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Long-acting depot buprenorphine in people who are homeless: Views and experiences

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ABSTRACT

Introduction: People experiencing homelessness often experience intersecting mental and physical health problems, alongside problem substance use and a range of overlapping challenges, including access to appropriate treatment. New long-acting opioid replacement therapies (ORT) offer potential benefits for this group. This study explored the views of people who are homeless and dependent on prescribed or illicit opiates/opioids on the range of ORT delivery options, including long-acting buprenorphine (LAB) depot injection, methadone liquid, and sublingual/wafer buprenorphine.

Methods: The research team conducted three focus groups ($n = 9$ participants) and individual interviews ($n = 20$) with people living in Scotland and Wales. We sought to explore participants' experiences and views on a range of ORT options, and to explore experiences and perceptions of the acceptability and utility of LAB for this group.

Results: Twenty-nine people participated (8 women, 21 men) and described experiences of poor mental health and interaction with the criminal justice system, including prison. All had experience of ORT and some had a preference for the "comfort" of methadone while others liked the clear headedness of buprenorphine. Participants saw LAB as a valuable addition to the treatment options. Potential benefits included freedom from the challenges associated with daily dispensing and the freedom to be able to attend to their priorities and regain control over their day-to-day lives. LAB naïve participants required reassurance regarding the duration of effect and wanted information and evidence from both their health care providers and their peers.

Conclusion: Participants generally recognized the potential of LAB. The research team identified crucial themes for those experiencing homelessness: emotions, trust, and time. A move to LAB represents a shift in the locus of control to the individual, which, for some is exciting, but for others is daunting. Providers should address this shift in control, and it must to be central to joint decision-making on whether someone is ready for LAB, the information they require to help them decide, and the support they will require during treatment.

1. Introduction

1.1. Homelessness

Homelessness has been conceptualized as "lacking access to minimally adequate housing" (Busch-Geertsema et al., 2016) and encompasses a wide range of insecure living situations, including rough sleeping, living in temporary accommodation, and living temporarily with friends or family. Pathways into homelessness are complex and vary for each person, but they tend to include a combination of structural and individual factors. These factors include traumatic childhood, adolescent, and adulthood experiences; interactions with the criminal justice system including imprisonment; and experiences of institutional care, poverty, and financial precarity (Bramley et al., 2019; Bramley & Fitzpatrick, 2017; McDonagh, 2011).

People who are homeless often experience tri-morbidity: intersecting mental and physical health problems, alongside problem substance use (Hewett & Halligan, 2010). Problem substance use often contributes to an individual becoming homeless, and an individual's use of alcohol and drugs may increase as a way of coping with the challenges of homelessness (Thomas, 2011). People who are homeless tend to report significantly worse physical and mental health (Hwang et al., 2005; Wright & Tompkins, 2006), are four times more likely to die prematurely, and seven times more likely to die from drugs compared with the

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general population (ISD, 2018). People experiencing homelessness face what can be an overwhelming range of overlapping challenges, including suboptimal access to health and care services. A significant number report that they are not receiving support to address their health problems (Homeless Link, 2014). When people who are homeless do access mainstream health care or substance use services, they often experience stigma and negative attitudes from staff, and report that services can be inflexible and incompatible with their living arrangements and circumstances (Gunner et al., 2019; Rae & Rees, 2015; Wise & Phillips, 2013).

1.2. ORT in homelessness

Opioid replacement therapy (ORT) reduces the risk of harm to people dependent on opioids such as heroin (Santo et al., 2021; Vorspan et al., 2019). Traditionally, ORT has involved daily consumption of an opioid medicine, typically methadone or buprenorphine in oral (liquid/sublingual/lozenge) formulation, requiring daily/frequent attendance at pharmacies, sometimes at specific times. This time constraint can present barriers for those experiencing homelessness, given their unstable living circumstances, competing priorities, and associated difficulty of establishing and maintaining routines (Canavan et al., 2012; Magwood et al., 2020). People who are accessing ORT can be vulnerable to being offered drugs by street suppliers when they attend pharmacies to collect their medication. Individuals can also be targeted to sell their ORT and other medicines, leaving them without their medication (Pathway, 2017) and vulnerable to higher risk drug use, including poly-drug use to manage withdrawal. Poly-drug use, including ORT, opiates, and benzodiazepines, is an ongoing feature of drug-related deaths in Scotland (National Records for Scotland, 2019) and reflects a pattern that research has also observed in Europe (EMCDDA, 2019).

Suboptimal adherence to oral medications, including ORT, has been a source of concern, and has underpinned efforts to develop extended-release versions (Tompkins et al., 2019). In July 2019, the first long-acting buprenorphine (LAB) product (brand name Buvidal®) was approved for use in the UK among people with opiate dependence aged ≥16 years within a framework of medical, social, and psychological support (Scottish Medicines Consortium, 2019). This drug is administered via weekly or monthly subcutaneous injection. Early clinical experience and expert opinion from Europe, Australia, and elsewhere indicated that LAB has utility in several settings and patient populations including people within/liberated from prison, those managed in non-specialized addiction settings, patients wishing to avoid daily dosing, and those at increased risk of missing doses/dropping out of treatment (Chappuy et al., 2020; Vorspan et al., 2019). In a randomized controlled trial, LAB was shown to be as effective as a daily sublingual combination of buprenorphine hydrochloride with naloxone hydrochloride in the treatment of opioid dependence and in preventing use of illicit opiates (Lofwall et al., 2018). Another trial found a reduction in illicit opiate use during the study and concluded that the long-acting formulation was safe and well-tolerated by patients (Frost et al., 2019).

