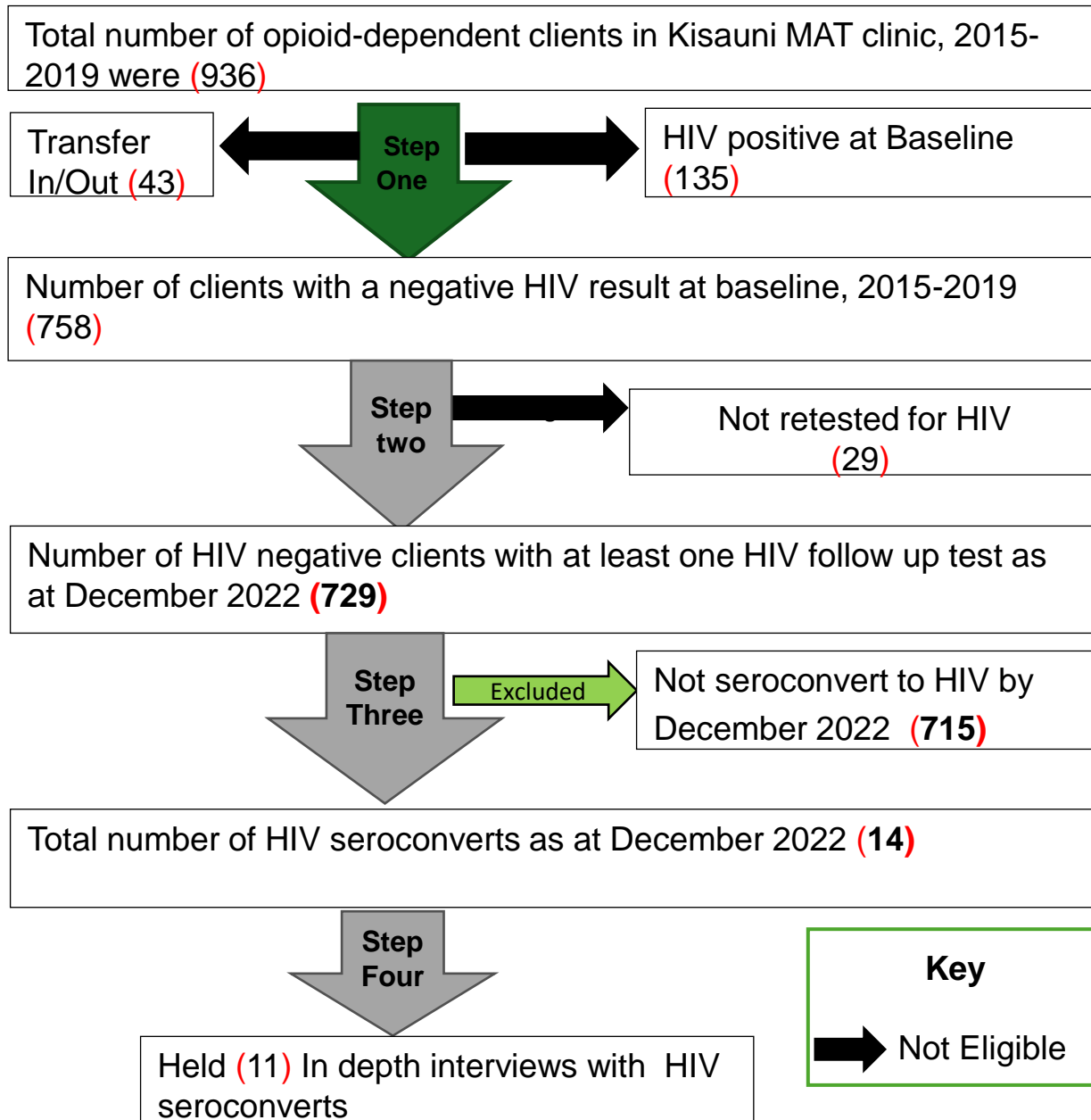
# Ethical consideration

- Moi University's (IREC)
  - approval number FAN 004249
- NACOSTI
  - license number 667810
- Mombasa County Ethics Approval :
  - reference number COH/MSA/RSC/2022/(34)
- Sought consent, No personal identifiers used



# Results

- Total records reviewed 936
- Eligible records were **729**
- Female were **8.6%**(63/729)
- Injectors were **36.9%**(269/729)



