

Research Paper

Substance use and homelessness: A longitudinal interview study conducted during COVID-19 with implications for policy and practice



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ABSTRACT

Background: People who are homeless and using substances frequently encounter barriers to accessing support. This paper aims to inform policy and practice by analysing changes in the tobacco, alcohol and illicit drug use of people experiencing homelessness.

Methods: Data derive from a qualitative longitudinal study (undertaken 2020/2021) and involving telephone interviews (n = 310) conducted with 34 people accommodated in two London hotels provided as part of a UK policy response to COVID-19. The hotels offered various supports, including opioid replacement therapy, prescribed alcohol, licensed nicotine replacement therapy, and e-cigarettes. Participants' substance use data were organised by Iterative Categorization and subjected to a content analysis to identify patterns and themes..

Results: At entry to the hotel, 5/34 participants (14.7%) had never used alcohol nor illicit drugs; 10/34 (29.4%) had only ever used alcohol (mostly without a problem); 11/34 (32.4%) had ever used illicit drugs but without a problem; and 8/34 (23.5%) had ever had a problem with illicit drugs. Sub-groups had different socio-demographic characteristics, particularly regarding being/not being a UK national, sex, and homelessness duration. Tobacco smoking was common across all sub-groups (18/34; 52.9%). Participants were often anxious about living with others who were using substances, and some worried about their own substance use. Substance use was changeable, with more decreases than increases. Changes related to intrapersonal (psychological), interpersonal (social) and structural (resource-based) factors. For example, decreases were precipitated by people feeling motivated to change, separation from others who used drugs, and receiving treatment or support.

Conclusion: Findings indicate that various interventions and accommodation models may benefit people who are homeless and using substances. An initiative that combined shelter and basic amenities, pharmacological treatment, psychosocial support, and space where substances were not available and other people using substances could be avoided resulted in an overall reduction in substance use amongst those accommodated.

Background

International research has repeatedly shown that levels of substance use are higher amongst people experiencing homelessness than amongst the general population (Baggett et al., 2013; Fazel et al., 2008; Kemp et al., 2006). Despite this, actual prevalence estimates vary greatly between studies depending on the definitions of both 'homeless' and 'substance use' used, when and where studies were undertaken, the research methods deployed, and the populations sampled (ACMD, 2019; Haile et al., 2020; Kemp et al., 2006). In addition, most research on homelessness and substance use has been cross-sectional (rather than

longitudinal) and has focused either on tobacco smoking behaviours or on alcohol and other drug use (rather than on how these substances are combined).

In terms of prevalence, a review of predominantly male survey data published between 1966 and 2007 from 29 Western countries concluded that alcohol dependence (last six months prevalence) ranged from 8.1% to 58.5% and drug dependence (last six months prevalence) ranged from 4.5% to 54.2%, with pooled prevalences of 37.9% and 24.4% respectively (Fazel et al., 2008). Meanwhile, a study of adult women who were homeless in Canada found that 37.8% of participants reported current alcohol dependence and 70.5% reported current drug dependence (Torchalla et al., 2011). More recent data from London

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and the South of England, UK, suggest that 36% of people accommodated in emergency accommodation during the COVID-19 pandemic had alcohol support needs and 31% had drug support needs (where support needs were defined by those working in the homelessness sector) (St Mungo's, 2021).

In respect of tobacco smoking, a review of mostly US studies has revealed prevalence rates of 57% to 82% amongst adults accessing homeless support services (Soar et al., 2020). People experiencing homelessness who smoke cigarettes also have high rates of concurrent use of alternative tobacco products, such as smokeless tobacco and electronic cigarettes (e-cigarettes) (Baggett et al., 2016; Neisler et al., 2018). Additionally, they engage in high-risk smoking practices, including sharing cigarettes and smoking discarded butts, which pose an elevated risk of exposure to toxins and increase the threat of infectious disease transmission (Aloot et al., 1993; Garner & Ratschen, 2013; Vijayaraghavan et al., 2018). In the UK, it is estimated that 78% of adults who are homeless smoke tobacco (Homeless Link, 2019), with more localised data indicating that 73% of people experiencing homelessness in London smoke (Lewer et al., 2019).