Work to describe patients' perceptions and early experiences identified views that LAB was a welcome addition to the treatment of opiate dependence that could be especially suitable for patients well-stabilized on existing daily-dose ORT or those who had to travel longer distances for treatment and reported generally positive early experiences of treatment. Potential disadvantages identified by providers and patients included the need for additional patient information and informed consent, managing the transition from daily to long-acting products, and ethical concerns regarding the potential for patient coercion (Neale et al., 2019, Larance et al., 2020; Parsons et al., 2020; Chappuy et al., 2020; Walsh et al., 2021).

Given the intersecting challenges commonly experienced by people who are homeless with problem substance use, long-acting formulations have the potential to offer substantial benefit. Lofwall et al. (2018) commented that "favourable candidates" for this formulation include those concerned about prescription theft, and who have difficulties with safe storage or in adhering to daily medication. While the authors did not specifically mention the homeless population, these factors apply. As Magwood et al. (2020) concluded in their systematic review, emerging "low threshold" pharmaceutical options such as LAB warrant further study for this population. In Scotland and Wales traditional ORT such as methadone and sublingual buprenorphine are prescribed in specialist services or by a GP, and dispensed in community pharmacies. At the time of the study, LAB was both prescribed and administered in specialist services only.

Studies have not explored the views of LAB among people who are homeless; although, other work has explored the experiences of non-long-acting forms of buprenorphine among those experiencing homelessness (e.g. O'Gurek et al., 2021).

1.3. Study aim

This study aimed to explore the views of people who are homeless and dependent on opiates or opioids (prescribed or illicit) on a range of ORT delivery options including LAB, methadone liquid, and sublingual/wafer buprenorphine. The study specifically sought to identify the potential benefits and negative effects of a long-acting product compared to other treatments from the perspectives of people not in current treatment, patients currently treated with other ORT, and patients who already have experience with depot buprenorphine.

2. Methods

This qualitative study used focus groups and individual interviews. Individuals were eligible to participate if they were homeless or at risk of homelessness and had experience with illicit opiates or any form of ORT. The study collected data in two phases; people who were LAB naïve, followed by those who had experience of LAB. The study recruited participants from organizations working with homeless people who use drugs, including a mixture of residential and outreach projects managed by the Simon Community (Scotland), the Territorial Salvation Army (TSA) (Scotland and Wales), and Kaleidoscope (Wales). A small number of individuals were recruited via recovery communities in Scotland ($n = 2$). The intention had been to recruit from an NHS substance use clinic, but this was not possible due to difficulty securing ethical permissions during the COVID pandemic and within study timescales.

People who used services were informed of the study via flyers outlining the nature of the study and what participation involved. Service staff discussed the study with eligible people. Staff then liaised with the research team, who provided participant information sheets to hand out to those who expressed an interest in taking part. Informed consent was obtained verbally using an oral consent script and this was recorded and stored separately from interview and focus group recordings.

The study team conducted the study during COVID restrictions on travel and social contact; therefore, researchers adopted a flexible approach to data collection, which we adapted to comply with COVID guidelines at the time. Despite initial intentions of undertaking data collection in person, the study conducted all focus groups and interviews remotely by telephone or video link. The study gave participating services a choice to host either focus groups or one-to-one interviews.

During the first phase of the project, three focus groups took place in November and December 2020 via Zoom. Focus groups were facilitated by authors TB, RF, and CM. Service staff were in the room to provide technical support and to be a supportive presence for participants. During phase two, a tightening of COVID restrictions and technological challenges at some organizations resulted in the remaining data being collected via individual telephone/Zoom interviews conducted by TB, RF, and JS between January and May 2021. Staff were not in the room for these interviews but were available on site for technical support and follow-up/debriefing.

During data collection, researchers explored participants'

experiences and opinions of daily dose ORT. LAB treatment options were then described and the study team asked participants for their views. The researchers sought to uncover individual perceptions of the acceptability of LAB in terms of medical effects, any questions or concerns people held, and how such a product would work in their daily routines, including specific issues for people who were (at risk of) homelessness.

At the end of each interview/focus group, staff provided participants with a debrief sheet that outlined sources of information and support, which was sent to services in advance. Participants were given a £10 shopping voucher as a thank you. Host services received an honorarium of £500 to thank them for their participation, particularly given the challenges presented by the pandemic.

With permission, the focus groups and interviews were audio recorded and transcribed verbatim by an experienced, university-approved transcriber before the team anonymized and analyzed them. The study team entered the transcripts into NVivo (Version 12) (QSR International Pty Ltd., 2020) and analyzed them using the Framework Method (Ritchie and Lewis, 2003). A coding framework was developed by author TB after coding an initial selection of two transcripts, chosen for the richness and variety of data in the participants' responses. The research team (CM, JS, RF) identified additional themes and analyzed a sample of transcripts. Transcripts were read in full and coded line by line. Coding was both iterative and deductive, with themes developing both from the data and through the research questions. The researcher then applied these codes to the remainder of the data. The study team has selected relevant illustrative quotations to highlight the key findings, and we have retained participants' own dialect (including Scottish colloquialisms).

The team secured ethical approval from the University of Stirling (NICR 20 21 102R) and The Salvation Army (RCC-EAN201116). The Simon Community and Kaleidoscope services reviewed materials and were happy to be involved based on university approvals.

3. Results

3.1. Participation

In total 29 people took part, 9 via focus groups and 20 by individual interviews. Table 1 provides participants' characteristics. Participants are categorized into those without (LAB naïve) and with (LAB experience) previous experience of being prescribed LAB.

