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# Integrated and differentiated methadone and HIV care for people who use drugs: a qualitative study in Kenya with implications for implementation science

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## Abstract

Integrating methadone and HIV care is a priority in many low- and middle-income settings experiencing a growing challenge of HIV epidemics linked to injecting drug use. There is as yet little understanding of how to integrate methadone and HIV care in these settings and how such services can be implemented; such a gap reflects, in part, limitations in theorizing an implementation science of integrated care. In response, we qualitatively explored the delivery of methadone after its introduction in Kenya to understand integration with HIV care. Semi-structured interviews with people using methadone ( $n=30$ ) were supplemented by stakeholder interviews ( $n=2$ ) and participant observation in one city. Thematic analysis was used, that also drew on Mol's logic of care as an analytical framework. Respondents described methadone clinic-based care embedded in community support systems. Daily observed clinic care was challenging for methadone and stigmatizing for HIV treatment. In response to these challenges, integration evolved and HIV care differentiated to other sites. The resulting care system was acceptable to respondents and allowed for choice over locations and approaches to HIV care. Using Mol's logic of care as an analytical framework, we explore what led to this differentiation in integrated care. We explore co-production and experimentation around HIV care that compares with more limited experimentation for methadone. This experimentation is bounded by available discourses and materials. The study supports 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. Our analysis fosters a material perspective for theory of implementation science and integration of services that focuses attention on local experimentation shaped by context.

**Keywords:** Integration, HIV, Kenya, drug policy, treatment

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### Key Messages

- In the site studied integration of methadone and HIV treatment evolved through implementation from a co-located approach with challenges of stigma to a differentiated model. Clients welcomed choice over the location of HIV treatment.
- Differentiation of HIV treatment was possible owing to experimentation at the local level through implementation, shaped by available material resources and discourses; experimentation for methadone was more bounded, leading to limited change.
- Integrated and differentiated methadone and HIV care should be a priority for people who use drugs in Kenya and other settings.
- The material theoretical perspective used theorizes the implementation of integrated health services as a local practice of experimentation shaped by available materials and discourses.

## Introduction

Injecting drug use is reported in over 150 countries (Harm Reduction International, 2016) including across Sub-Saharan Africa. People who inject drugs are especially vulnerable to HIV, facing risk 22 times that of the general population (UNAIDS, 2018). In Kenya there are an estimated 18 000 people injecting drugs and a HIV prevalence of 18.3% for this group as a whole and 44% for women (Kurth *et al.*, 2015; Tun *et al.*, 2015). In this epidemiological context, there is need to scale-up harm reduction services such as needle and syringe programmes and opioid substitution treatments like methadone to prevent and treat HIV. Methadone can treat opioid dependence and is part of an essential package of HIV care for people who use drugs (WHO *et al.*, 2012). Methadone, and other forms of opioid dependence treatment, support HIV prevention (Macarthur *et al.*, 2012) and enable engagement with antiretroviral therapy (ART) for HIV (Uhlmann *et al.*, 2010; Low *et al.*, 2016).

Across Sub-Saharan Africa five countries now have harm reduction programmes: Kenya, Mauritius, Senegal, South Africa and Tanzania (Harm Reduction International, 2016). The Kenyan Government with civil society and international partners has introduced needle and syringe programmes (Ndimbii *et al.*, 2015) and methadone (Rhodes *et al.*, 2015a) alongside psychosocial interventions as part of Medically Assisted Therapy (MAT; NASCOP, 2013). From late 2014, MAT was available in three cities (Nairobi, Mombasa and Malindi), and is now being scaled up to other sites and cities across Kenya. Emerging evidence from Kenya indicates positive reports from clients and retention in care, although with challenges, particularly for women, in access (Abdallah *et al.*, 2016; Ahmed, 2017; Igonya *et al.*, 2016).

Integration has long been recognized as essential to enhance service access for people who use drugs and other key populations (Beyrer *et al.*, 2011). Integration—the combining of service functions (Briggs and Garner, 2006)—ranges from all services being available within a single location from one provider, to organized referrals and systems for managing patient need across services (Basu *et al.*, 2006; WHO, 2008, 2016). The integration of methadone and HIV care in one clinic location is reported as convenient for clients (Achmad *et al.*, 2009; Bruce *et al.*, 2014). Such an approach has been a focus in Kenya following its previous implementation in neighbouring Tanzania (Bruce *et al.*, 2014; Lambdin *et al.*, 2015b, Saleem *et al.*, 2016).

Integrating care within one site has been linked to challenges of stigma and disclosure of HIV status (Lin *et al.*, 2014). Some clients consequently prefer HIV care at a distinct location from that offering methadone (Grenfell *et al.*, 2013). A desire for separate sites can also respond to methadone delivery involving routines of constraint and surveillance that seek to discipline and control (Bourgeois,

2000), reflecting ‘high threshold’ approaches that place requirements on clients. For example, the use of a secure public window through which methadone is distributed or requirements of abstinence from drug use (Crawford, 2013). Other modes of methadone organization are though possible, including those that engage with patients in a client-centred approach and respond to individual need and circumstances (Gomart, 2002).