Other studies have reported that male young people who are homeless are more likely to use alcohol and other drugs than female young people who are homeless (Laporte et al., 2018; Maria et al., 2018; Weal, 2020). Amongst young people experiencing homelessness, tobacco smoking is used to manage stress; de-escalate negative emotions; control nicotine dependence, craving or withdrawal; pass the time; and engage socially with peers (Patterson et al., 2022). Alcohol and other drug use has similarly been identified as offering a means of coping with stress and adverse living conditions, managing trauma, blocking out disturbing emotions, dampening pain, lifting mood, and facilitating sleep (Carver et al., 2020; Klee & Reid, 1998; Neale 2001; Parkin, 2013).

Although people who are both homeless and using substances frequently experience complex problems, they routinely encounter obstacles when they try to access support (ACMD, 2019; Neale, 2011). Factors that can prevent people who are experiencing homelessness from securing treatment for alcohol and other drugs include stigma and feeling judged, not knowing what help exists, not staying in one place for long enough to receive support, waiting lists, bureaucracy, strict standards of attendance and compliance at some agencies, and not liking the support on offer (Liddiard & Hutson, 1991; Magwood et al., 2020; Neale, 2011; Pleace et al., 2000). Barriers to smoking cessation amongst people who are homeless include feelings of stress, poor mental health and other addictions, logistical challenges to participating in cessation programmes, pessimism about the effectiveness of treatment, preferring not to use treatment, the cost of nicotine replacement therapy (NRT), and social pressure from, or proximity to, other people who smoke (Businelle et al., 2013; Dawkins et al., 2019; Rubin et al., 2021; Segan et al., 2015; Soar et al., 2020).

Interventions considered most likely to reduce problem substance use amongst people who are homeless include safe housing, opioid replacement therapy, managed alcohol programmes, tailored primary care services, trauma-informed care, and formal case management (Carver et al., 2020; Magwood et al., 2020; Neale, 2011; Pleace, 2008; St Mungo's, 2021). People who are homeless have also identified a preference for compassionate and non-judgemental support that is holistic, person-centred, delivered flexibly, and offers choice (ACMD, 2019; Carver et al., 2020; Neale, 2001). In terms of smoking cessation, multicomponent interventions that pair evidence-based cessation interventions (such as pharmacotherapy, behavioural interventions, and smoke free policies) with strategies to reduce structural stressors, change social smoking norms, and address stress management are reported to be most promising (Patterson et al., 2022).

Despite this body of international literature, there is little information on how people who are homeless combine their use of tobacco, alcohol, and other drugs; how their consumption of these various substances changes over time; and the types of intervention that might target multiple substances together. In this paper, we seek to redress some of these

gaps by analysing the use of tobacco, alcohol, and illicit drugs amongst a cohort of people experiencing homelessness who were housed in emergency hotels during the COVID-19 pandemic. To this end, we focus on four empirical questions: i. what are the socio-demographic characteristics of people with different patterns of substance use? ii. how do their patterns of substance use change over time? iii. what factors explain changes in their patterns of substance use? and iv. what is the role of treatment and support? Findings are intended to increase understanding of whether interventions should be tailored to particular sub-groups of people experiencing homelessness; the extent to which substance use amongst people experiencing homelessness is amenable to change; and the types of intervention and intervention components that are most likely to meet the substance-related needs of people experiencing homelessness.