Researchers conducted three focus groups with Glasgow residents of the Simon Community, including one with members of a women-only group. Each took approximately 60 min (n = 9). Researchers interviewed individual TSA and Kaleidoscope clients, lasting approximately 15–25 min (n = 20). All focus group members and nine individual interview participants were taking medications other than LAB ($n = 18$), and eleven participants were on LAB. Overall, 21 males and eight females participated, with an age range of 32–50 years.

3.2. Themes emerging and explored

The emerging themes presented below were: the homeless context; ORT preferences and experience; views of LAB.

Table 1
Participant characteristics.

	Female	Male	Total (n = 29)
LAB naive	5	13	18
LAB experienced	3	8	11
Scotland	5	16	21
Wales	3	5	8

3.2.1. Understanding the homeless context

In exploring the homeless context, emerging themes included intersecting challenges, such as the lack of control over daily life and treatment decisions.

3.2.1.1. Intersecting challenges and loss of control including treatment decision. Several participants described challenges around homeless accommodation, and interactions with the police and criminal justice system, which were often negative. A prominent feature of homelessness can be losing control of one's life, including day-to-day decision-making. Finding oneself in prison, in the hospital, or in a homeless shelter can result in treatment being affected and interrupted, often with minimal or no warning. This theme was evident regarding participants' ORT medication, and a strong emergent theme was participants' sense of their own agency (or lack of) over treatment and changes to treatment plans:

> "*I've only ever been on methadone, and it was a judge that put me on it for a DTTO* [*Drug Treatment and Testing Order*] *and never took me back at seventeen and I'm 36. And they never took me back to get me took off it* […] *I shouldn't even be on methadone. I have not took heroin since I was nineteen and I'm coming up for 36 in a month.*"
>
> (female, LAB naive)

> "*I got on well with* [*sub-lingual buprenorphine*] *but and then they pulled me off* [*it*] *because it was too expensive* […] *then they got me on methadone which was an absolute waste of time. All it did was give me headaches and you know I wasn't getting on with that very well, you know I got prescribed 200ml* [=*200mg*] *a day which is way, way above normal.*"
>
> (male, LAB experienced)

There was a sense, from this participant and also from several others, of being lost in the system and at the mercy of the services with which they found themselves involved, with each service having its own policies and practices. This feeling was particularly apparent with those who had been involved in the criminal justice system; one participant described how her methadone treatment abruptly stopped when she went into prison:

> "*Well yes, it was twenty years I was on opioids. And I did go through being on methadone. I was on a script for quite some time, 80ml* [=*80mg*] *for two years. But then I did a little sesh* [*session*] *in prison and basically they didn't issue it to me in there. So I had a bad experience on that* [*in prison*] *like for three months.*"
>
> (female, LAB experienced)

The sense of disempowerment and lack of control over treatment decisions was often pervasive, even among those currently using LAB. They described their switch in medications as a consequence of the COVID pandemic:

> "*It was a lady come from* [*organisation*] *it was, giving out emergency scripts in the hostel because the lockdown was coming.*"
>
> (female, LAB experienced)

Several participants discussed disempowerment around treatment decisions, which was often driven by interaction with the criminal justice system, especially prison. Individuals' routes into LAB may, therefore, be a product of these experiences rather than be the result of their own active decision-making. Furthermore, some hesitancy may exist among some individuals to opt for LAB simply because the opportunity to freely choose is a new or quite unfamiliar experience for them.

3.2.2. ORT experiences and preferences

When describing experiences of non-long-acting ORT, two key themes emerged: the "numbing" effect of methadone compared to the

mental and emotional clarity experienced on buprenorphine; and the range of experiences of attending pharmacies for ORT dispensing.

3.2.2.1. Numbing/comforting effects of methadone. All participants had experience with methadone, with several participants currently taking it. One reported that they were also taking heroin and crack, while others said that methadone was currently the only drug they used. One participant had been on methadone for 25 years. Participants reported dosages between 40 mg and 200 mg daily.

> "*As soon as I wake up, I need my methadone* […] *it's maybe the routine I've got myself into* […] *it's just been that long taking it, it's in my head, in my body, I need to wake up and take it.*"

(female, LAB naive)

> "*I was on heroin first. I am thirty now, I started when I was 25. I have been on several methadone scripts throughout the years, always I've ended up using on top of, you know, it's been a safety net with the methadone* […]."

(female, LAB experienced)

One focus group participant, almost apologetically, described their positive experience of methadone and how they feel enabled and stabilized.

> "*Well methadone really helps me, sorry….methadone really helps me as my friend said* […] *that I would, if I didn't have my methadone with opiates in it I would probably end up with a heroin habit again.*"

(female, LAB naive)

Another participant echoed these feelings, saying '*it has kind of saved my life*', and explained how much it had improved her mental health. These accounts emphasize that it may be difficult for those who have been taking methadone for a long time to change medication. They may attribute the progress/stability in their lives to methadone specifically rather than ORT in general.