These varying experiences demonstrate how acceptable service integration then emerges as contingent on particular meanings, cultures of care and social contexts (Church and Lewin, 2010; Daftary *et al.*, 2015). This also responds to evidence for how a range of social factors shape care access for people who use drugs: e.g. funding, bureaucracy and police criminalization (Sarang *et al.*, 2013; Guise *et al.*, 2017). In recognizing this diversity of experience and contextual influence, there is a need for study of how methadone is experienced in integration with HIV care in low- and middle-income settings where there is currently little documentation.

Uncertainty over organizing integrated methadone and HIV care services can be positioned as a challenge for ‘implementation science’. Implementation science seeks to address the gap between evidence and the routine practice of interventions and is increasingly sought in the field of HIV (Schackman, 2010; Lambdin *et al.*, 2015a). Such a perspective commonly aims to identify barriers to effective implementation, and to develop strategies of implementation or adaptation that respond to this (Go *et al.*, 2016). Interest in implementation science is growing across global health, with ongoing efforts to foster conceptual frameworks and systematically combine insights from this literature (Damschroder *et al.*, 2009; Theobald *et al.*, 2018). Studies, with the label implementation science or not, have developed rich understanding of specific structural, institutional and micro-level factors that enable or limit integration and the process of implementation (Atun *et al.*, 2010; Mounier-Jack *et al.*, 2017). The literature on implementation within health and service integration is however arguably under theorized (Ridde, 2016; Van Belle *et al.*, 2017) with limited insights from the social sciences (Rhodes *et al.*, 2016). A social science for implementation science has potential to go beyond identifying contextual ‘factors’ (Rhodes *et al.*, 2016) with possible influence on models of care delivery. For example, recent literature has drawn attention to how structural determinants of integration are important—e.g. bureaucracy—but the health system ‘software’ of agency of providers is also central, contingent on team working conditions and management support (Mayhew *et al.*, 2017). There is therefore a need for implementation science to theorize the role for context, in terms of micro-level contextual influences (e.g. clinic level cultures of care) and macro-level (e.g. resources or policy). In this article we seek to build on this direction of analysis to aid theorizing integration and its implementation.

We seek to build on a developing tradition of material perspectives in sociology (Rhodes *et al.*, 2016; Mcdougall *et al.*, 2018), for how they potentially support detailed investigation of agency and interactions with context, building on the existing studies just cited. Material perspectives understand social phenomena as the result of ongoing practices within configurations of human and non-human actors (Leppo and Perälä, 2017; Mcdougall *et al.*, 2018). Health care delivery is then understood as an ongoing practice achieved through relations between particular bodies, objects and spaces (Buse *et al.*, 2018). ‘Context’ is understood through how it figures within particular networks of relations of people, things and objects; context or ‘structure’ is then not distant but encountered within everyday practices, and in response to objects and materials that are generative of actions (Julie and Helen, 2018).

Annemarie Mol’s analysis of the logic of care typifies a material approach (Mol, 2008). Mol explored health service delivery as a critical response to notions of care as focusing on ‘choice’, she describes the caring process as ongoing and emergent, with an active patient making choices always in interaction with providers and technologies, and not in isolation (Leppo and Perälä, 2017; Mol, 2008). Through this analysis she delineates the existence of a ‘logic of care’: patient and provider creatively *persevere* and *experiment* to co-produce care configurations, embedded in particular *entanglements* of social relations, technologies and systems. Care is then not a case of implementing knowledge, but experimenting with it (Mol, 2008). Through using this approach as a framework for analysing service delivery integration, we aim to give insight into the caring relations involved in integrated care and the implementation processes involved.

Kenya offers an important site for study to support ongoing scale-up of integrated methadone and HIV services whilst informing a developing implementation science for HIV that could have implications for many similar settings. Here, we focus on understanding people’s experiences of accessing these services to address questions of how is methadone being integrated with HIV care? Further, what are the underlying social processes for these forms of delivery?

## Methods

We used a qualitative study to explore experiences of integrated methadone and HIV care. The study was in one city in Kenya building on a research programme with community partners across Kenya addressing experiences of injecting drug use and harm reduction (Ndimbii *et al.*, 2015; Rhodes *et al.*, 2015a, 2015b; Guise *et al.*, 2015, 2016). We sought experiences of methadone and HIV care through working within a community-based drop-in centre where clients of a local methadone clinic would regularly visit. Our focus on community level perspectives has some limitations in not gathering clinic staff insights, although these are offset by the insights afforded by distance and separation from delivery facilities and a need to engage with the commonly marginalized experiences of people who use drugs in policy and service development.