Methods

Our data derive from a rapid evaluation of 'Everyone In', which was a UK Government policy initiative designed to provide temporary and emergency accommodation (often in commercial hotels) for people experiencing rough sleeping and other forms of homelessness during the COVID-19 pandemic and associated national lockdowns (Neale et al., 2020; Neale et al., 2021; Parkin & Neale, 2021). In London, Everyone In accommodated over 5,000 people, providing them with a free room, food, access to medical care, advice on benefits, broader social care and support, mobile phones, and WiFi (St Mungo's, 2021). In addition, a newly-established Pan-London Homeless Hotel Drug and Alcohol Service (HDAS), involving multiple providers of substance misuse services from across London, assisted people with any addiction treatment and harm reduction needs they were experiencing whilst living in the hotels. This included the distribution of over 3,000 e-cigarette starter kits, over 20,000 e-cigarette refill pods, and nicotine replacement products (Gardner et al., 2020).

The evaluation was conducted as longitudinal and involved semi-structured telephone interviews with hotel residents (Parkin et al., 2021; Neale et al., 2022). Ethical approval was granted by King's College London Research Ethics Committee (CREC-HR-19/20-18676) and participants were recruited from two of the London hotels. Three team members visited both hotels in person on six occasions between June and September 2020, during which visits they described the research to potentially interested residents and distributed study information packs. These packs included participant information sheets, informed consent forms, and a phone number which residents were invited to text or call if they wanted to learn more and/or participate. Approximately 300 study packs were distributed, 41 hotel residents contacted the research team, and 35 residents were successfully recruited.

Interviewing was conducted in three stages (see Box 1). Stage 1 occurred whilst participants were living in the hotel (up to five telephone interviews per participant, each lasting 20-30 minutes, conducted over one week); Stage 2 occurred immediately after participants moved out of the hotel (up to five follow-up interviews per participant, each lasting 20-60 minutes, conducted on a weekly basis over one month); and Stage 3 occurred nine months after participants had left the hotel (one follow-up interview per participant lasting 25-30 minutes). Of the 35 participants who were recruited, 28 completed Stage 2 and 13 completed Stage 3. Each stage covered similar interview topics, including substance use and treatment experiences, and all interviews were undertaken by one of a team of eleven trained interviewers. Where possible, the same interviewer conducted each participant's Stage 1 and Stage 2 interviews; then one interviewer conducted all Stage 3 interviews.

Of the 35 study participants, 34 responded to topics relating to their substance use (28 of these participants completed Stage 2 and 13 completed Stage 3). These 34 participants collectively generated 310 qualitative interviews (163 interviews at Stage 1; 134 interviews at Stage 2; and 13 interviews at Stage 3). In total, 309/310 interviews were audio-recorded, yielding approximately 124 hours of audio data (one partici-

Box 1

Data generation.

Date	Stage 1 June - September 2020	Stage 2 July - December 2020	Stage 3 April - July 2021
Number of participants	35	28	13
Number of participants answering questions relating to substance use	34	28	13
Number of interviews completed by each participant	1-5	1-5	1
Duration of interviews	20-30 minutes	20-60 minutes	25-30 minutes
Topics covered	Demographic characteristics and life circumstances; experiences of moving into and living in the hotel; housing and homelessness prior to the pandemic; alcohol and other drug use; smoking; health, including COVID-19; accessing support; relationships; use of mobile phones and technology; and expectations about moving out of the hotel	Current life circumstances; experiences of moving out of the hotel; current accommodation; alcohol and other drug use; smoking; health, including COVID-19; accessing support; relationships; use of mobile phones and technology; and views on the future	Current life circumstances; current accommodation; relationships; substance use; health, including COVID-19; use of mobile phones and technology; and views on the future

pant completed their Stage 3 interview by email because of unreliable mobile phone connectivity). Prior to interview, all participants provided verbal consent (also audio-recorded) and on completion of each interviewing stage, all participants were given a gift voucher (to the value of £40 for Stage 1; £50 for Stage 2; and £10 for Stage 3).

