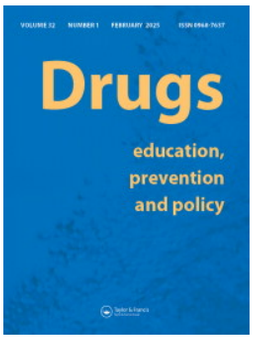

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'I can change my life': perceptions and experiences of people who use drugs engaging in medically assisted therapy in Kiambu County, Kenya

Doris Burtscher[a], Winnie Riitho[b], Morris Kariuki[b], Angela Thiong'o[b], Tolbert Ayuaya[b], Bernhard Kerschberger[a], Edi Atte[b], Jesse Verschuere[c], Livia Tampellini[c], Umberto Pellecchia[d], Lucy O'Connell[e], Tom Ellman[e], Barrett Levine[c], Janet Ngethe[f] and Annick Antierens[c]

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ABSTRACT

Introduction: The Médecins Sans Frontières (MSF) Kiambu People Who Use Drugs (PWUD) project, which started in September 2019, had enrolled 590 PWUD in its Medically Assisted Therapy (MAT) program by April 2022. This project provides a one-stop-shop model, offering a comprehensive range of medical and psychosocial services. This study aimed to explore how PWUD navigate from heroin use to MAT enrolment.

Methods: The study involved individual, paired and group interviews conducted between August and October 2022. Purposive sampling was applied. Interviews were recorded, transcribed, coded with NVivo and analysed using reflexive thematic analysis. Methodological triangulation enhanced interpretation.

Results: PWUD faced various challenges to engage in the MAT program. Replacing heroin with MAT, the 'medicine,' was insufficient to ensure meaningful recovery. Engaging in MAT required personal motivation to exit the hotspots that their lives revolve around. Main barriers were coping with changed lifestyles and behavioural patterns, and the need to develop new perspectives on dealing with 'idleness.'

Conclusion: The study revealed the complex realities PWUD are confronted with when trying to engage in MAT. MAT programs need to address medical, psychosocial, employment and other structural factors while supporting people to restore their broken social conditions.

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Introduction

Increasing availability of heroin, cocaine, and methamphetamine especially in urban areas has compounded the burden of drug use in Africa (Syvertsen et al., 2015). In addition, the increased use of these drugs has resulted in devastating health effects, and social and economic dysfunction (NACADA, 2021).

In Kenya, an estimated 26,673 people use drugs (PWUD) in 2021 (NASCOP, 2021a). Heroin has become the second most widely used narcotic drug in Kenya, after cannabis (NACADA, 2021). The increased availability of 'white heroin' powder resulted in a rise in heroin injection since the late-1990s supplanting the previously prevalent 'brown heroin' (Beckerleg et al., 2005; NASCOP, 2013). Subsequently, the drug market also shifted in the late-1990s when 'brown sugar' heroin was replaced by 'white crest' heroin, which users in Kenya believed to be from Thailand (Beckerleg et al., 2005). Injecting drug use carries a high risk of HIV infection and one study showed an HIV prevalence of 18.7% in this group compared to 4.6% in the general population in Kenya (NASCOP, 2014a, 2014b). In response to the growing burden of HIV among people who inject drugs in 2010/2011, the Ministry of Health endorsed a comprehensive harm reduction approach for PWUD in the national HIV strategy in 2013 (Mital et al., 2016; NASCOP, 2013). It included harm reduction interventions for opioid dependence (NACC & NASCOP, 2012), primarily consisting of HIV testing and treatment, needle/syringe exchange programs, and Medically Assisted Treatment (MAT) with methadone (Ayon et al., 2019; NASCOP, 2013; Wambugu, 2020; WHO, 2009). Drug use is criminalized, and carrying of drug injection paraphernalia is considered illegal, thus adding to stigma and exclusion for PWUD as well as increasing difficulties in accessing necessary services. The first MAT program in Kenya was started in December 2014 in Nairobi and less than 1% of people who inject heroin accessed this therapy (Wambugu, 2020). By 2021, there were nine other MAT clinics in the country offering services to PWUD. MAT is a component of a comprehensive approach of harm reduction to address illicit drug use and is endorsed as a best practice by the World Health Organization (WHO) (Ministry of Health, 2017). MAT aims to reduce harms associated with illegal use of opioids including

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heroin by providing a legal controlled supply of substitute opioids such as methadone and buprenorphine. Methadone and buprenorphine, although opioids themselves, have similar effects with significantly reduced harms. They ease withdrawals and cravings, thereby possibly reducing HIV transmission and other negative outcomes linked with illicit drug practices (Hannah Fraser et al., 2021; H. Fraser et al., 2021; Ludwig-Barron et al., 2021; Ministry of Health, 2017; Rhodes et al., 2015). Despite an expansion of MAT care, little is known about the perceptions, experiences, and behaviours of PWUDs towards MAT. Over the years, engagement with harm reduction services has often been challenging for PWUD as it requires them to register at MAT clinics and attend daily for medication, potentially increasing their exposure to stigma, discrimination, and criminalization. Consequently, MAT programs have reported suboptimal retention rates (NASCOP, 2013). In 2019, MSF began supporting harm reduction and MAT for PWUD in Kiambu County, a wealthier area compared to others in Kenya, which ranks among the top five counties with the highest numbers of PWUD due to its relative affluence and its proximity to Nairobi. The aim of this qualitative study was to increase understanding of the challenges PWUD face in enrolling and maintaining in MAT care in Kiambu County, therefore informing the future strategy for improved programmatic reach and retention, and increased appropriateness of MAT services from the users' perspectives.