We used different methods sequentially to inform ongoing data collection and for triangulation. Observation within the drop-in centre was used to have informal conversations to build understanding of the process, contexts and experiences of methadone and HIV care. Over several weeks, we - JN, EI, AG - spent several hours daily in the drop-in centre, talking to staff and clients and observing interactions. We developed a semi-structured interview guide informed by a literature review and our initial observations. These domains included: drug use before methadone, accessing methadone and daily routines for care, current social context for ongoing methadone and HIV care. Semi-structured interviews with community-

based stakeholders supporting people who use drugs contextualized these experiences. Interviews were conducted in Kiswahili or English, depending on the preference of the interviewee. Following pilot interviews in 2015, data collection was iterative through 2016. Our presence in the drop-in centre over time was important in building rapport and so eliciting in-depth accounts in interviews; this in turn built on long-term research relations through which trust had been built. The multilingual, mixed-gender and global research team (with researchers from both Kenya and outside Kenya) also allowed for flexibility in who respondents could be interviewed by, also supporting in-depth accounts. However, the interviews were still often limited in length owing to the time and resource pressures on drop-in centre workers as well as clients.

We sought a purposive sample (Green and Thorogood, 2014) of people to interview, within a sampling frame of people using methadone who visited the drop-in centre. Our sample of 30 was determined by resource constraints with a judgement this would allow insight to client experiences within the constraints of an exploratory study. We targeted people accessing methadone both living with HIV and not to triangulate perspectives. Whilst women are an estimated 10% of people who use drugs in Kenya we over-sampled women reflecting their increased vulnerability to drug harms (Azim *et al.*, 2015). Our specific inclusion criteria were having taken methadone for >1 month and within the past month, and being aged over 18. We also purposively sampled two people from different community organizations based on their experience working with people who use drugs and in routines supporting methadone and HIV care.

We used thematic analysis with an iterative and abductive approach to collecting data and exploring existing theory (Burawoy, 1991; Ezzy, 2002; Tavory and Timmermans, 2014). As interviews were conducted, we wrote memos to aid data collection and link to existing literature. Interviews were transcribed and translated where necessary. As a team, we read transcripts and developed an initial coding framework derived from our interview guide and emerging analytical ideas. This included codes such as drug use before methadone, expectations of methadone, experiences in the clinic and role of community staff. Following an initial data organization, we developed analytical codes responding to emerging themes (e.g. ‘family acceptance’) and existing theory (e.g. ‘experimentation’ (Mol, 2008)). We also explored relationships across these coded data (e.g. ‘experimentation’ and ‘differentiation’; (Ezzy, 2002)). Analysis was driven by interview data from people using methadone; we triangulated and contextualized these accounts with stakeholder interviews and our observations (Bryman, 2004; Farmer *et al.*, 2006). We refined the analysis with feedback from a community meeting for interviewees and others receiving methadone, and a separate meeting for policy stakeholders. In finalizing analysis, we developed a set of descriptive themes to account for routines of care delivery and then used Mol’s framework of a ‘*logic of care*’ to further explore and interpret these themes.

The study was approved by [University of Nairobi, London School of Hygiene and Tropical Medicine and University of California San Diego] ethics review committees. All participants gave informed consent and were given a food parcel as compensation for their time. All names are pseudonyms and the study location anonymous.

## Findings

We interviewed 9 women and 21 men who were using methadone from a dedicated clinic close to the community centre (see Table 1). Sixteen were living with HIV. The average age of respondents was 34,

**Table 1** Clients interviewed

	Alias	Gender	Age	HIV status
		9 women, 21 men	Mean age 34.7	16 people living with HIV
1	Rob	Male	33	HIV+
2	Peter	Male	20	HIV–
3	Oscar	Male	27	HIV–
4	Morris	Male	36	HIV–
5	Marvin	Male	24	HIV–
6	Millie	Female	42	HIV–
7	Freedom	Female	38	HIV+
8	Rahab	Female	40	HIV–
9	Webster	Male	34	HIV–
10	Fred	Male	50	HIV–
11	Ken	Male	34	HIV+
12	Yassin	Male	38	HIV+
13	Evans	Male	51	HIV+
14	John	Male	38	HIV–
15	Steve	Male	42	HIV+
16	Philip	Male	24	HIV–
17	Alfred	Male	34	HIV+
18	Nesh	Male	19	HIV+
19	Eric	Male	39	HIV–
20	Alan	Male	45	HIV–
21	Andrew	Male	30	HIV+
22	Winnie	Female	21	HIV+
23	Drake	Male	25	HIV+
24	Cathy	Female	29	HIV+
25	Lilian	Female	32	HIV–
26	Suleiman	Male	34	HIV+
27	Asha	Female	35	HIV+
28	Pendo	Female	38	HIV+
29	Jemima	Female	41	HIV+
30	Arthur	Male	50	HIV–

slightly higher than the 30–31 years average in recent epidemiological study in Kenya (Kurth *et al.*, 2015; Budambula *et al.*, 2018). In the first section that follows we outline the initial model of integrated methadone and HIV care. We then explore four themes that address routines of methadone and HIV care delivery, and describe a process of how care integration evolved and adapted. In the second section, we use Mol's framework of a 'logic of care' to develop further insight in to these four themes and the differentiation and adaptation seen.