Data were organised and analysed in phases. First, each interviewer listened to their own audio recordings and summarised their participants' responses into a prepared Excel file. Each Excel file comprised a sheet for each interview, a row for each participant, and a column and sub-columns for each topic. Interviewers also sometimes included short verbatim extracts from the interviews into their Excel files. Once completed, all the interviewers' Excel files were merged into one main Excel file. All the Excel file data relating to substance use (columns in the Excel file) were then reviewed and some of the qualitative responses were quantified to provide simple counts of the types of substance use participants reported. This indicated that, on entry to the hotel, 18/34 participants (52.9%) were smoking tobacco, 6/34 participants (17.6%) reported a current problem with either alcohol or illicit drugs, and 5/34 (14.7%) had never used any alcohol nor any illicit drugs.

Given this combination of high smoking prevalence and variability in alcohol and illicit drug use, the data were re-reviewed to explore other sub-groupings. This was a pragmatic exercise which sought to account for all participants whilst retaining sufficient participants in every sub-group to identify any patterns in the data. Eventually four groups that seemed suitable for further analyses were identified. Sub-group 1 comprised participants who had never used alcohol nor illicit drugs ($n = 5$; 14.7%); Sub-group 2 comprised participants who had only ever used alcohol (and not illicit drugs) ($n = 10$; 29.4%); Sub-group 3 comprised participants who had ever used illicit drugs but said that these had never been a problem for them ($n = 11$; 32.4%); and Sub-group 4 comprised participants who said that they had ever had a problem with illicit drugs ($n = 8$; 23.5%). Only one participant reported that they had ever had a problem with alcohol, but not illicit drugs, and this person was included in Sub-group 2. Each sub-group included $\geq 40\%$ participants who reported that they were smoking tobacco immediately prior to moving into the hotel.

In the next stage of the analysis, the data from the main Excel file were used to produce short summaries of each participant's responses to the substance use questions. These were created in Microsoft Word, so producing a brief substance use biography for each participant. The Word summaries were then organised into the four sub-groups and all summaries in each sub-group were reviewed inductively using a process of Iterative Categorization (Neale, 2016; Neale, 2020). This involved reading all text relating to each participant line-by-line, summarising the text into bullet points, re-ordering the bullet points to identify patterns in the data, and then writing a narrative for each sub-group based around the four research questions. This constituted a *de facto* content analysis of the data (Bengtsson, 2016) rather than an in-depth qualita-

tive exploration of themes more common in interview studies. In presenting our findings, we first describe the characteristics of all 34 participants together; next, we report on each of the sub-groups separately; and, finally, we compare the four sub-groups to assess similarities and differences.

Findings

Sample characteristics ($n = 34$)

Most of the 34 study participants were male ($n = 27$; 79.4%) and most ($n = 29$; 85.3%) were aged 30 years or older (see Table 1). Nearly all were single, separated, divorced, or widowed. In total, 11 (32.4%) had been born in the UK, 3 (8.8%) had been born in other parts of Europe, and 20 (58.8%) had been born in other parts of the World (Algeria, Angola, Antigua, Brazil, Ecuador, Ghana, Iran, Iraq, Jamaica, Nigeria, Guinea, South Africa, Togo, Trinidad, and the United States). Several participants said that they were asylum seekers, refugees or had no legal immigration status (others preferred not to discuss this topic). As both hotels only accommodated adults, no participant had children living with them (although many had children who were grown up or living with ex-partners).

Nearly half ($n = 15$; 44.1%) had no qualifications and approximately two-thirds ($n = 22$; 64.7%) had had no recent paid work prior to the pandemic. Roughly equal numbers said that they had been homeless for two years or more versus under two years. The longest period of homelessness at Stage 1 was 30 years and the shortest period was four nights. Whilst homeless, people reported that they had slept in hostels and shelters, bed and breakfast hotels, empty buildings, parks, vehicles, tents, at airports, on the streets, and in the homes of acquaintances. After the two hotels closed (autumn 2020), participants were moved to other hotels within 'Everyone In', hostels, bed and breakfast hotels, shared flats, independent flats, houses of multiple occupation, and supported accommodation. In addition, three participants returned to sleeping rough or in a tent (two in Europe and one in London).