Methods

Context

The Médecins Sans Frontières (MSF) Kiambu project is an integrated medical care project for PWUD in Kiambu County. It started in 2019 at the Karuri Level 4 hospital and by end of September 2023, 909 PWUD had been enrolled in the program. By that time, the retention which is calculated monthly was 72.3%. The project offers a one-stop-shop model of care where PWUD eligible for the MAT program have access to a comprehensive package of medical, psychological and social care. It includes opioid substitution therapy (OST) for PWUD, general outpatient care, sexual and reproductive health services, mental health and psychosocial services, nutritional support and management of malnutrition, pharmacy and laboratory services. The overall approach of MSF's intervention included peer education/work for PWUD and community engagement. The MAT clinic is operated in collaboration with the National AIDS and STIs Control Program (NASCOP), Kiambu County Government, Kenya Prison Services and LVCT-Health.[1] To further increase access to services for PWUD, MSF opened two decentralised sites in Ruiru and Thika Prisons in May 2022 and July 2023 respectively. These decentralized sites operate independently from the MAT clinic, reducing travel barriers and improving access to care for PWUD, making it easier to receive the necessary services within their community. Both sites offer the same integrated model of care for PWUD in addition to the other essential services accessible by both PWUD and the general population. This integrated and decentralized approach is viewed as a more accessible and sustainable model of care as compared to a standalone centralised MAT clinic. However, the study by Guise et al. supports an approach that encourages continued integration of services whilst allowing for differentiation of these models to adapt to client preferences. Co-location of integrated services must prioritize clinic organization that prevents HIV status disclosure (A. Guise et al., 2019).

The MAT clinic collaborates with the Civil Society Organisation LVCT for referral of patients. LVCT is mandated by the National AIDS/STD Control Programme (NASCOP) to conduct outreach services to the dens and hotspots where PWUD frequent, provide clean needles and syringes, and identify and refer MAT-eligible PWUD to the MAT clinic. Before referral, eligible PWUD undergo a preparation session at LVCT detailing the process and expectations of the MAT program. They are then escorted by a peer worker or outreach worker to the clinic. Eligibility for enrolment is PWUD with Opioid dependency including heroin and other prescription opioids, and their willingness to access MAT care. At the MAT clinic, they initiate Opioid substitution therapy (OST) based on their drug use history. Those with a long drug use history and injecting and/or smoking usually start with methadone which is more effective for individuals with severe opioid dependence due to its full agonist properties, which can help manage cravings and withdrawal symptoms more robustly. The dose can also be adjusted more easily to meet individual needs because it has a longer half-life. Those with a shorter drug use history, usually smokers, are initiated on buprenorphine, which is effective at reducing cravings and withdrawal symptoms with a lower risk of overdose and easier to wean off. The dose is initiated low and titrated upwards gradually until the patient is no longer experiencing withdrawals or cravings. Methadone is taken daily and buprenorphine every 48 to 72 hours. The longer a patient remains adherent on treatment, the lower the chances of relapse as supported by several studies (Buresh et al., 2021; Kreek et al., 2010; Mattick et al., 2014). This adherence is crucial for effective long-term management, and therapy can be lifelong. Social reintegration is also considered key to recovery and returning to a productive and fulfilling life as defined by Substance Abuse and Mental Health Services Administration (SAMHSA) in their guiding principles of recovery (U.S. Department of Health and Human Services XXXX). Recovery is understood in a holistic sense, encompassing cessation of heroin use, engagement in MAT, and improvements in health and social well-being. Therefore, mental health and psychosocial follow-up support is also provided during therapy. Once the patient is stable and wishes to stop OST, the dose is titrated downwards gradually until they are at a dose where they are no longer experiencing withdrawals or cravings and can finally stop the OST. Before the wean off process is commenced, the MAT team assesses if the patient is stable clinically, not concomitantly using heroin together with OST and is already socially reintegrated, as these factors are paramount in ensuring that the patient is ready to be weaned off OST. After cessation, patients are followed up monthly, then every six months. During this period, patients can still access psychosocial care in the MAT clinic or even other medical services when needed and they are also encouraged to join the group therapies in the MAT clinic to aid in their recovery journey and prevent relapse. As part of the support to empower

the PWUD in recovery and those weaned off, MSF supported the creation of a patient led Community based organisation (CBO) with a view of providing a harm reduction package of care at community level once autonomous.

Study design

A qualitative research design was used to gain multiple perspectives (active PWUD, MAT patients, PWUD peer worker, Ministry of Health (MoH), MSF and LVCT staff) on the complex factors of the daily lives of active heroin users (Pope & Mays, 2006) between August and October 2022. The methods used for data collection were face-to-face in-depth interviews (IDIs), informal observations, paired interviews, and focus group discussions (FGDs). A methodological triangulation of findings was undertaken to enhance the interpretation of data, in-depth individual interviews were combined with focus group discussions, informal observations, and a literature review (Patton, 2002). The choice of methodology encouraged rich text and reflective narratives from the main participants to answer the research question.

Selection and recruitment of study participants

Purposive sampling was applied for the interviews with PWUD linked to hotpots where they buy or smoke heroin, individuals enrolled in the MAT program, PWUD peer workers from LVCT and MSF, and healthcare workers. This sampling approach allowed us to select individuals who were most likely to provide valuable and relevant information for the study. The sample size was not determined in advance as we followed the information saturation principle (Green & Thorogood, 2018). In total, 61 interviews were completed comprising 39 IDIs, seven paired interviews and 15 FGDs. Twelve interviews were performed with PWUD linked to hotspots, 13 with active MAT patients, eight with MAT patients who have disengaged, two with persons who had weaned-off with the MAT program, and two with buprenorphine patients; twelve other patients using buprenorphine were asked in a small survey about their experience and perception of buprenorphine. Nine interviews were done with healthcare staff (MSF/MoH/LVCT) and 15 with PWUD peer workers. In total, 232 people participated in 61 interviews.

Observations were part of every encounter with PWUDs, peer workers, MAT patients during the interviews, or in the open space at either the Karuri clinic or Ruiru Decentralized Fixed Dispensing and Ruaka Drop-In Centre. An informal observation approach was applied meaning that the observer was 'passive, a participant observer.' These observations were conducted in a non-structured manner, focusing on capturing spontaneous and naturally occurring behaviours and interactions without a formalized observational framework.

PWUD were approached and selected with the help of LVCT-and MSF PWUD peers, who were trusted by them. The various groups of PWUDs were interviewed in separate FGDs that were formed according to their belonging to a specific hotspot. Mappings of hotspots and the number of PWUD in the sub-counties had been performed by LVCT prior to this study at project level, thus facilitating the selection and frequency of sites visited. MAT patients were approached at the clinic with the help of peers and asked about their availability for an interview and their preference for being interviewed alone or in pairs. Some came for their methadone dose with a partner or friend. Healthcare workers were selected directly at the clinic by personally asking if they had the time and interest to participate in an interview. Additionally, some healthcare providers volunteered their interest and availability.

Any person or group that was interviewed was informed and asked beforehand for consent to participate in the interview and had the choice of location for the interview.