### Routines of methadone and HIV care

#### The initial delivery of methadone and HIV care in its health system context

In the setting studied, MAT was available within a stand MAT alone clinic linked to a hospital. As we describe below, ART was available on site, with testing for HIV and preparation for HIV care integrated within the process for initiation to MAT. Other health services were also available, such as Hepatitis C testing (but not treatment), and TB testing and treatment, with counsellors and social workers also part of the clinical team. The overall process for methadone initiation and ongoing delivery was supported by community-based outreach organizations. They worked in tandem with the MAT clinic to raise awareness of the intervention and its effects, identify eligible clients for possible treatment and then support screening and enrolment.

#### High-threshold clinic-community system for methadone

The principal routines for methadone care delivery were described in ways that correspond to notions of 'high threshold' care that

place requirements on clients (Mofizul Islam *et al.*, 2013). This happened within a system of clinic focused but also community-based routines. As we develop in the following three themes, this was the context in which HIV care was also delivered.

Close to the community drop-in centre was a dedicated MAT clinic that was a focus for ongoing daily care, linked to processes of awareness raising, initiation and support from community-based organizations. These community organizations and their staff ran 'classes' on methadone and were 'checking' potential candidates for the clinics. Community staff were involved in judgements of who was 'ready' for MAT. MAT clinic staff would visit the centres for initial assessments of potential clients, before later enrolling them at the MAT clinic. This role for community organizations is clear in Yassin's (38, HIV+) account:

*So I came here, I talked to an outreach worker, they talked to me, they asked me whether I have gone for methadone classes, I told him I have, so they brought me here [the drop in centre], I met with a social worker [from the MAT clinic], he interviewed me and I passed and I got someone to sign for me and I was taken to MAT.*

Daily attendance was another threshold for care. The MAT clinic had fixed opening hours: at first from 7 am until 12 noon, and 11 am at the weekends; changing to 1 pm and then 12 noon at weekends. All had to visit the MAT clinic daily for methadone. John's experience—see Text Box 1—illustrates core themes of travel, time and the daily process of getting care at the methadone window. John described early travel to the clinic, in part to avoid crowds at the clinic, and didn't experience the routine as challenging. There were though common concerns on challenges of time, cost and adherence:

*Sometimes I have [bus] fare and other times I don't and I walk (Suleiman, 34, HIV+).*

*Some of us we live far... so sometimes we get late, if you go there late you don't get the methadone (Morris, 36, HIV–).*

Whilst many were concerned at the demands of daily travel, many were able to make this work through support—financial, emotional, psychosocial—from family and other social support: 'she [a sister] was giving me money for the fare', 'they [family] take me'. MAT access was linked for many to re-joining family life, and allowing for this support, with such entanglements proving central to managing the daily routine within a context, for many, of continuing financial hardship.

#### Patient-centred constraint

Clients often reported open or respectful relationships with the providers at the MAT clinic: 'the doctors, they are really good, they treat, they treat you well' (Peter, 20, HIV–). There were though boundaries on what could be discussed and negotiated for treatment, with these varying for methadone and HIV care. The MAT programme had a distinct framework of taking methadone for 2 years as a process towards complete abstinence from drugs (methadone, heroin or otherwise). The potential for ongoing maintenance, or more flexible timetabling was not evident: 'they say you take it for two years, so what do you do? And you have made up your mind to take methadone, so I just have to use it.' (Philip, 24, HIV–). For some clients a 2 year timetable was an alignment of provider and patient preference, with some keen to taper off methadone as soon as possible:

*R: what I want is I stop taking methadone and I be free that I am not using anything, that will be my happiness, I don't want steam [a high] from methadone or from the drugs.*



**Text box 1: illustrative data extracts****The daily routine of methadone**

*Usually my routine going to [the clinic], I wake up very early in the morning. I usually wake up at five-four thirty and get myself ready, bath, make myself ready, you know. Then I leave home maybe at about five fifteen, I rush there. . .*

*I: How long does it take you to get you there?*

*R: Eeeh, about thirty minutes.*

*.....*

*R: At seven [am] we, it is like about, we are twenty to thirty people yeah.*

*I: And then what happens? you sit and wait or...*

*R: Yeeeah, actually, we get numbers like how you have come. . .*

*I: As you arrive you get the numbers?*

*R: Yeah if you came one, the first person you get one, two, three, four, yeah, onwards.*

*I: Okay and they call out your numbers?*

*R: Yes number one and then two until you. . .*

*I: Then you go to, there is a window?*

*R: Yes there are two windows.*

*I: Okay*

*R: They are usually two pharmacists.*

*I: How long does it take? Is it like five seconds, do they just give the methadone and then you go? do you talk to them?*

*R: Usually when I go I greet them, I ask them how the day is, how the morning is, I tell them, you have to tell them your name, type it and feed it in the computer to show you how much you take, amount of methadone you take, so the machine keeps, then you drink, then they have to give you water you know to. . .*