Sub-group 1: Never used alcohol nor illicit drugs ($n = 5$)

i. Socio-demographic characteristics

Five participants reported that they had never used alcohol nor illicit drugs prior to the hotel. Of these 5 participants, 3 were male and 2 were female. Three were under 50 years of age and 2 were 50 years or older (none was under 30 years of age). None had been born in the UK and most ($n = 4$) reported that they had visa and residency problems. Three had higher degrees, of whom 2 had PhDs. One had been in recent paid work prior to the pandemic, and 2 (both with an insecure immigration status) emphasised how much they wanted to work in the UK. None of

Table 1
Description of participants.

	Sub-group 1: Never used alcohol nor illicit drugs n (%)	Sub-group 2: Only ever used alcohol n (%)	Sub-group 3: Ever used illicit drugs but without problem n (%)	Sub-group 4: Ever had problem with illicit drugs n (%)	Total n (%)
Sex	5 (14.7%)	10 (29.4%)	11 (32.4%)	8 (23.5%)	34 (100)
Male	3 (60.0%)	8 (80.0%)	9 (81.8%)	7 (87.5%)	27 (79.4)
Female	2 (40.00%)	2 (20.0%)	2 (18.2%)	1 (12.5%)	7 (20.6)
Age					
<30 years	0 (0.0%)	2 (20.0%)	2 (18.2%)	1 (12.5%)	5 (14.7)
30-49 years	3 (60.0%)	3 (30.0%)	3 (27.3%)	4 (50.0%)	13 (38.2)
≥ 50 years	2 (40.0%)	5 (50.0%)	6 (54.5%)	3 (37.5%)	16 (47.1)
Born in the UK					
Yes	0 (0.0%)	2 (20.0%)	4 (36.4%)	5 (62.6%)	11 (32.4)
No	5 (100%)	8 (80.0%)	7 (63.6%)	3 (37.5%)	23 (67.6)
Smoked tobacco immediately prior to moving into the hotel					
Yes	2 (40.0%)	4 (40.0%)	6 (54.5%)	6 (75.0%)	18 (52.9)
No	3 (60.0%)	6 (60.0%)	5 (45.5%)	2 (25.0%)	16 (47.1)
Academic or vocational qualifications					
Yes	3 (60.0%)	5 (50.0%)	5 (45.5%)	6 (75.0%)	19 (55.9)
No	2 (40.0%)	5 (50.0%)	6 (54.5%)	2 (25.0%)	15 (44.1)
Recent paid work prior to the pandemic					
Yes	1 (20.0%)	4 (40.0%)	6 (54.5%)	1 (12.5%)	12 (35.3)
No	4 (80.0%)	6 (60.0%)	5 (45.5%)	7 (87.5%)	22 (64.7)
Homeless					
< 2 years	4 (80.0%)	3 (30.0%)	6 (54.5%)	2 (25.0%)	15 (44.1)
≥ 2 years	0 (0.0%)	5 (50.0%)	5 (45.5%)	6 (75.0%)	16 (47.1)
Missing	1 (20.0%)	2 (20.0%)	0 (0.0%)	0 (0.0%)	3 (8.8)

the 5 had been homeless for more than two years. One participant, who had been moved into various hotels by his Stage 3 interview, stated that he found sharing accommodation with people who were using drugs and drinking alcohol very difficult, and he linked this to his declining mental health and recent suicidal ideation.