While some participants preferred methadone, one participant was very aware of its effect on their appearance:

> "*see when you are on methadone you don't really ken* [*know*] […] *you think you are normal, but when you actually do see a picture* […] *you look out of it, it's not a nice picture, but on suboxone* […] *you couldn't even tell if you've had suboxone.*"

(male, LAB naive)

3.2.2.2. Awakening of emotions with buprenorphine. Participants who had taken both forms of ORT noticed a distinct difference between methadone and buprenorphine in the way these medications made them feel emotionally:

> "*from what I've heard from my ex-partner* [*with*] *suboxone you feel more of your emotions.*"

(female, LAB naive)

Some felt that buprenorphine's effects were unfavorable because it provided clarity of thought, which brings challenges for people as they recall and process information and, sometimes, painful memories:

> "*coming off the methadone and going onto buprenorphine* […] *it's hard work because it's like your head goes* […] *over analysing and stuff and I managed to get through that.*"

(male, LAB naive)

> "*suboxone* […] *when you first start taking it it's like a reality check and I would imagine people who have like serious mental health issues and stuff would really, really struggle with that.*"

(male, LAB naive)

> "*Some people don't like subbies* [*suboxone*], *because they don't want to face reality. At the end of the day you've got to face reality at some point in your life, do you know what I mean?*"

(female, LAB naive)

Others felt that this new-found re-connection with their emotions was a positive development and helped them to move on:

> "*My mind is all good, I'm thinking better* […] *my choices I make are more accurate rather than as before I'd have just gone with it, but now my sense of mind is a lot better.*"

(male, LAB experienced)

Some buprenorphine and LAB experienced participants expressed some ambivalence toward their new-found clarity of thought. While some spoke positively about these effects, others recognized that these effects may be unwelcome.

3.2.3. Views of LAB

When discussing the potential for LAB, emerging themes included skepticism about its effectiveness among LAB naïve participants, and several advantages of removing the need for regular pharmacy attendance, which could particularly benefit people who are homeless.

3.2.3.1. Skepticism in LAB naïve participants. When people who had no experience of LAB were asked if they had any concerns or could see any disadvantages to having a depot injection, four participants expressed the same fear—that the effects of the buprenorphine would wear off before they were due for their next injection. They had difficulty understanding the idea of a slow-release drug, perhaps because of their often long-standing experience of daily-dose medication:

> "*I think it's just in my head I think to myself* […] *it is just not feasible. I don't know, I cannae* [*can't*], *I cannae surmise how it's going to produce the amount of sub you are on a day* […] *You know every day for a month* […] *I just think that's too far-fetched mate…* […]*I don't think it's feasible.*"

(male, LAB naive)

This skepticism was evident in comments from several participants:

> "*See the likes of the week before or halfway before does it not, is there anything been said about it starts to wear off at that point? The worry is* […] *the time of release on it.*"

(male, LAB naive)

Others said that they would certainly try it, if someone they knew and trusted had tried it first and recommended it:

> "*No if it was tested on somebody I knew and they said it was alright 'yes I'd go for it aye, a hundred percent aye'.*"

(male, LAB naive)

> "*Well, I'd rather wait until like other people do it first, so I can see the side effects that they get* […] *Then I'd think about it.*"

(female, LAB naive)

The study team discussed this skepticism with those who were on LAB to ask if they had experienced the same skepticism before starting LAB. Participants experiences and acknowledged the genuine dilemma of progress in recovery versus the comfort of routine and familiarity of methadone. However, in these cases they had gone on to try LAB:

> "*At first* […] *I was scared to put the methadone away* […] *I was tied to chemists for twenty years. So I was like* […] *I don't know what I'm going*

to do. I don't know how I'm going to cope with this, an injection is going to take all this away, how is this going to work? That is what was going through my head […] *I was worried about the side effects. I was worried about how am I going to keep fit. Am I going to go into seizure? Just all they* [*those*] *things.*"

(male, LAB experienced)

While participants had some skepticism toward LAB, participants also expressed a willingness to consider LAB if they were informed and assured about no or minimal negative side effects and duration of effect, especially if provided or supported by peers.

3.2.3.2. Advantages of avoiding the pharmacy. For some participants, daily attendance at community pharmacies was very constraining and participants perceived the ability of LAB to offer them some freedom as a major benefit:

"*to get you stabilised it's good* […] *you can function normally without being a slave to the chemist, you know because you feel as if you are being a slave to the chemist for all they* [*those*] *years* […] *I liked the fact that it was a monthly delivery, that was you know enticing right away.*"

(male, LAB experienced)

In addition to feeling constrained by the daily pharmacy visits, these visits also left some people vulnerable to meeting people who might have a negative impact on them, encouraging a return to drug use:

"*if I had to go down there just once a month, again I would limit it, the chances of bumping into someone you didn't want to bump into and end up relapsing or having a smoke or whatever you do, having an injection* […] *So there is that side to look at as well.*"

(male, LAB experienced)

"*Well, likes of, definitely, going to the chemist every day ken* [*you know*] […] *it doesn't matter what time you are always banging into people ken* […]*it's hard to get out of that circle ken,* […] *if you are getting that injection then you are not near that are you?*"

(male, LAB naive)

Leaving the pharmacy also posed risks of being asked to sell their ORT and other medications, increasing their sense of vulnerability:

"*I basically hate it* […] *everybody is talking at the chemist, always the same old shite* […] *who's selling this, and then whoever is on the methadone queue they will be punting Valium* […] *or they see me come out with my script and they are like, 'oh, are you not wanting to part with any of that?'*"

(male, LAB naive)

Some participants reported having experienced stigma when collecting ORT in the past but were generally content with their current pharmacy:

"*To be fair the staff were brilliant* […] *you were treated just like another person, it was no* [*not*] *like 'well we will treat you differently because you are in this queue'. Although I ended up at a different chemist and I felt that there was a little bit of that* [*negative attitude*] *from certain members of staff* […] *it's not always the case but can be.*"

(male, LAB naive)

All except one participant reported having a good relationship with the staff at their pharmacies. Some reported that staff even tried to mitigate the stigma from other customers, for instance, by encouraging participants to sit so it looked like they were waiting for a prescription when waiting for a sub-lingual tablet wafer to dissolve on their tongue:

"*when I put it in my mouth* […] *to pass the time he'll say take a seat* […] *I am sitting on the chair waiting on them dissolving on my tongue, so when people were coming and buying stuff, they are not going 'oh there is a junkie', or an ex-addict or anything* […] *they don't ken anything about you.*"

(male, LAB naive)

3.2.3.3. Progress versus comfort in routine. Another participant, without experience of LAB, spoke frankly about how they valued the routine of daily pharmacy attendance:

"*Not having to go to a chemist or whatever for a month, that would be amazing for certain people, but for me* […] *because I wake up and I know I need something every day* […] *I'm not at a stage where it would be something that I could do.*"

(female, LAB naive)

This is particularly important to consider with people who are homeless. Such patients are likely to experience changes to their circumstances, which may happen with minimal warning and may be unsettling; patients who are experiencing homelessness may value the structure and routine provided by a daily visit to a pharmacy and interaction with a health care professional with whom they have a positive relationship.

3.2.3.4. Freeing time and regaining control. Without needing to attend pharmacies on a daily basis, participants had a new sense of freedom that they could not previously have contemplated, such as allowing time for a holiday:

"*you don't have to worry about getting up and rushing to the chemist or missing it, or you can go on a little holiday without worrying.*"

(female, LAB experienced)

Freeing up time was a '*game changer*' for this participant. This enabled them to travel to visit relatives and take on employment, regaining control of their time and how they used it. Another expressed:

"*Now that was life changing again because I've been taking something every day to stop me from feeling ill* […] *Now I don't have to take that. I'm going to visit my mother for the first time in sixteen years next week* […] *I wouldn't have been able to do that on* [*oral buprenorphine*] *because I'd have had to go in there, ask for a holiday script, this that and the other, whereas I can just be my own man, I could go and get a job if I want.*"

(male, LAB experienced)

This freeing of time allowed people to contemplate other ways to use their time that provided opportunities they had never had before. One person found it difficult to articulate, perhaps because he had never needed to before:

"*But yeah I think it would help the homelessness big time, it would help a lot I think* […] *You know something I don't think there is any downsides to it because – one as I say you are keeping traffic away from the pharmacy. Two* […] *you can like go out and explore more if you know what I mean.*"

(female, LAB experienced)

3.2.3.5. Specific benefits for people who are homeless. The researchers explored the benefits and challenges of LAB with participants and asked them to consider these in relation to their experience of homelessness. Participants identified that accommodation could be changed at short notice, moving them farther away from the pharmacy and requiring longer or more expensive travel, which made LAB a welcome solution to challenging daily pharmacy attendance. Participants also identified LAB

as allowing time between prescriptions to get an address established when moving, or being moved between accommodations:

> "*No I think it's better to be honest because once a month you've got to go. Because it's so chaotic being homeless anyway you know particularly a routine of going somewhere every day, especially if you've hardly had any sleep the night before. Because you've been out on the streets well you know, so I think it's actually better once a month.*"
>
> (female, LAB experienced)

> "*Well my partner right, she's down in* [*place name*] *and she's wanting to move back up. So they are on about her methadone and they were like 'no we need to have an address, we can't just send you up to* [*place name*] *and give you your methadone without an address.' So they were saying it would take seven or eight days.* […], *if she was on the injection, she would get the injection, come up here, and then the month would be over and she'd be up here and then she'd have an address.*"
>
> (male, LAB experienced)

For those experiencing street homelessness or those involved in begging, LAB provided them with the benefit of not having to worry about leaving "pitches" to attend appointments or go to the pharmacy for medication collection, as a participant expressed in the following quote:

> "*you think when you are homeless you've got nothing better to do than to turn up for appointments and things but when you are homeless you know sometimes you can't just leave where you are to go somewhere else* […] *you might need to stay on your pitch now or if you come back it will be gone and you can't go to your appointment* […] *.but you don't need to keep in contact with this* [*LAB*] *you know* […] *four weeks from today be here.*"
>
> (female, LAB experienced)

Participants expressed that LAB might be one less factor to consider in the chaotic picture of homelessness. However, this chaos and the compounding challenges could make even contemplating LAB too challenging for some individuals:

> "*when I was in the hostel situation they were all on methadone, or still leading the chaotic lifestyle, going and scoring every day and using on top of their methadone* [**…**] *You try and talk to them and say to them about going onto buprenorphine and that they are just too hell bent on methadone now that they cannae see a way out basically* […]."
>
> (male, LAB experienced)

4. Discussion

4.1. Summary of main findings

This research found that intersecting challenges described in the homelessness literature were evident in this sample, with many describing experiences of poor mental health and interactions with the criminal justice system, including prison. All had experience with ORT and some had a preference for the numbing effects of methadone while others liked the mental and emotional clarity of buprenorphine. Participants considered LAB a valuable addition to treatment options even if people did not personally want to try it. Some LAB naïve participants expressed skepticism regarding the duration of its effect. They saw LAB as providing freedom from daily pharmacy visits and associated challenges, including travel, time, exposure to other people who use drugs, and temptation to use drugs or sell prescriptions. The specific benefits that the homeless population expressed were largely practical. Freeing up of one's time and regaining the locus of control over their daily lives emerged as central themes that are particularly pertinent to the homeless population, who have generally lost control (or had it taken from them) from many aspects of their lives.

4.2. Discussion of findings

Many participants had experience with both methadone and buprenorphine-based treatments and identified benefits and challenges associated with each, especially regarding affective and cognitive effects.