*I: Yea, okay to wash down*

*R: Yes it takes about three minutes, three to four minutes (John, 38, HIV-).*

**Routinized care and communication around HIV**

*When I get to the window, they put for me the medicine, they measure for me they don't even bother to ask my name, they ask me to put my finger on the scan, the machine. When I put my finger on they get the details they need, he is able to know, it shows on that computer of theirs that I am using ARVs, they give me septrins and the other one and then he gives me methadone, so I take it together with my ARVs, then he gives me water. I swallow everything and then I go (Alfred, 34, HIV+).*

**Clinic responses to HIV stigma**

*He [clinic staff] took the initiative and called the guy [discriminating against the interviewee] and told him to stop that behavior. And told him that it is just a sickness like any other and he can also get it, it may be not because you had sex but it might be through other ways, so don't laugh at other people or tell others about it (Suleiman, 34, HIV+).*

**Acceptability of different HIV treatment models**

*I was also taking my medicine in this place [community centre] the first time, but now I get them from [methadone site]. As I am taking my methadone they also give me my ARVs, so I see my life is going on well and I am happy about it (Andrew, 30, HIV+).*

*I: You want to stop completely, and have you talked to them about it?*

*R: I haven't talked to them, you know, they are the doctors, whatever they tell me that is what I will do (Alan, 45, HIV-).*

An abstinence orientation to methadone was linked to routines that sought to control and prevent continued drug use. Random urine testing and explicit banning of continued use of heroin but also alcohol and other drugs led to methadone not being given in some instances: 'they test you, okay they have breathalyzer, they call them breathalyzers, they smell alcohol, they use breathalyzers and see . . . so if you have alcohol they don't give methadone' (John, 38, HIV-). Concerns about continued drug use, linked in particular to risk of overdose if combined with methadone, were communicated from both the clinic and the community organizations:

*I was told methadone would, if I mixed methadone with any other drugs, if I mixed it with heroin, if I mixed it with bhang [cannabis], if I mixed it with alcohol, or any other drugs then it, it would finish me, it would kill me (Peter, 20, HIV-).*

Within this overall timetable and abstinence orientation, the specific dose of methadone for each client was though negotiable. Clients regularly reported discussing their needs and having their methadone dose adjusted: 'he [provider] will ask me do I add you or reduce? so you are the one to decide, but they do not reduce just like that, unless you have taken it for more than one year and two months' (Steve, 42, HIV+).

HIV care in the MAT clinic was also characterized by accounts of positive relationships alongside constraints on communication. Whilst daily care was focused on dispensing ART at the window (discussed in detail below), doctors and counsellors were available for advice and responding to issues: 'Yes we do talk, and they are told even if you are infected that is not the end of your life, they can give you medicine and also counselling' (Eric, 39, HIV-). Other responses indicated limits on communication and practices of providers controlling care, with clients unaware of the medications they were taking or complaining about limited counselling:

*I: What are you taking now for HIV?*

*R: I don't know what those drugs are called, coz when I reach there, to doctor, that window, he knows what I am taking (Ken, 34, HIV+).*

### Challenges with directly observed HIV care

Processes of induction at the MAT clinic involved routine offers of HIV testing and initiation of HIV treatment if needed. There were also periodic consultations with doctors and counsellors that allowed for in-depth engagement between clients and providers. Daily attendance at the clinic was though focused on directly observed treatment at a 'window', through which methadone and HIV medications were dispensed and then taken under supervision by providers. This setting was adjoining where clients queued. The public setting for care proved problematic for some taking HIV treatment. There were concerns about the attitudes of staff, although primarily about other clients 'gossiping'. Such gossip referenced people having 'biscuits and juice' at the window [i.e. antiretroviral (ARV) tablets and liquid methadone], expressing how the window for observed care could be clearly seen by clients queuing:

*We use the same window and that is where methadone clients and the ARVs clients are also served, the same place. And you know people are still the same, some come and stares at you as you are taking your medicine. He sees you are being given methadone and another tablet, and definitely he knows that you are taking ARVs, and he knows that you are HIV positive. And you know human beings are still the same, so he goes telling or sharing the information with other people (Evans, 51, HIV+).*

Whilst there were efforts to keep clients distant from the window, various visual and aural cues emerged that could inadvertently disclose HIV status: the length of time at the window or the rattling of ARV tablets as they were emptied from their plastic bottle by the provider. Such concerns at being observed within the clinic led to calls for change from clients:

*I decided 'no I won't take my ARVs', I told [provider at clinic] this is not fair because you are making everybody to come in the window to take nini methadone there and your ARVs there, so you have to do something (Freedom, 38, HIV+).*

### Adapting and differentiating HIV care

In response to concerns about HIV stigma MAT clinic staff were described as making efforts to respond to client fears. A hospital screen—a 3-part curtain on wheels—was brought to shield the window. This was though seen as inadequate: 'it's useless because people are seeing each other'. (Freedom). Providers would also manage the stigma by anticipating a client and having their ARV tablets already dispensed before their arrival at the window to avoid making noise, or making efforts to discourage other clients from being close to the window.