The primary investigator supported by a local study assistant and a PWUD peer worker of the chosen area, hot-spot or *den*[2] approached potential participants, introduced themselves, explained in detail the purpose and the aim of the study and asked potential study participants about their willingness to participate in an IDI and/or FGD.

PWUD inclusion into the study followed their own will, availability, and informed decision to participate within a given period for enrolment. We assured potential participants to respect confidentiality, and that non-participation was not to impact their future access, care and treatment provision, or work in the case of healthcare staff. Interviews with PWUD were conducted directly in the hotspots when deemed appropriate by the PWUD themselves; other interviews were conducted in a rented location near the hotspot. Conversations with MAT patients took place at the clinic during their visits for MAT, as did the interviews with healthcare workers. PWUD peer workers were interviewed either near the hotspot where they were assigned to work or at the clinic, depending on their preferences. The study team encountered slight difficulty in engaging active PWUD because many potential participants were unsure of the benefits of participation in the study and were hesitant to engage with the peer workers. Many, active PWUD look for money in the morning through touting at the bus stations or collecting scrap metals; staying an hour or more for an interview was a loss of time and income for them. However, the peer workers did manage to explain and encourage their peer PWUD to participate in IDIs and FGDs. As a result, we were able to talk to a total of 232 individuals. On two occasions, PWUD participants who were not on MAT expressed withdrawal symptoms, both verbally and physically, and requested to complete the interview as soon as possible. In other instances, some participants requested compensation in the form of heroin for the time they spent in the interview. To address this issue, the study team explained that providing heroin as compensation would be ethically inappropriate and contrary to the principles of harm reduction, which aim to minimize the negative impacts of drug use. The team offered non-drug incentives such as bread and milk, aligning with our commitment to support the health and well-being of PWUD without contributing to potential harm.

Data management and analysis

All data obtained through interviews were anonymised and stored on password-protected computers, without the inclusion of personal identifiers such as names, address, phone

number or any other variable that can lead to identification of the participant (Richards & Schwartz, 2002).

The analysis and interpretation of data was drawn on social and structural factors as the key determinants for the challenges in enrolling and maintaining participants in a MAT program. The role of social networks (peers, friends, family), stigma, peer influence, and community support (or non-support) affecting participants' readiness and ability to enrol and stay in the program were considered for social factors. For structural factors the availability of MAT, geographical accessibility (distance to reach the clinic for MAT and availability of transportation), and healthcare infrastructure on participant engagement were included.

Data analysis was conducted by the primary investigator using NVivo©11 qualitative data analysis software. All interview transcripts were imported into NVivo after translation and transcription, where they were then coded. A coding framework was developed based on themes emerging during the interviews, as well as themes pre-identified by the study team. Emergent categories and themes were identified based on meticulous and systematic reading and coding of the transcripts. Codes and sub-codes were refined during the analysis. Data coding and analysis began whilst data collection was ongoing, to allow for the refining of questions and the in-depth exploration of certain themes if required. Codes and themes were discussed with the study assistant for accuracy and quality assurance. The analysis involved a reflexive thematic analysis by Braun and Clarke (Braun & Clarke, 2019). The transcripts were screened for relevant information, organised, coded, categorised, and interpreted. A category (label) was attached to the statements to structure the data. The content was analysed in two ways, one was free of interpretation, while the other was focused on interpreting what was meant by it (Hancock, 2002).

Continuous reflection on data was part of the creative process of analysis and necessary for contextualising and linking of findings with theory. To adhere to principles of good practice the research process was clearly described in the study report (Burtscher, 2022). Credibility and richness of the qualitative research context are ensured by presenting a 'thick' description (Geertz, 1973) and by also presenting deviant cases if they occur.

A methodological triangulation was applied. The content and emerging themes of the individual IDIs were combined with FGDs, observations, and a literature review (Brikci, 2007). Various data types (IDIs, FGDs, and observations) that were used for triangulation were harmonized by coherent translation, transcription, and coding, and therefore integrated into a cohesive analysis.

Ethical approval

The study protocol was approved by the MSF Ethics Review Board (ID 2251) and the Kenya Medical Research Institute's (KEMRI's) Scientific and Ethics Review Unit (SERU) in Nairobi (ID SERU 4490).

Results

Study participants

The study population included diverse groups of respondents (Table 1) characterized by gender, years of drug use, method of drug intake, hot spots of drug use and location[3], and type of enrolment to the MAT program. The individuals approached comprised PWUD not yet enrolled into MAT, MAT patients, PWUD peer workers of LVCT and MSF, and healthcare professionals (MoH, MSF and LVCT).

Table 1. Characteristics of study participants.

	Total (n = 232)	%
Sex		
Men	201	87%
Women	31	13%
Age groups, years		
18–24	56	24%
25–34	97	42%
35–44	49	21%
≥45	11	5%
N/A	19	8%
Background		
Active heroin users	103	44%
MAT methadone	46	20%
MAT buprenorphine	14	7%
MAT/disengaged	22	9%
MAT weaned off	4	2%
PWUD peer workers of MSF and LVCT	29	12%
Healthcare workers	13	6%
Duration of using heroin, years		
0–3	56	24%
4–6	49	21%
7–9	40	17%
10–15	36	16%
16–20	11	5%
N/A and NA (because weaned off)	40	17%
Mode of heroin use		
Smoking	141	61%
Smoking and injecting	42	18%
Injecting	8	3%
Sniffing	3	1%
Injecting and sniffing	4	2%
N/A or NA	34	15%
Highest education		
No school	2	1%
Primary school	68	29%
Secondary school	120	52%
University/college	27	12%
N/A	16	6%

N/A, no answer; NA, not applicable.

Four main themes evolved when exploring perceptions and experiences of the journey from the *den* and the 'old life' with heroin use to the 'new life' in MAT. These themes were (1) leaving the 'old life'; (2) engaging in MAT; (3) life on MAT and (4) maintaining the 'new life' in MAT.

Leaving the 'old life': 'sick of being sick'

Interview participants, both PWUDs and MAT patients, described that quitting heroin is a daunting task. They spoke of growing tired of the lifestyle they had been living and expressed a desire to break free from their addiction, saying 'we are sick of being sick.' Many had disappointed their families, and if they were married, their relationships had broken down. Moreover, PWUD reported that they neglected their children, as most of their money went towards buying drugs. Reflecting on those experiences, PWUD often expressed regret about starting to use heroin, recognizing the losses they suffered as a result. Most PWUD and MAT patients wished they could start over and rebuild their lives.