Almost all participants had experience of daily dispensing from a community pharmacy and discussed challenges associated with this. Participants saw community pharmacy staff as being supportive and providing a destigmatizing and person-centered service. This finding was a change from previous literature citing stigmatizing health care provision for people who are homeless (e.g. Gunner et al., 2019; Rae & Rees, 2015). Considerable changes have occurred over time in pharmacy services and attitudes across the pharmacy population in Scotland have improved (Matheson et al., 2016)—these changes may now be having an impact at patients' experiences. Some participants valued daily contact with pharmacy staff and having a reason to leave the house, and felt this could be missed on LAB. Pharmacy-based administration may be possible in the future.

Participants typically reported an active illicit drug trade around pharmacies, such as being invited to purchase drugs and being asked or coerced into selling their medications, which previous literature has noted as well (Larance et al., 2020; Parsons et al., 2020; Chappuy et al., 2020; Walsh et al., 2021).

LAB-naïve participants generally recognized the benefits that a long-acting treatment option could offer. Participants had mixed views about LAB and expressed some skepticism about considering it for themselves. Some participants were doubtful about the duration of effect, worrying that they might experience withdrawal before the next injection was due or perhaps from habit felt they needed "something every day". Even those who perceived potential benefits expressed a need for more information and evidence from clinicians and their peers on its effectiveness and tolerability. The LAB experienced group mirrored these views; they described previously having such concerns but deciding to make the change to LAB anyway.

Several participants expressed interest in the new formulation citing novelty and being freed from the need for daily pharmacy attendance as motivating factors. Willingness to consider LAB was generally higher among people who had experience with buprenorphine in sublingual or wafer form who were comfortable with the associated clarity of thought and emotions. A few participants were strongly attached to their methadone and the comfort that it provided.

The benefits of and concerns about LAB that participants expressed were consistent with other groups of people dependent on opiates/opioids. However, this study identified additional benefits, including not having to leave a pitch and not having to make a long journey to the pharmacy if someone were placed in distant housing. McNaughton-Nicholls's (2009) work on the concept of "thin rationality" recognized that people experiencing homelessness continue to exert agency within their limited circumstances. For example, individuals might make decisions that cause them harm or do not confer benefit, but these decisions are an important expression of agency when opportunities for such expressions are severely restricted. Models of treatment delivery, including LAB, need to be considered in this context.

In addition, the lack of agency over day-to-day living that people experiencing homelessness often endure (Watts & Blenkinsopp, 2021) means that the opportunity to exercise free choice could be daunting for some. These, alongside other barriers such as the chaotic nature of daily life, are likely to shape willingness to choose LAB among people experiencing these complex circumstances. Enhanced, patient-focused interventions such as assertive outreach treatment may be appropriate for this group, among whom practical barriers to treatment seeking exist.

Finally, this research highlights that individualized and person-

centered treatment is essential. Participants had a wide range of views about and information needs regarding LAB as a novel treatment. Participants emphasized the importance of both clinical information and their peers' feedback.

4.3. Methodological strengths and limitations

This study collected data from a range of people with and without experience with LAB across a range of services, in both Scotland and Wales. Although we had intended to include an NHS service in Scotland for recruiting LAB experienced patients, we were unable to do so due to challenges with obtaining ethical approval during COVID restrictions and in the available timescale. However, the study did gain views of LAB experienced people through third-party organizations and recovery communities. The research team felt the study did reach data saturation, as no new themes emerged in the last few interviews.

The study's original plan was to conduct in-person focus groups. However, COVID restrictions made that impossible. The research team did conduct three focus groups initially, but the researchers had to connect remotely. This situation was not ideal as it inhibited interpersonal connection and opportunities to gauge participants' response to others' views and guide the discussion accordingly. Subsequently, the study conducted individual interviews by telephone or through Zoom because it was difficult to organize a group remotely through the service as restrictions tightened further. These formats generally worked well and allowed us to include a broader geographical spread of participants than may have otherwise been possible. However, the study did lose out on the interpersonal interaction of focus groups, and it did rely heavily on services to introduce the study to patients and forward on prospective participant contact details.

4.4. Conclusion

Participants generally recognized the potential of LAB. The crucial emerging themes for the homeless population in this study were dealing with emotions, trust, and time. These themes represent a shift in the locus of control back to the individual, which is exciting for some, but daunting for others. Addressing this shift needs to be central to joint decision-making between provider and patient about whether the patient is ready for long-acting buprenorphine, the information they require to help them decide, and the supports they will require during treatment.

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CRediT authorship contribution statement

Conceptualisation: CM, JS; data curation: RF, CM; analysis: all; Funding acquisition: CM, JS; Writing: CM, RF, JS; Editing: all.

Declaration of competing interest

The authors declare that they have no competing interests.

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Appendix A. Topic guide

- A bit about each of you and your experience of being prescribed opioids – only info that you are comfortable sharing in this group.
- Reminder that the focus of today's chat is about different kinds of prescribed opioids and their different forms, and the pros and cons of all of these.

Researcher will provide clear and accessible definitions of all opioids and their different forms, where needed: methadone liquid (oral methadone), sub lingual buprenorphine tablets, wafer buprenorphine (Espranor) and long-acting buprenorphine injection (Buvidal).