Clinic-based adaptations were later followed by systemic flexibility over the location of care and a differentiation in care. Early interviews had featured concerns about stigma at the window with no potential for this flexibility. The clinic had initially encouraged people to take their HIV care at the MAT clinic to foster adherence. In later interviews, people described being able to choose where they got HIV treatment, rather than receive it in combination at the MAT clinic:

*If you want to be using or getting your ARVs from the methadone clinic, you get methadone and at the same time they give you your ARVs, but if you have another clinic where you get your ARVs, they ask you if you are okay with that arrangement,*

*like me I told them I was okay with where I was getting them from (Evans, 51, HIV+).*

Care was therefore differentiated, with tailoring of models (Grimsrud *et al.*, 2016). Clients could visit the MAT clinic for methadone and then access ART at other clinics across the city, including from a community-based organization they visited. The flexibility and avoidance of stigma was welcomed at these other sites: 'She gives me to take home. Like I tell her this week you are not going to see me maybe I want to go somewhere, now you know that I won't be in for one week she will give me enough for one week' (Winnie, 21, HIV+).

Alongside the option to have HIV care away from the MAT clinic, others maintained their HIV care at the MAT clinic. 'it is saving my time, instead of going to the hospital where I was going [for HIV care], I felt there was no need, I saw it is better here, because I come daily' (Alfred, 34, HIV+). As well as convenience, some reported how stigma could be experienced at other sites: 'I ran away from [other site] because I didn't want many people to know about it [HIV status]' (Suleiman, 34, HIV+).

### Bounded experimentation in integrated care

We now consider the social logic underpinning the specific forms of integrated care just described, and the emergence of differentiated care in particular. Drawing on Mol's analysis of a logic of care (Mol, 2008), we explore a central theme of integrated care as co-produced. From accounts of clients, we see varying accounts of how they themselves, clinic providers and outreach workers were involved in ongoing 'experimenting' around the delivery of integrated methadone and HIV care.

As described, relations between clients and providers were commonly described as positive and responsive, and this is the basis for ongoing micro-scale adaptations and attention to care. For example, the experience of stigma at the MAT clinic and the area for queuing generates attention from providers:

*the doctors who dispense methadone they don't like people to come close and stare at others as they are taking methadone because they know people will go and spread rumours about others if they know you are HIV positive (Evans, 51, HIV+).*

These small-scale changes—the introduction of a curtain, attention to the noise of a blister pack—involve constant attention and tinkering by providers, and clients, to the material environment of the clinic. Experimenting and adapting makes integrated co-located care possible, even acceptable to clients.

Attention to clients' concerns is also a social logic of care in which experimenting leads to differentiated care. Yassin's account demonstrates ongoing experimenting—see Text Box 2. He was concerned at the stigma and discrimination he experienced at the MAT clinic, getting his HIV care from the 'methadone window'. As Yassin describes—extract 1, Text Box 2—providers worked to manage the stigma, finding ways to adjust their routines and of others in the clinic to mitigate the risk of stigma from observed treatment to try and make integrated care work. The material elements of care are central: the provider is creative and proactive in managing the noises of a plastic container and a blister pack. And yet he still has concerns—extract 2—he raises these with the social worker at the clinic, drawing on the importance of the timing of ART that the MAT clinic routines potentially disrupt. This led him to switch from co-located ART to another clinic across the city. Here clients and clinic staff are adjusting and allowing for treatment elsewhere, reacting to the particular context of a methadone window and clinic location.

**Text box 2: Yassin (38, HIV+)****Extract 1: provider adaptations to HIV stigma**

*They are some who are understanding and clever in their own way, you find if he knows you are using ARVs, by the time you get there he has removed your medicine, if it is ARV he has them on a bottle lid and has even put the septrins, so when you go there he doesn't to start opening bottle for it to make the noise it makes. The blister pack for septrin make a lot of noise as they are being opened, so when he has removed them and keep them, even when he gives you, you won't get to hear that noise from the blister pack opening, he has already done that and he knows this is for [Yassin] this is his, this is for another client.*

**Extract 2: negotiating differentiated care**

*I talked to one of the social workers [at the clinic], just like we are discussing with you. I hear you are supposed to take them [ARVs] at a specified time when you have them, like the way I was used to taking them at night, after I am through with my daily business, I have taken supper, then I take them before I go to sleep, but now when taking from MAT you take it at different times, you need to keep time, but sometimes you get late, maybe because of traffic jam, maybe I don't have enough fare so I have to wait for rush hour to be over ... so you are not consistent with time, so I decided to be get and keep them so I can know how to schedule my time.*

Others described different processes of choice, or absence of choice, and in so doing underscoring the emergent nature of integrated and differentiated care, and the varying role for an active client: it emerges from within particular contexts and networks of relations. For Pendo (38, HIV+) she asserts an individual decision in confrontation with the clinic, to seek care elsewhere:

*I told them [MAT clinic] to make for us something like a box like the ones you find in the hospital ... they put it at the pharmacy so that you are assured that you and the pharmacist are the only one who is able to know what you are taking, but they refused to do that ... I stopped taking from there and I went to a different hospital*

For others they described being given no choice, suggesting differentiated care needs to be worked at by clients and providers, and not being universally available.