'When the landlord threw my things out and locked me out of my house, I went and sold all my possessions and now I got deep into drug use. That's when now I started sleeping outside, I stopped my job because my motorbike had been claimed by the loan collectors and I saw like my life was now coming to an end. I could no longer look after my family and there was nothing else I was doing, except looking for money to buy the drugs. I even got dirty and smelly because I wasn't bathing and lived like a *chokoraa* [streetboy]. There came a friend of mine who had started MAT before me, and he told me that I had to stop the heroin and change and that I could do so if I joined MAT.' male MAT patient, 26y

Another trigger to stop heroin was when active PWUD met a friend with whom they had used heroin together or a peer worker, who was now 'clean' and had a better life. Such an encounter encouraged them to also try to stop using heroin. However, stopping heroin and starting MAT was worrying as replacing heroin with methadone or buprenorphine did not seem easy and it was not merely a medical and physical question. Respondents emphasized that it had to be tackled in a holistic way by including psycho-social, economic, financial and personal characteristics, to be able to create a supportive environment. Others referred to the 'old life' in the *den* and said that leaving an 'old love' is difficult despite the 'toxic' relationship. Many PWUD feared the 'unknown' and said that 'staying with the known' felt more comfortable. Starting MAT meant leaving the *den*, which had become their 'home' their friends and family. They had to engage in a new lifestyle and end ties with their social network, thus refraining from accustomed conduct and behaviours.

'They [PWUD] try to figure out where they can go and stay, they try to figure out the friends that they have. They see if they go and stay with the friends who they weren't communicating so much with when they were back in the den, there won't be any constructive conversations. As a result, they think of going back to the friends they used to smoke with in search of comfort, of which it doesn't work.' male PWUD peer worker, 28y

Respondents also emphasized that quitting heroin needs motivation and readiness. Many MAT patients insisted that 'the mind has to be ready,' and it is the person who is the one who has to be 'determined' to be able to stop using heroin and start MAT.

'What I can say is that the decision to stop comes from inside someone's heart. If you haven't decided to completely change, you will still find yourself going back to the drugs, but if you have decided to stop using heroin, you can continue with life.' male PWUD peer worker, 40y

As described earlier, many active PWUD are motivated by the example and inspiration of other people like partners, friends or a relative who were PWUD; they encounter them and see the changes they were able to bring to their lives with MAT.

'I want to live a good life basically because that cannot happen with heroin. I wouldn't want my family and me to live a life filled with problems that can be avoided. In a few years to come, I would like us to have achieved something better than what we have now. I have also witnessed the change in people that come to MAT and I know that we can change too. So, that motivates me a lot.' male MAT patient, 25y

Others have experienced traumatic events and hardship and want to change their lives for better.

'Yes, that's the point [when two PWUD were beaten to death]. Because now I had to introspect myself and try to figure out what I can do after what had happened. At the same time this is when the peer worker came through and gave me the idea about the MAT clinic and I found it exciting.' male PWUD peer worker, 28y

One healthcare worker, experienced in working with PWUD, insisted that most women who start MAT are more determined than men and it would be easier for them to maintain in MAT. Two female MAT patients explain their motivation to start MAT:

'My youngest child has been a great source of encouragement and has really pushed me to finally quit heroin since she has always been telling me that I should leave that thing that I have always been smoking [heroin].' female PWUD peer worker, 32y

'Why I would like to go for MAT is so that I can change and transform my life. You might even find that I have another unplanned pregnancy and that is not okay. So, I would like to join MAT and leave the stuff.' FGD active PWUD, female participant

Engaging in MAT: 'fear of experiencing withdrawal symptoms'

For many PWUD, the preparation phase to engage in MAT was challenging regarding their readiness, determination and the time spent at the clinic. The fear of experiencing withdrawal symptoms was prevalent and prevented people from starting the process: from the first methadone or buprenorphine dose, over the monitoring period for withdrawal symptoms until they were adjusted to the right dose.

'Through all that process, the travelling and waiting to be processed, the PWUD will have had intense *arosto* [withdrawal], but if the clinic was nearby then the PWUD will reason out and see that since the clinic is not that far away and they will not spend much time, they can hold off the *arosto* until they get processed and finally receive the methadone. You see even when we are having classes here at the LVCT, the PWUD are always asking, 'are we spending much time here?.' The distance and time spent is the problem, the PWUD sees it as a real burden.' male PWUD peer worker, 27y

'My greatest problem with leaving heroin was the withdrawals because I knew they would last for days, not hours. If the withdrawals only lasted for hours, that could have been a different case. But I could not sleep, even when I was in the rehab facility I didn't sleep, I only closed my eyes for five minutes and then I was up.' male PWUD peer worker, 40y

Respondents expressed quite differing views and opinions regarding MAT. Perceptions ranged from viewing methadone as a drug like heroin, some MAT patients said it would be stronger than heroin whereas some compared it to heroin because they would still experience withdrawal symptoms when they did not take it.

'They think that methadone is a drug. Do you know why people say that methadone is a drug? It's because when someone used to take heroin takes methadone, they "feel" a high that lasts longer than that of heroin.' male PWUD, 38y

Others said that one would even get a greater addiction with methadone. A remarkable perception by active PWUD was that methadone had to be taken alone by the person while heroin can be shared with others. Two particularly interesting perceptions arose during the interviews. Firstly, MAT patients referred to methadone as 'budget' or 'to be high on another money,' alluding to the fact that they received methadone for free. Secondly, some referred to MAT as 'the heroin from the government.' This perception came from their observation that the methadone was delivered to the clinic with armed guards.

Life on MAT: 'it's a lack of hope'

This topic relates to the challenges MAT patients face when they talk about their experiences with retention and maintaining in the MAT program. It is largely influenced by community perception and acceptance, family reintegration, occupational opportunities and income generating activities. In a FGD with active PWUD those challenges were discussed:

> 'I would wish for you to consider our lives after MAT. I know for now you are considering our lives in MAT but consider also how we can be reintegrated back into the world. I know the sensitization process is tough, but we need also the community at large to know that we exist and how to help us.' FGD PWUD

It highlights the question of leaving the accustomed social environment and is closely related to the notion of belonging. Those who have successfully transitioned from a life as an active PWUD to being a stable MAT patient with family reintegration and support have a different perspective. However, here mainly the voices of those who continue to struggle with their lives are presented.