**Figure 4: A flow diagram on the results of the study**

## Low HIV seroconversion compared to active drug users (3.8/100 PY) in Kisauni MAT clinic

- Total follow up time 3386.9 person years
- HIV seroconverts were 14(1.9%)
- Overall HIV seroconversion rate 0.4/100 person years
  - Injectors seroconverted at 0.4/100 (95% CI:0.2–1.0) PY
  - Non injectors were at 0.4/100 (95% CI:0.2–0.8) PY
    - Injectors seroconversion rate ratio of 1.1 (95%CI:0.3–3.7)

# Six folds High HIV seroconversion among female OUD in Kisauni MAT clinic, 2015-2022

Female seroconverted at **1.9/100** (95% CI:0.7–4.2) PY



Male seroconverted at **0.3/100** (95% CI:0.1–0.5) PY



**Table 2: Female and positive HCV results were independently associated with HIV seroconversion for MMT clients in Kisauni MAT clinic, 2015-2022**

Variables	HIV Seroconversion Yes	No	Crude Risk Ratio (cRR)	P-Value	Adjusted Risk Ratio (aRR)	P-value
<b>Gender</b>						
Female	6	57	7.92(2.84,22.13)	<0.001	8.01(2.64,24.3)	<0.01
<b>History of Defaulting to MAT</b>						
Yes	7	133	4.21(1.50,11.81)	0.003	1.71(0.47,6.31)	0.41
<b>Condom Use in last 30 days</b>						
Yes	5	484	0.27(0.09,0.89)	0.01	0.26(0.09,0.8)	0.02
<b>Living with a sexual partner</b>						
Yes	2	267	0.29(0.006,1.26)	0.08	0.37(0.06,1.76)	0.21
<b>Hepatitis C</b>						
Positive	3	75	2.27(0.65,7.98)	0.19	3.66(1.08,12.4)	0.04

**Table 5: Facilitators and barriers on ART and methadone concurrent use among opioid clients enrolled in Kisauni MAT clinic, 2015-2022**

Theme	Sub-theme	Key quotes
Facilitators of ART and MMT adherence	Religious Practices and Healthcare fulfilments	<i>I am not worried about missing my methadone dose during Ramadhan when fasting...the clinic provides methadone in the evening for those who fast."</i>
	Patient Well-being and Support	<i>"I can get treated here for free... if they miss any drug, I can buy or they get them from a nearby facility."</i>
	Family support	<i>"My wife.....is very supportive and reminds me about my drug."</i>
Barriers to ART and MMT adherence	Stigma	<i>"initially, I used to feel so low after I heard people were talking about my HIV status behind my back"</i>
	Transport costs, work restrictions	<i>"it's a big challenge for me to balance the two when you compare the distance from home to MAT and MAT to work....sometimes I miss my dose because of work."</i>
	Side effects during the initial period of ART use	<i>"I felt seek after I was told to use methadone, HCV drugs and HIV drugs. The drugs were too much for me."</i>

# Conclusion

- Our findings suggest that
  - Low HIV seroconversion rate when on MMT
  - No difference HIV seroconversion for drug injectors and non-injectors on MMT
    - Similar routes of HIV acquisition
- Hepatitis C positive test was an independent predictor
- Vulnerability of female in MMT Despite being few females
- Micro and macro social; regulations, psychological and environmental risk factors impacted treatment adherence

# Recommendations

- Scale up the implementation of MMT and enrollment of both injectors and non injecting PWOUD
- Closely monitoring Hepatitis C positive clients for HIV risky behaviors
- Provision of female centered clinic
- Address social, environmental and regulations factors to improve concurrent adherence

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# Operational definitions

Term	Definition
<b>Defaulter</b>	Was defined as any Medically Assisted Therapy (MAT) client who had missed a daily methadone dose for more than 14 consecutive days
<b>Duration of Follow Up</b>	The time between the Medically Assisted Therapy (MAT) enrolment date and the date when the client seroconverted to HIV or the end of the study period, or the date when the client had died or Lost To Follow Up (LFTU) or weaned off
<b>HIV Seroconversion</b>	Any HIV-negative Medically Assisted Therapy (MAT) client at enrolment who turned positive during a follow-up test
<b>Lost To Follow-Up (LTFU)</b>	Any Medically Assisted Therapy (MAT) client who had missed a daily methadone dose for 30 consecutive days
<b>Medically Assisted Therapy(MAT)</b>	Is the use of an approved drug, in blend with counselling and behavioural therapies, to provide a 'whole patient approach' to treating substance use disorder