*R: I would like for them to give us ARV to take them home ...*

*I: I thought you have the option to take them home?*

*R: They do not allow.*

*I: Because some say they stopped taking them from there because people were staring at them while taking, and so they opted to be getting them from other places?*

*R: When people stare at you when taking your medicine it really hurts, and it is not everyone who is able to take it, I think they just want people to stop taking methadone (Asha, 35, HIV+).*

Health system discourses and material resources frame micro-scale interactions and shape who can decide over care and its location. Our data reveal some of these policy processes. The MAT clinic initially sought HIV care alongside methadone:

*they [the MAT clinic] request that they [people getting HIV treatment] be transferred to [the MAT clinic], that is what they have been requesting for them because that is what, that was the initial strategy ... we transfer so that we make sure they adhere (stakeholder 1).*

And from conversation during observation with another member of community organization staff: 'Clients are encouraged to transfer (the clinic can't just automatically do this) and will send letters to [other clinics] via the clients. Patients also request a transfer after the doctors at the methadone site promote it to the clients.' Whilst

the clinic may have 'promoted' an observed model of care, the broader health system mandates choice over location and administers processes to allow this: the exchange of letters after patient requests. According to client accounts, this effort to promote HIV treatment at the MAT clinic gave way to flexibility over the location of care. This shift in clinic emphasis a further indication of this experimentation in care.

Recognizing these broader discourses and materials helps understand the potential for HIV care delivery and integration to be 'worked at' and then the contrast with methadone delivery in the MAT clinic: these routines reportedly largely stayed the same, with only slight variation in opening times of the clinic. We see the potential for experimentation in care as then *bounded* by the available discourses and materials around which care routines can be negotiated. HIV treatment, reflecting its local and global history, had multiple discourses available that allowed for negotiation. The clinic emphasized observed care in service of adherence. Clients though also emphasized the experience of stigma, which in these accounts is accepted as a legitimate discourse by providers. Yassin above also uses a discourse of adherence, but different to that of the clinic, emphasizing the importance of timing his ART with food. These claims from clients are in the context of other HIV care facilities being available across the city, some of which clients had experienced. These discourses and the material environment then allow for, and provide resources for, negotiation and experimentation.

Methadone in contrast was bounded by an almost universal narrative of addiction recovery (Rhodes, 2018) and nascent infrastructure. As described above, a 2-year framework oriented towards abstinence was a dominant factor in MAT clinic routines. This narrative was rarely contested. Isolated accounts of other narratives emerge: 'the doctor told us it will take two years, two years to take this methadone, so that thing in the blood will be gone ... some say you can drink it for all of your life if you want it.' (Ken, 34, HIV+). 'Some say' indicates some awareness of alternative paradigms for methadone, but this is a private utterance in a research interview, not a discourse described as broadly accepted. Similarly, within a workshop at the community drop-in centre:

*Observation note: [from a presentation of international practice on methadone delivery] There was a reference to MAT being delivered through mobile vans which raised a murmur from one*

*of the outreach workers that should be done in Kenya. Take away doses were also mentioned in passing, but no one seemed to respond.*

Alternative discourses to daily observed attendance at a MAT clinic only receive marginal, or silent, discussion and assent; this within the absence of these alternative material infrastructures. Crucially, there are then few alternative discursive or material resources with which providers and clients can negotiate and experiment with different forms of integrated methadone care.

## Discussion

Through analysis of accounts of people accessing methadone and HIV care in one city in Kenya we have described the routines of care involved. The clinic delivery of care was embedded in a community supported system of high-threshold care. Methadone was focused on a framework of recovery, with daily attendance and observed care. Experiences of stigma linked to observed HIV treatment generated over time adaptation and then differentiation of care. Drawing on Mol's logic of care, we found particular configurations of caring relations around HIV care that allows for experimentation that led to this differentiation. The idea of 'bounded experimentation' shows the constraints linked to available discourses and material resources for HIV and methadone. Our findings have implications for service organization and theorizing an implementation science for HIV and integration; we consider these in turn.

Our analysis indicates opportunities for enhancing the acceptability and accessibility of integrated methadone and HIV care in Kenya. In exploring recommendations, we recognize the resource pressures within Kenya (Rhodes *et al.*, 2015b) and challenges in introducing a novel service. Given this context, the experiences we document are remarkable for how they led to frequently high acceptability of HIV care, compared with accounts of abuse and discrimination for people who use drugs in many settings (Wolfe *et al.*, 2010). However, the reports of people excluded by these routines, especially women, highlights the need for attention to alternatives. Flexibility beyond a recovery focused programme for methadone with daily attendance could address this. Experience from other settings has shown how methadone delivery involving less, or no, surveillance is feasible and acceptable (S Shelly, University of Pretoria, personal communication), extending to take away doses or other flexibilities.