> 'Sometimes you start MAT, but you don't have anywhere to go afterwards, so you end up going to hang around your friends and when they are smoking marijuana, you find yourself smoking too as you keep each other company. It's because you are not busy or committed to something, you find yourself idling with your friends since everyone else seems like they hate you.' FGD MAT patients

> 'Like most of them say, it's a lack of hope, even after MAT because, it is not automatic that you will get a job, you know. So, I think that is what bothers most of them. How will we be able to make a living which is not criminal, you know, which is not antisocial? That is, I think, a big question, almost everybody who is in MAT and not yet working, wonders what will happen next. They wish, they hope for something better.' female MAT patient, 62y

A healthcare worker emphasized the importance of leaving one's old environment and starting a 'new healthy life' with different behavioural patterns.

> 'We are telling them [PWUD] that we want them to stop heroin and start MAT. Fine, they then start MAT, then what? They are still going back to those *dens*, what makes you think they won't relapse? Even for the homeless people, so I think the only gap we have is that lack of an exit plan, a proper exit plan.' female healthcare worker, 37y

This healthcare worker further expanded on the theme and insisted that the emotional life of the patients should be equally addressed like the heroin addiction is treated with methadone or buprenorphine. One MAT patient said, 'they need to be taken by their hand.' Another healthcare worker referred to the importance of emotional and social support saying that addiction was not a 'one man show.'

> 'It has to be a multi-faceted approach where clients are involved, the clinic and family members too are involved as well as the community.' female healthcare worker, 51y

Maintaining, the 'new life' on MAT: 'your friends are still the same'

The main challenges people face to maintain in their MAT, include distance to the MAT clinic and daily transport fees. Second, lack of occupation and joblessness, and third, homelessness. The MAT program was criticized for focusing only on medication and not on providing opportunities to find jobs and access shelter for the homeless. On a positive note, MAT patients and MAT defaulters reported a change in their behavioural patterns, as they no longer want to engage in petty crimes.

> 'When you go to MAT, you go to change, and in the process of changing you become idle because of the areas you were used to going to, you now avoid them because the only thing that made you steal is the *arosto* [withdrawal]. And now because you don't have *arosto* you cannot risk yourself anymore, so you try and find genuine work.' FGD active PWUD and MAT defaulters

Other positive outcomes that encouraged MAT patients to continue with the treatment were related to getting support from *Matatu* [minibus] drivers who gave them free lifts to go to the MAT clinic. PWUD peer workers recounted that they receive support for transport expenses from a family member and other MAT patients said they moved closer to the clinic to be able to go for their daily dose and others again stated that they come by foot every day as transport fare is not affordable. Support in general from family members or other 'treatment supporters' was paramount to maintain in MAT, as acknowledged by one PWUD peer worker:

> 'It is easy to retain someone who has support from the family on medication than someone who didn't have support. Because given that maybe, one was homeless and we enrolled them for methadone, they'll still come back and stay at the *den* and it's easy for them to relapse.' male PWUD peer worker, 41y

The other major challenge for MAT patients was maintaining a job, earning money or finding purpose through an occupation. Interview participants often talked about 'idleness,' which was closely linked to 'joblessness.' 'Idleness' was frequently cited as a reason for returning to the *den*, reconnecting with old friends, engaging in cross-addiction, and subsequently disengaging from MAT. In a focus group discussion with active PWUD they expressed their worries:

> 'These people who want to help us should give us not only the methadone but also the capital for a job so I can feed my family. Don't give me drug but there is no job. You only give me the drug, drug, drug. I don't need to take that. I went back to the *den* to take heroin so that I am also able to steal to feed myself and my family.' FGD active PWUD

'Those on MAT are our friends, and since they don't have any other friends out there, they will come to the *den* to look for some company. As they hung around while we are smoking [heroin], they will obviously get tempted to take a few puffs. So, as days go by, they might find that they have relapsed and abandoned the MAT and have come back to using heroin, all because of the company they are keeping.' FGD, PWUD.

One healthcare worker recounted what one of her clients told her about how his life on heroin was better than going for MAT:

> 'There are some things that PWUD miss. First, they miss the company. It's company they have lived with for five, ten years. The moment they stop using the drugs they feel like they are all alone. The other thing he [the client] was saying about the basic needs, he said that when you are in those *dens*, even if you don't manage to steal something, your friend will get something, and he/she will share. He was saying the friends those who use drugs are very generous compared to the other population.' female healthcare worker, 39y

While some of the MAT patients managed to engage in informal income activities it was rarely enough to make a decent living:

> 'Once we have taken our Methadone dose, we pick up our sacks and go look for scrap metal which we then sell to the recyclers and dealers. We earn enough to get us through the day but not enough to rent a house and other requirement.' male MAT patient, 27y

This case example from the healthcare worker matches what a disengaged MAT patient was referring to when he said that he is better off when using heroin.

> 'I'd better use heroin because when I wake up at 3 AM and get money, I can smoke, feel good, and continue with my work during the day. But now going to Karuri [MAT clinic] and coming back, that's a lot of time wasted. If methadone was maybe nearer, I would opt to continue taking it.' male MAT defaulter, 52y

Discussion

This study reflects on challenges PWUD are confronted with when engaging in MAT in Kiambu county. Although extensive research has addressed various topics related to PWUD in Kenya's coastal region and Nairobi (Ayon et al., 2018, 2019; Bazzi et al., 2019; Beckerleg et al., 2005; Andy Guise et al., 2015; Mburu et al., 2018, 2019a; Mwangi et al., 2019; Syvertsen et al., 2015, 2019) harm reduction initiatives are widely unexplored for this area. We examined the social and structural factors as key determinants for the challenge in enrolling and maintaining participants in a MAT program. As reported in other studies, a combination of factors (e.g. continued social exclusion, stigmatisation, financial hardship, lack of job opportunities) contributed to low adoption or difficulties to stay in MAT (Anoma, 2018; Hassan et al., 2019; Kageha Igonya et al., 2021; Mburu et al., 2019b; Rhodes et al., 2015; Ruiseñor-Escudero et al., 2015). Our findings further reflected on how the social environment could support an individual in the journey to and staying in MAT, exploring how best a person can be accompanied during the process of involvement and enrolment in MAT and consequently staying in MAT (Ndimbii et al., 2021).