ii. *Changing patterns of substance use*

Two of the 5 participants in Sub-group 1 said that they smoked tobacco prior to moving into the hotel. One continued to smoke whilst living in the hotel (when he ‘could get it’). The other explained that he initially smoked four or five cigarettes a day in the hotel if he had money or if people gave cigarettes to him. However, he had switched to vaping nicotine after the hotel staff gave him an e-cigarette. Meanwhile, one female reported that she had stopped smoking before moving into the hotel but had restarted in the hotel. At later interviews, she described how her tobacco intake rapidly increased to twenty cigarettes a day, but then reduced to five a day and then to none with the help of NRT (gum) which she started using after moving out of the hotel into new accommodation. Participants who had never used alcohol nor illicit drugs did not report any other changes in their substance use during their follow up interviews.

iii. *Explanations for changes in substance use*

Two of the 3 participants who smoked tobacco explained that this was because of ‘stress’, particularly relating to the pandemic and visa problems. Reductions in tobacco smoking were attributed to receiving NRT or an e-cigarette. Meanwhile, other fluctuations in tobacco consumption were linked to availability; specifically, being able to afford tobacco or having it given to them.

iv. *The role of treatment and support*

Apart from licensed NRT and an e-cigarette (which helped to reduce tobacco consumption according to two participants), nobody discussed receiving support for alcohol or other drug use.

Sub-group 2: Only ever used alcohol (n = 10)

i. *Socio-demographic characteristics*

Most (n = 8) of the 10 participants who had ever used alcohol but not illicit drugs were male and half (n = 5) were aged 50 years or older. Most (n = 8) were not born in the UK and 2 reported current problems with their visa/ immigration status. Five had qualifications and 4 had been in recent paid work prior to the pandemic. Three of the 8 participants who responded to the question about homelessness duration said that they had been homeless for less than two years. One participant volunteered that he was ‘afraid’ of taking illegal substances, and another said that he did not like having to share accommodation with people who ‘take drugs, and smoke, and drink’.

ii. *Changing patterns of substance use*

Over half (n = 6) of the 10 participants who had ever used alcohol explained that they were infrequent or occasional drinkers, consuming alcohol ‘socially’ or ‘not alone’. In addition, one said that he sometimes drank alcohol to help him sleep (but not to ‘get drunk’) and another reported drinking three or four beers a day on his own if he had money. This last participant said that he did not think his drinking was a problem and noted that he was consuming less alcohol in the hotel than previously. By his nine-month follow up interview, this participant had stopped drinking alcohol completely. The one participant who reported ever having a problem with alcohol was male. He stated that he drank fifteen cans of beer daily and was experiencing alcohol-related ‘seizures’ and ‘blackouts’ prior to moving into the hotel. His drinking reduced to nine cans a day in the hotel but increased again after he moved to a second hotel.

Five of the 10 participants who had ever only used alcohol reported that they had never smoked tobacco, and one said he had smoked in the past but had stopped many years previously when at college. Of the 4 participants who said that they were smoking tobacco immediately prior to moving into the hotel, one reported that he smoked occasionally ‘when drinking’ and 3 smoked daily (between two and six cigarettes a day). One of these 3 participants said that he smoked when feeling stressed, another said he smoked depending on what tobacco he was able to obtain, and another said he mainly smoked after meals. Three of the 4 current smokers indicated that their smoking had decreased whilst in the hotel. The fourth participant did not want to stop smoking and

stated that he would be able to discontinue on his own if he changed his mind, as he had successfully stopped previously.

iii. *Explanations for changes in substance use*

The participant who reported a reduction in his 'non-problematic' drinking in the hotel attributed this to having no money to purchase alcohol, whereas the participant who reported a reduction in his 'problematic drinking' in the hotel attributed this to the support he received from the new Homeless Hotel Drug and Alcohol Service (HDAS). The 3 current smokers who indicated that their smoking had decreased whilst in the hotel all linked this to the e-cigarettes that they had received from the hotel staff; although one also said he was motivated to stop smoking because of his worsening asthma.