- Experience of ORT – methadone/buprenorphine:
  - o (If applicable), can you say a bit about your experiences overall of taking (oral) methadone or buprenorphine please?
  - o What would you say is good about this (if anything)?
  - o What would you say is bad or difficult about this (if anything)?
  - o What is it like going to get your prescription? How do you go and get it e.g. walk, get the bus?
  - o How often do you get your prescription? Is the frequency about right for you or would you prefer something different?
  - o What's it like when you go and get your prescription? For example, do you have to wait around or not really? Do you interact with staff or with other customers/clients much? What are these interactions like?
  - o Any other comments, suggestions, questions.
- New product: Long-acting depot version of buprenorphine:
  - o Have you heard of it before getting involved in this research? If yes, can you say a bit more about what you know?

Researcher will explain/re explain the concept of depot injections at this point, so everyone has the same level of information.

- o What are your initial thoughts/views on this?
- o What do you think would be good about this (if anything)?
- o What do you think could be bad or difficult about this (if anything)?
- o How do you think this could work best?
- o What challenges/barriers do you see (if any) on trying this out?
- o What are the most important things we would need to consider if we tried this out with people in similar situations to yourself?
- o Is this the kind of thing you would be interested in taking as an alternative to what you take at the moment? Can you say a bit more?
- o How do you think others in a similar situation would feel about this? Can you say a bit more?
- o Any other comments, suggestions, questions?

References

Bramley, G., & Fitzpatrick, S. (2017). Homelessness in the UK: Who is most at risk? *Housing Studies, 33*, 96–116. https://doi.org/10.1080/02673037.2017.1344957

Bramley, G., Fitzpatrick, S., Wood, J., Sosenko, F., Blenkinsopp, J., Littlewood, M., et al. (2019). Hard Edges Scotland: New conversations about severe and multiple disadvantage. Available at: https://lankellychase.org.uk/resources/publications/hard-edges-scotland/. (Accessed 24 May 2021).

Busch-Geertsema, V., Culhane, D., & Fitzpatrick, S. (2016). Developing a global framework for conceptualising and measuring homelessness. *Habitat International, 55*, 124–132. https://doi.org/10.1016/j.habitatint.2016.03.004

Canavan, R., Barry, M. M., Matanov, A., Barros, H., Gabor, E., Greacen, T., et al. (2012). Service provision and barriers to care for homeless people with mental health problems across 14 European capital cities. *BMC Health Services Research, 12*(1), 222. https://doi.org/10.1186/1472-6963-12-222

Chappuy, M., Trojak, B., Nubukpo, P., Bachellier, J., Bendimerad, P., Brousse, G., & Rolland, B. (2020). Prolonged-release buprenorphine formulations: Perspectives for clinical practice. *Therapie, 75*(5), 397–406. https://doi.org/10.1016/j.therap.2020.05.007. . (Accessed 18 May 2020)

Frost, M., Bailey, G. L., Lintzeris, N., et al. (2019). Long-term safety of a weekly and monthly subcutaneous buprenorphine depot (CAM2038) in the treatment of adult out-patients with opioid use disorder. *Addiction, 114*(8), 1416–1426. https://doi.org/10.1111/add.14636

Gunner, E., Chandan, S. T., Marwick, S., Saunders, K., Burwood, S., Yahyouche, A., & Paudyal, V. (2019). Provision and accessibility of primary healthcare services for people who are homeless: A qualitative study of patient perspectives in the UK. *British Journal of General Practice, 69*(685), e526–e536. https://doi.org/10.3399/bjgp19X704633

Hewett, N., & Halligan, A. (2010). Homelessness is a healthcare issue. *103*(8), 306–307. https://doi.org/10.1258/jrsm.2010.10k028

Homeless Link. (2014). The unhealthy state of homelessness: health audit results 2014. London: Homeless Link. Available at: https://www.homeless.org.uk/sites/default/files/site-attachments/The%20unhealthy%20state%20of%20homelessness%20FINAL.pdf. (Accessed 2 August 2021).

Hwang, S. W., Tolomiczenko, G., Kouyoumdjian, F. G., & Garner, R. E. (2005). Interventions to improve the health of the homeless: A systematic review. *American Journal of Preventive Medicine, 29*, 311. https://doi.org/10.1016/j.amepre.2005.06.017. e75.

ISD. (2018). The National Drug Related Deaths Database (Scotland) Report. Analysis of deaths occurring in 2015 and 2016. Available at: https://www.isdscotland.org/Health-Topics/Drugs-and-Alcohol-Misuse/Publications/2018-06-12/2018-06-12-NDRDD-Report.pdf. (Accessed 23 June 2021).

Larance, B., Degenhardt, L., Grebely, J., Nielsen, S., Bruno, R., Dietze, P., Lancaster, K., Larney, S., Santo, T., Shanahan, M., Memedovic, S., Ali, R., & Farrell, M. (2020). Perceptions of extended-release buprenorphine injections for opioid use disorder among people who regularly use opioids in Australia. *Addiction, 115*, 1295–1305. https://doi.org/10.1111/add.14941

Lofwall, M. R., Walsh, S. L., Nunes, E. V., Bailey, G. L., Sigmon, S. C., Kampman, K. M., Frost, M., Tiberg, F., Linden, M., Sheldon, B., Oosman, S., Peterson, S., Chen, M., & Kim, S. (2018). Weekly and monthly subcutaneous buprenorphine depot formulations vs daily sublingual buprenorphine with naloxone for treatment of opioid use disorder: a randomized clinical trial. *JAMA Internal Medicine, 178*(6), 764–773. https://doi.org/10.1001/jamainternmed.2018.1052

Magwood, O., Salvalaggio, G., Beder, M., Kendall, C., Kpade, V., Daghmach, W., et al. (2020). The effectiveness of substance use interventions for homeless and vulnerably housed persons: A systematic review of systematic reviews on supervised consumption facilities, managed alcohol programs, and pharmacological agents for opioid use disorder. *PLoS ONE, 15*(1), Article e0227298. https://doi.org/10.1371/journal.pone.0227298

Matheson, C., Thiruvothiyur, M., Robertson, H., & Bond, C. (2016). Community pharmacy Services for People with drug problems over two decades in Scotland: Implications for future development. *International Journal of Drug Policy, 27*, 105–112. https://doi.org/10.1016/j.drugpo.2015.11.006

McDonagh, T. (2011). Tackling homelessness and exclusion: Understanding complex lives. Available at: https://www.jrf.org.uk/sites/default/files/jrf/migrated/files/homelessness-exclusion-services-summary.pdf. (Accessed 27 August 2020).