Findings in context

Study findings suggest that navigating the transition from heroin use and the 'old life' to being in a MAT program and engaging in a 'new life' was accompanied by numerous difficulties. Leaving the 'old life' in the hotspots and *dens* meant leaving families, friends, homes, and belonging hence all the social relationships and foundations linked to their life in the *den*. A person had to separate from individuals they could rely on, share, exchange and live common experiences. Leaving this life, even full of hardship, meant approaching the unknown and facing an uncertain future. PWUD might have expectations and hopes for the future that may be unrealistic due to social exclusion, marginalisation and stigmatisation accompanied by feelings of fear and stress. At the same time, there were various motivating factors that encouraged PWUD to participate in a MAT programme. PWUD were tired of the life they live, confronted with constant ill-health conditions (related to heroin use and withdrawal symptoms), broken social relations, and the constant struggle for money generation and petty crimes going along with it. Encountering, 'seeing' and talking with others who managed to stop using heroin and engaging in MAT was a motivation for many PWUD to leave their past lives on heroin use. Reflections on their social and personal hardship, they went through, and an increasing level of tiredness of 'being sick' helped them to make up their mind and consider an engagement in medically assisted therapy.

However, even if one's mind was ready, engaging in MAT was accompanied by misconceptions and anxieties regarding the medication and the MAT program as also documented in the literature (Childs et al., 2021; Hobden & Cunningham, 2006; Laswai, 2017). The fear of experiencing withdrawal symptoms resulting from medication adjustment in the initial phases of therapy was a prevailing topic emerging and as described in other studies (Earnshaw et al., 2013; Kageha Igonya et al., 2021; Laswai, 2017; Masese et al., 2022). Peer-led activities form one part of the project, but the need for a 'health navigator' system with a one-to-one buddy for each newly enrolled MAT patient emerged as the most pressing need for PWUD support at the beginning and throughout the MAT implementation and adjustment phase.

Our findings are consistent with other studies reporting on the importance of social support systems for MAT patients (Earnshaw et al., 2013; Ezard, 2001; Laswai, 2017; Ratliff et al., 2013). Social support and acceptance by family, friends and the community as a whole are central for a positive life on MAT. Our study results showed that life on MAT was coming with a lack of hope for the future as many MAT patients struggled finding new friends, being reintegrated into their families and missed this feeling of belonging when living in the hotspots with their peers. The new life on MAT did not mirror the positive life that was expected, turning many patients to relapse and going back to their 'old' friends from

the hotspots, restarting with heroin use and other substance abuse.

Barriers to maintaining in MAT were structural challenges including the economic hardship related to the distance and transportation costs to the MAT clinic. Going along with these financial burdens were the questions of homelessness, joblessness and idleness. Financial support for transport, occupational and income generating opportunities were important features for MAT patients to support them in staying in the program.

The MAT program was criticized for focusing mainly on medication and not on providing opportunities to find jobs and access shelter for the homeless. Therefore, the MAT programs should be part of a comprehensive multi-sectoral harm reduction approach including social and economic support interventions for people who navigate their lives from drug use to being a MAT patient (Laswai, 2017). In addition to psychosocial support at the clinic, the MAT programme should also consider a more holistic support package including financial support for transport, and occupational activities that are coupled with income generation to tackle idleness and the feeling of worthless (Ratliff et al., 2013). It appears essential to engage individuals right from the initiation of the MAT process and to raise awareness among families, partners, and communities about the nature of MAT, its general functioning, its effects on the body, and the impact on the patient's mindset. Engage health navigators for individuals new on MAT, who ideally is a former PWUD. Homeless MAT patients could be referred to partner organisations that can support them in finding temporary shelters until they can be reunited with their families, partners or find a place to stay themselves (NASCOP, 2021b; Ratliff et al., 2013).

Limitations and strengths

The main limitation was that the PWUD included in the study might not be representative of all PWUD in Kiambu county, as we did not include PWUD not linked to hotspots, and the low number of women who use drugs in the cohort raises concerns that they may have been underrepresented. We addressed this by carefully going more in-depth in individual interviews with female PWUD who knew about behavioural patterns of this target group. There remains a need for greater efforts to understand challenges and barriers of female PWUD. In addition, the translator and the peer workers assisting in identification of study participants were MSF staff which potentially created response bias. Therefore, we carefully explained the primary investigator's role, highlighting the principles of neutrality and strict assurance of anonymity and confidentiality. The sensitivity of the topic related to the stigmatisation of PWUD when approaching hotspots represented another limitation that was addressed by preparing PWUD beforehand for the FGD and providing the option to be interviewed in another place.

The main strength of this study is that it has helped us to understand PWUD and MAT patients from their perspective with all their struggles they have to endure. These in-depth insights enabled us to analyse the underlying causes and draw a number of programmatic recommendations to inform future planning.

Conclusion

The study shows the complex realities faced by people who use drugs when engaging in MAT care. Their lives as active PWUD revolve around addiction and withdrawal symptoms and the daily struggle to find money for the next dose. PWUD are criminalised and subjected to stigma and discrimination. Transitioning from heroin to methadone or buprenorphine can be a positive and difficult experience at the same time. Individuals often struggle with balancing the transition from a life of heroin use to methadone treatment, both from a medical and a psycho-social standpoint. Our findings show that effective programming for PWUD should go beyond dispensing medication but must take a comprehensive and holistic approach to also address psychosocial and structural challenges including economic integration, homelessness, and destigmatization of drug addiction and MAT. As part of a patient-centred comprehensive harm reduction approach, MAT can have a meaningful impact on the lives of PWUD and their families.

Notes

1. Formerly Liverpool Voluntary Counselling & Testing Health now called LVCT-Health.
2. *Den* is the name for places where PWUD meet, hang around, stick together, and buy and use heroin. Every *den* has a specific name.
3. Hot spots of drug use and location are not listed in the table for reasons of confidentiality. PWUD outside hotspots were not included in the study.

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For all the authors, no conflict of interest has been identified.

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Data availability statement

Data not available – participant consent: The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

References

Anoma, C. (2018). *Harm reduction activities dedicated to precarious PWUD in Abidjan ESpace Confiance*. Ivory Coast.