Flexibilities are also needed for methadone and HIV care in response to the partial rejection of co-located and daily directly observed care, focused at a public 'window'. Whilst daily observed models may enable adherence for some, they also potentially undermine care relations for others (Bourgois, 2000; Crawford, 2013); this tension mirrors conflicting evidence for the impact of daily observed care on health and service outcomes (Lucas *et al.*, 2007; Berg *et al.*, 2011; Birch *et al.*, 2016; Yellappa *et al.*, 2016). Responding to preferences for co-located methadone and HIV care for some, we suggest co-located care with publicly observable care should be avoided, and clinic configurations that ensure privacy developed (Lin *et al.*, 2014). Further, whilst daily attendance at integrated methadone and HIV care clinics was supported by some, alternatives to this potentially constraining regime for methadone could be explored, as they are in Kenya, with development of more decentralized, community-based models of HIV care (WHO, 2009). Our analysis links the potential for differentiation in care models to available resources and discourses. The current novelty of methadone in Kenya could be linked to limited discourses of treatment as

well as resources; whilst HIV treatment has a longer history and broader recognition that could support discourses of choice and empowerment (Daftary *et al.*, 2015) and so differentiation. As methadone becomes established additional meanings may emerge through which to negotiate flexibilities in care.

The differentiation of HIV care in to co-location with MAT and also through referrals to other sites, including community-based care, shows the potential importance of differentiation for people who use drugs (Grimsrud *et al.*, 2017). Whilst emerging guidelines support differentiated care for people who use drugs (WHO *et al.*, 2017), this concept is as yet little explored (Grimsrud *et al.*, 2017). The maintenance of differentiated models avoids the limitation of 'one size fits all' approaches (Beyrer *et al.*, 2011) and is in line with guidance for decentralizing ART to community-based centres for people who use drugs (WHO, 2014). Our findings aid in developing the concept of differentiation for people who use drugs by focusing on the experience of stigma as a core logic for differentiation, alongside simplifying treatment regimes. Differentiation of care we therefore see as understandable not only by site and location of care, but also by cultures of delivery and the social relations that surround these. Our analysis also explores how differentiated care is co-produced. This builds on long-standing principles of inclusion and consultation of affected communities (UNODC *et al.*, 2017). In considering how to manage an emergent and co-produced process, a number of questions emerge that future study could address. Whilst the adaptations described were acceptable to clients, it is possible that further adaptations could have generated more optimal care. Future study could engage with what further changes co-produced care could generate. Further, consideration is needed of what boundaries there are on what can be negotiated and adapted? This relates to the need to balance preferences for care against the availability of technology, managerial feasibility given resource constraints and the imperative to provide quality clinical care.

Our material perspective drawing on Mol's logic of care (Mol, 2008) has contributed to theorizing integration and its implementation (Van Belle *et al.*, 2017). Integration, from this perspective, is the coming together of various actors and systems and objects into something new, and linked to a process of development through experimentation. Integration is then, following Mol's account of a logic of care, 'not a matter of implementing knowledge and technology, but of experimenting with them' (Mol, 2008, p. 64). An understanding of integration—not only for MAT and HIV care, but also for other services—as an ongoing local practice of experimentation to produce a novel assemblage of care, is distinct to models of integration understood as stable routines or objects that can be replicated across contexts given a sufficient evidence base (Rhodes *et al.*, 2016; Rhodes, 2018) and subject to a technical fix. This material approach then raises implications for practice and new questions for implementation science beyond how to ensure an intervention is implemented optimally in line with an evidence base. If optimal care configurations are a local practice contingent on experimentation and adaptation, attention could be paid to understanding the material settings and social networks that enable (and disable) the local experimentation through which acceptable forms of care emerge.

These findings reflect the experiences of a sample of people using methadone in one city, and in particular those able to stay engaged in methadone. Our findings do not therefore give insight to the full range of experience and so need to be applied cautiously in other settings, linked to further study. Future study should also seek to explore further clients' views as well as providers' experiences of these services and embed these within detailed analysis of the policy at district, regional and national level. The results do however provide



significant insight to a little explored area, and through this aid conceptualization of study of integration and implementation science.

## Conclusions

We found experimentation in the local negotiation of acceptable forms of HIV care in the context of methadone delivery. The findings show the need to allow for differentiation of care for people who use drugs and support this through enabling local experimentation. Methadone delivery is however bounded by particular discourses and constraints that should be addressed. Implementation science needs to address these local negotiations and understand processes of experimentation.

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## Ethical approval

The study had ethical approval from the University of Nairobi, University of California San Diego and London School of Hygiene and Tropical Medicine.

*Conflict of interest statement.* Dr FO has advised on development of standard operating procedures for methadone delivery across Kenya. As a clinician he provides private delivery of methadone within Kenya. All other authors declare no conflicts of interest.

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