McNaughton-Nicholls, C. (2009). Agency, transgression and the causation of homelessness: A contextualised rational action analysis. *European Journal of Housing Policy, 9*(1), 69–84. https://doi.org/10.1080/14616710802693607

National Records for Scotland. (2019). Drug Related Deaths for 2019 in Scotland. Available at: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/drug-related-deaths-in-scotland/2019. (Accessed 2 August 2021).

Neale, J., Tompkins, C. N. E., & Strang, J. (2019). Depot buprenorphine injections for opioid use disorder: Patient information needs and preferences. *Drug and Alcohol Review, 38*(5), 510–518. https://doi.org/10.1111/dar.12939

O'Gurek, D. T., Jatres, J., Gibbs, J., Latham, I., Udegbe, B., & Reeves, K. (2021). Expanding buprenorphine treatment to people experiencing homelessness through a mobile, multidisciplinary program in an urban, underserved setting. *Journal of Substance Abuse Treatment, 127*. https://doi.org/10.1016/j.jsat.2021.108342

Parsons, G., Ragbir, C., D'Agnone, O., Gibbs, A., Littlewood, R., & Hard, B. (2020). Patient-reported outcomes, experiences and satisfaction with weekly and monthly injectable prolonged-release buprenorphine. *Substance Abuse and Rehabilitation, 11*, 41–47. https://doi.org/10.2147/SAR.S266838

Pathway. (2017). Word on the street: homelessness and pharmacists. Available at: *Wales Pharmacy Review*, 10–11 https://www.pathway.org.uk/wp-content/uploads/Pharmacists-and-Homelessness-Welsh-Pharmacy-Review.pdf. (Accessed 2 August 2021).

Rae, B. E., & Rees, S. (2015). The perceptions of homeless people regarding their healthcare needs and experiences of receiving health care. *Journal of Advanced Nursing, 71*, 2096–2107. https://doi.org/10.1111/jan.12675

Ritchie, J., & Lewis, J. (2003). *Qualitative research practice—A guide for social science students and researchers*. London, Thousand Oaks, CA: Sage Publications Ltd.

Santo, T., Clark, B., Hickman, M., et al. (2021). Association of opioid agonist treatment with all-cause mortality and specific causes of death among people with opioid dependence: A systematic review and meta-analysis. *JAMA Psychiatry*. https://doi.org/10.1001/jamapsychiatry.2021.0976

Scottish Medicines Consortium. (2019). Buprenorphine 8/16/24/32/64/96/128 mg prolonged-release solution for injection (Buvidal®). Glasgow https://www.scottishmedicines.org.uk/media/5962/buprenorphine-buvidal-final-july-2019-amended-180521-for-website.pdf. (Accessed 2 September 2021).

Thomas, B. (2011). Homelessness: A silent killer–A research briefing on mortality amongst homeless people. Available at: https://www.crisis.org.uk/ending-homelessness/homelessness-knowledge-hub/health-and-wellbeing/homelessness-a-silent-killer-2011/. (Accessed 2 August 2021).

Tompkins, C. N. E., Neale, J., & Strang, J. (2019). Opioid users' willingness to receive prolonged-release buprenorphine depot injections for opioid use disorder. *Journal of Substance Abuse Treatment, 104*, 64–71. https://doi.org/10.1016/j.jsat.2019.06.007

Vorspan, F., Hjelmström, P., Simon, N., Benyamina, A., Dervaux, A., Brousse, G., Jamain, T., Kosim, M., & Rolland, B. (2019). What place for prolonged-release buprenorphine depot-formulation Buvidal® in the treatment arsenal of opioid dependence? Insights from the French experience on buprenorphine. *Expert Opinion on Drug Delivery, 16*(9), 907–914. https://doi.org/10.1080/17425247.2019.1649252

Walsh, C., Hamilton, D., Kehoe, M., & Finnegan, C. (2021). Evaluation of patient experiences with prolonged-release buprenorphine. Poster presentation Royal College of Psychiatrists. Available at: https://www.rcpsych.ac.uk/docs/default-source/events/faculties-and-sigs/addictions-faculty/posters/poster—c-walsh—addictions-2021.pdf?sfvrsn=7277fe9b_2. (Accessed 24 May 2021).

Watts, B., & Blenkinsopp, J. (2021). *Valuing control over one''s immediate living environment: How homelessness responses corrode capabilities*. Housing, Theory and Society. https://doi.org/10.1080/14036096.2020.1867236 1-18

Wise, C., & Phillips, K. (2013). Hearing the silent voices: Narratives of health care and homelessness. *Issues in Mental Health Nursing, 34*, 359–367. https://doi.org/10.3109/01612840.2012.757402

Wright, N. M. J., & Tompkins, C. N. E. (2006). How can health services effectively meet the health needs of homeless people? *British Journal of General Practice, 56*(525), 286–293.