Ayon, S., Jeneby, F., Hamid, F., Badhrus, A., Abdulrahman, T., & Mburu, G. (2019). Developing integrated community-based HIV prevention, harm reduction, and sexual and reproductive health services for women who inject drugs. *Reproductive Health*, *16*(Suppl 1), 59. https://doi.org/10.1186/s12978-019-0711-z

Ayon, S., Ndimbii, J., Jeneby, F., Abdulrahman, T., Mlewa, O., Wang, B., & Mburu, G. (2018). Barriers and facilitators of access to HIV, harm reduction

and sexual and reproductive health services by women who inject drugs: Role of community-based outreach and drop-in centers. *AIDS Care*, *30*(4), 480–487. https://doi.org/10.1080/09540121.2017.1394965

Bazzi, A. R., Yotebieng, K., Otticha, S., Rota, G., Agot, K., Ohaga, S., & Syvertsen, J. L. (2019). PrEP and the syndemic of substance use, violence, and HIV among female and male sex workers: A qualitative study in Kisumu, Kenya. *Journal of International AIDS Society*, *22*(4), e25266. https://doi.org/10.1002/jia2.25266

Beckerleg, S., Telfer, M., & Hundt, G. L. (2005). The rise of injecting drug use in East Africa: A case study from Kenya. *Harm Reduction Journal*, *2*(1), 12–12. https://doi.org/10.1186/1477-7517-2-12

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Brikci, N. (2007). *A guide to using qualitative research methodology.*

Buresh, M., Stern, R., & Rastegar, D. (2021). Treatment of opioid use disorder in primary care. *BMJ (Clinical Research ed.)*, *373*, n784. https://doi.org/10.1136/bmj.n784

Burtscher, D. (2022). *I can change and transform my life: Perceptions and experiences of people who use drugs, regarding their lives in relation to drug use, and how it impacts enrolment to and retention in a MAT program in Kiambu county, Kenya.*

Childs, E., Biello, K. B., Valente, P. K., Salhaney, P., Biancarelli, D. L., Olson, J., Earlywine, J. J., Marshall, B. D. L., & Bazzi, A. R. (2021). Implementing harm reduction in non-urban communities affected by opioids and polysubstance use: A qualitative study exploring challenges and mitigating strategies. *International Journal on Drug Policy*, *90*, 103080. https://doi.org/10.1016/j.drugpo.2020.103080

Earnshaw, V., Smith, L., & Copenhaver, M. (2013). Drug addiction stigma in the context of methadone maintenance therapy: An investigation into understudied sources of stigma. *International Journal of Mental Health and Addiction*, *11*(1), 110–122. https://doi.org/10.1007/s11469-012-9402-5

Ezard, N. (2001). Public health, human rights and the harm reduction paradigm: From risk reduction to vulnerability reduction. *International Journal of Drug Policy*, *12*(3), 207–219. https://doi.org/10.1016/S0955-3959(01)00093-7

Fraser, H., Stone, J., Wisse, E., Sambu, V., Mfisi, P., Duran, I. J., Soriano, M. A., Walker, J. G., Makere, N., Luhmann, N., Kafura, W., Nouvellet, M., Ragi, A., Mundia, B., & Vickerman, P. (2021). Modelling the impact of HIV and HCV prevention and treatment interventions for people who inject drugs in Dar es Salaam, Tanzania. *Journal of the International AIDS Society*, *24*(10), e25817. https://doi.org/10.1002/jia2.25817

Geertz, C. (1973). Thick description: Toward an interpretative theory of culture. In *Interpretation of cultures*. Basic Books.

Green, J., & Thorogood, N. (2018). *Qualitative methods for health research*. Sage.

Guise, A., Dimova, M., Ndimbii, J., Clark, P., & Rhodes, T. (2015). A qualitative analysis of transitions to heroin injection in Kenya: Implications for HIV prevention and harm reduction. *Harm Reduction Journal*, *12*(1), 27. https://doi.org/10.1186/s12954-015-0061-2

Guise, A., Ndimbii, J., Igonya, E. K., Owiti, F., Strathdee, S. A., & Rhodes, T. (2019). Integrated and differentiated methadone and HIV care for people who use drugs: A qualitative study in Kenya with implications for implementation science. *Health Policy and Planning*, *34*(2), 110–119. https://doi.org/10.1093/heapol/czz002

Hancock, B. (2002). Trent focus research and development in primary health care. In *An introduction to qualitative research*. University of Nottingham: Trent Focus.

Hassan, S., Cooke, A., Saleem, H., Mushi, D., Mbwambo, J., & Lambdin, B. H. (2019). Evaluating the integrated methadone and anti-retroviral therapy strategy in Tanzania using the RE-AIM framework. *International Journal of Environmental Research and Public Health*, *16*(5) 1–15. https://doi.org/10.3390/ijerph16050728

Hobden, K. L., & Cunningham, J. A. (2006). Barriers to the dissemination of four harm reduction strategies: A survey of addiction treatment providers in Ontario. *Harm Reduction Journal*, *3*(1), 35. https://doi.org/10.1186/1477-7517-3-35

Kageha Igonya, E., Guise, A., Ndimbii, J., Owiti, F., Rhodes, T., & Strathdee, S. (2021). 'Sometimes I feel like the other life on heroin was better': Transitioning experiences towards methadone, and HIV prevention implications in Urban Kenya. *Drugs: Education, Prevention and Policy*, *28*(3), 246–254. https://doi.org/10.1080/09687637.2020.1754764

Kreek, M. J., Borg, L., Ducat, E., & Ray, B. (2010). Pharmacotherapy in the treatment of addiction: Methadone. *Journal of Addictive Disease*, *29*(2), 200–216. https://doi.org/10.1080/10550881003684798

Laswai, O. (2017). Challenges in accessing medication assisted treatment among opiate users attending a methadone clinic in Dar Es Salaam, Tanzania: A qualitative assessment. *MOJ Addiction Medicine & Therapy*, *3*(2) 44–50. https://doi.org/10.15406/mojamt.2017.03.00031

Ludwig-Barron, N. T., Guthrie, B. L., Mbogo, L., Bukusi, D., Sinkele, W., Gitau, E., & Monroe-Wise, A. (2021). Barriers and facilitators of HIV and hepatitis C care among people who inject drugs in Nairobi, Kenya: A qualitative study with peer educators. *Harm Reduction Journal*, *18*(1), 133. https://doi.org/10.1186/s12954-021-00580-7