iv. *The role of treatment and support*

Three participants reported that they had benefited from e-cigarettes received in the hotel. The participant who reported having a problem with alcohol was positive about the support he had received in the first hotel, where he described how he was 'prescribed' nine cans of alcohol daily and spoke to a member of the alcohol team every day. However, he was unhappy with the support received in the second hotel (a hostel), where he said his prescription had been reduced to six cans daily, he had been told to buy any additional alcohol himself, and his alcohol support worker had been changed. This participant stated that his new alcohol support worker was unsympathetic, he had disengaged from the alcohol team, and his drinking had increased. The research team was unable to contact him after nine months for a Stage 3 interview.

Sub-group 3: Ever used illicit drugs but without a problem (n = 11)

i. *Socio-demographic characteristics*

Eleven participants reported that they had ever used illicit drugs but never had a problem. Most (n = 9) of these were male, just over a half (n = 6) were aged 50 years or older, and over half (n = 7) were born outside the UK. Five had qualifications, 6 had been in recent paid work prior to the pandemic and 6 had been homeless for less than two years. Many described the negative impact of others' substance use on them, particularly the challenges of living with people who were using substances in the hotel or in other move-on accommodation. This, they said, caused them to feel 'anxious', detrimentally affected their mental health, made it difficult for them to be abstinent, or caused them to withdraw socially.

ii. *Changing patterns of substance use*

The most widely used substance reported by participants who said they had used illicit drugs non-problematically was cannabis, which was discussed by almost everyone. This was followed by alcohol and then tobacco. Just over half (n = 6) of the 11 participants reported that they had been smoking tobacco prior to moving into the hotel. Two participants stated that they had used 'nearly every' substance at some point in their lives, whereas others confirmed that they had only ever used cannabis, alcohol, and/or tobacco. In addition, many said that their use of 'drugs' had occurred 'a long time ago' whilst they were 'young' and/or said that they had had periods of not using any substances at all. Some participants also emphasised that they only smoked tobacco or drank alcohol 'occasionally', and none reported ever having injected a drug.

Seven of the 11 participants stated that they had not been using any alcohol or illicit drugs prior to moving into the hotel. These 7 participants reported continued abstinence from alcohol and other drugs whilst in the hotel and at their Stage 2 and Stage 3 interviews after moving out of the hotel. Of the remaining 4 participants, one said that he had been using methamphetamine before moving into the hotel but that had stopped in the hotel. Otherwise, the only substances participants reported using regularly prior to the hotel were alcohol and tobacco.

Once in the hotel, one participant restarted using cannabis and another restarted smoking tobacco. More generally, levels of tobacco and alcohol use whilst staying in the hotel appeared to fluctuate with some stating that they smoked and/or drank more, and others less.

iii. *Explanations for changes in substance use*

Participants gave varying reasons for fluctuations in their alcohol and other drug use in the months immediately prior to the hotel; explaining that they tended to drink on 'special occasions', 'with others', 'at music venues', or 'to cope with problems'. In contrast, they said that they were less likely to drink if they had 'limited money to buy alcohol', 'had less opportunity to drink' (for example, because of the pandemic), or were not motivated to drink as they were 'not in a party mood' or 'were feeling low'. One participant also said that he never consumed alcohol when taking other drugs as alcohol tended to undermine the effects of other substances. Participants also associated their cannabis use with being in a particular place, specific activities, and managing emotions or escaping problems. Conversely, they linked decreases in their cannabis use (pre-hotel and during the study) to not being able to access cannabis, wanting 'to change their life', living with someone who 'disapproved of cannabis', 'feeling settled', and 'keeping busy'.