Masese, L. N., Ludwig-Barron, N. T., Mbogo, L., Guthrie, B. L., Musyoki, H., Bukusi, D., Sinkele, W., Gitau, E., Farquhar, C., & Monroe-Wise, A. (2022). Occupational roles and risks of community-embedded peer educators providing HIV, hepatitis C and harm reduction services to persons who inject drugs in Nairobi, Kenya. *PloS One*, *17*(12), e0278210. https://doi.org/10.1371/journal.pone.0278210

Mattick, R. P., Breen, C., Kimber, J., & Davoli, M. (2014). Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database of Systematic Reviews*, *2014*(2), CD002207. https://doi.org/10.1002/14651858.CD002207.pub4

Mburu, G., Ayon, S., Tsai, A. C., Ndimbii, J., Wang, B., Strathdee, S., & Seeley, J. (2018). "Who has ever loved a drug addict? It's a lie. They think a 'teja' is as bad person": Multiple stigmas faced by women who inject drugs in coastal Kenya. *Harm Reduction Journal*, *15*(1), 29. https://doi.org/10.1186/s12954-018-0235-9

Mburu, G., Limmer, M., & Holland, P. (2019a). HIV risk behaviours among women who inject drugs in coastal Kenya: Findings from secondary analysis of qualitative data. *Harm Reduction Journal*, *16*(1), 10. https://doi.org/10.1186/s12954-019-0281-y

Mburu, G., Limmer, M., & Holland, P. (2019b). Role of boyfriends and intimate sexual partners in the initiation and maintenance of injecting drug use among women in coastal Kenya. *Addictive Behaviors*, *93*, 20–28. https://doi.org/10.1016/j.addbeh.2019.01.013

Ministry of Health. (2017). *The national protocol for treatment of substance use disorders in Kenya, 2017.*

Mital, S., Miles, G., McLellan-Lemal, E., Muthui, M., & Needle, R. (2016). Heroin shortage in Coastal Kenya: A rapid assessment and qualitative analysis of heroin users' experiences. *International Journal on Drug Policy*, *30*, 91–98. https://doi.org/10.1016/j.drugpo.2015.08.010

Mwangi, C., Karanja, S., Gachohi, J., Wanjihia, V., & Ngang'a, Z. (2019). Depression, injecting drug use, and risky sexual behavior syndemic among women who inject drugs in Kenya: A cross-sectional survey. *Harm Reduction Journal*, *16*(1), 35. https://doi.org/10.1186/s12954-019-0307-5

NACADA. (2021). *National guidelines on alcohol and drug use prevention.*

NACC and NASCOP. (2012). *Kenya AIDS Epidemic Update 2011*. National AIDS Control Council (NACC) and National AIDS and STI Control Programme (NASCOP), Ministry of Health, Government of Kenya.

NASCOP. (2013). *Kenya national guidelines for the comprehensive management of the health risks and consequences of drug use*. National AIDS and STI.

NASCOP. (2014a). *Integrated biological and behavioural surveillance survey among key populations in Nairobi and Kisumu*. NASCOP, Ministry of Health, Kenya.

NASCOP. (2014b). *National guidelines for HIV/STI programming with key popualtions*.

NASCOP. (2021a). *Key population mapping and size estimation in selected counties in Kenya: Phase 2.*

NASCOP. (2021b). *National implementation guideline for medically assisted therap.*

Ndimbii, J., Guise, A., Igonya, E. K., Owiti, F., Strathdee, S., & Rhodes, T. (2021). Qualitative analysis of community support to methadone access in Kenya. *Substance Use & Misuse*, *56*(9), 1312–1319. https://doi.org/10.1080/10826084.2021.1922450

Patton, Q. M. (2002). *Qualitative research & evaluation methods* (3rd ed.). Sage Publications Thousand Oaks.

Pope, C., & Mays, N. (2006). *Qualitative research in health care*. Blackwell Publishing.

Ratliff, E. A., McCurdy, S. A., Mbwambo, J. K. K., Lambdin, B. H., Voets, A., Pont, S., Maruyama, H., & Kilonzo, G. P. (2013). An overview of HIV prevention interventions for people who inject drugs in Tanzania. *Advances in Preventive Medicine*, *2013*, 183187–183186. https://doi.org/10.1155/2013/183187

Rhodes, T., Guise, A., Ndimbii, J., Strathdee, S., Ngugi, E., Platt, L., Kurth, A., Cleland, C., & Vickerman, P. (2015). Is the promise of methadone Kenya's solution to managing HIV and addiction? A mixed-method mathematical modelling and qualitative study. *BMJ Open*, *5*(3), e007198. https://doi.org/10.1136/bmjopen-2014-007198

Richards, H. M., & Schwartz, L. J. (2002). Ethics of qualitative research: Are there special issues for health services research? *Family Practice*, *19*(2), 135–139. https://doi.org/10.1093/fampra/19.2.135

Ruiseñor-Escudero, H., Vu, A., Wirtz, A. L., Familiar-Lopez, I., Berry, M., Mfochive, I., Engineer, C., Farhad, A., Tschakarjan, S., Wisse, E., Paikan, F. M., & Burnham, G. (2015). Cross-sectional assessments of participants' characteristics and loss to follow-up in the first opioid substitution therapy pilot program in Kabul, Afghanistan. *Harm Reduction Journal*, *12*(1), 28. https://doi.org/10.1186/s12954-015-0062-1

Syvertsen, J. L., Agot, K., Ohaga, S., & Bazzi, A. R. (2019). You can't do this job when you are sober: Heroin use among female sex workers and the need for comprehensive drug treatment programming in Kenya. *Drug and Alcohol Dependence*, *194*, 495–499. https://doi.org/10.1016/j.drugalcdep.2018.10.019

Syvertsen, J. L., Agot, K., Ohaga, S., Strathdee, S. A., Camlin, C. S., Omanga, E., Odonde, P., Rota, G., Akoth, K., Peng, J., & Wagner, K. D. (2015). Evidence of injection drug use in Kisumu, Kenya: Implications for HIV prevention. *Drug and Alcohol Dependence*, *151*, 262–266. https://doi.org/10.1016/j.drugalcdep.2015.02.037

U.S. Department of Health and Human Services. SAMHSA's working definition of recovery, 2012.

Wambugu, G. M. (2020). *Uptake of medically assisted therapy among people who inject heroin in Mathare low income settlements, Nairobi County, Kenya* [Master Thesis]. Jomo Kenyatta University of Agriculture and Technology.

WHO. (2009). *Technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users*. WHO, UNODC and UNAIDS.