Turning to tobacco smoking, participants explained that their tobacco consumption increased in the hotel if others (family members, friends, or other hotel residents) gave them tobacco or cigarettes, they wanted a reason or pretext to engage with others socially outside the hotel, or they were 'stressed' or 'bored' (in which circumstances smoking provided 'relief' or 'distraction'). In contrast, they said that their smoking decreased when they had no money for cigarettes or tobacco, were 'trying to be healthier', needed to address health problems (such as asthma), were 'busy', or (in one case) had been given an e-cigarette by the hotel staff.

iv. *The role of treatment and support*

Only one participant had ever had treatment for their alcohol use; none of the others felt that they needed any treatment or support. Most participants who smoked also emphasised that they did not want to try any replacement products as they were 'happy smoking' or said that they had tried licensed NRT or e-cigarettes and did not feel that they were effective.

Sub-group 4: Ever had a problem with illicit drugs (n = 8)

i. *Socio-demographic characteristics*

Eight participants (7 males and 1 female) reported that they had ever had a problem with illicit drugs, of whom 5 (4 males and 1 female) believed that they had also had a problem with alcohol. Three of these 8 participants were aged 50 years or older and 5 were born in the UK. Six had qualifications but only one had been in recent paid work prior to the pandemic. Six had been homeless for two years or more and most were vocal about the negative consequences of substance use on their mental health, relationships, sleep, motivation to do things, and/or propensity to be violent or be imprisoned. One also described how he had left a hostel previously because he did not like the other residents whose drug use led to 'fights and arguments'.

ii. *Changing patterns of substance use*

The substances most frequently used by these 8 participants were tobacco, alcohol, and cannabis, with many stating that they had used all three substances at some point in their lives. In addition, 5 of the 8 said that they had ever used heroin, 4 had ever used cocaine, and 4 had ever used crack. Other substances ever used included ecstasy, amphetamines, LSD (lysergic acid diethylamide), mephedrone, and nitrous oxide. Only 2 described ever injecting. A few participants reported that they had stopped using drugs (aside from alcohol, tobacco, or cannabis) several years ago; sometimes clarifying that they had only used substances

(apart from alcohol, tobacco, or cannabis) when they were 'younger' or 'in their 20s'.

Prior to moving into the hotel, 7 of these 8 participants said that they were smoking tobacco, 5 said that they were drinking alcohol, and 5 said they were smoking cannabis (although this was not always daily or regularly). In addition, 4 reported that they were using heroin (of whom 3 were also using crack and one was also using cocaine). Of the 4 people using heroin before moving into the hotel, 3 were simultaneously receiving methadone treatment. A fifth participant said that he was being prescribed methadone but not using any heroin, although he was still using cannabis. Only one participant was smoking tobacco without using any other substances.

Once in the hotel, 5 participants said that they smoked less tobacco, 3 said that they had reduced their drinking, and none reported using heroin, cocaine, or crack. Three of the 4 participants who had been receiving methadone prior to the hotel continued with their treatment, whilst the fourth described how he had reduced his methadone prescription and swapped to buprenorphine. A fifth participant who had been using heroin and crack prior to the hotel was prescribed buprenorphine in the hotel and subsequently stopped using other substances except cannabis. Another participant reported re-initiating cannabis use within the hotel, and another said that she had increased her tobacco use.

The three participants receiving methadone treatment in the hotel remained stable on their treatment with no reported heroin use after moving out of the hotel. The person who had swapped from methadone to buprenorphine within the hotel continued to receive his buprenorphine and said that he was pleased with the progress he was making despite some occasional heroin use. Lastly, the participant who had begun a new prescription of buprenorphine in the hotel continued this treatment after leaving the hotel and similarly remained pleased with this medication, although he continued to smoke cannabis sometimes.

iii. *Explanations for changes in substance use*

Participants attributed pre-hotel heroin, cocaine, and crack use to wanting to 'get rid of pain', trying to combat stress and depression, being homeless, being in prison, and being surrounded by people who were using drugs or 'a bad influence'. Meanwhile, they linked pre-hotel reductions in their heroin use to previous episodes of treatment with methadone or buprenorphine.

After moving into the hotel, participants explained how reductions in their alcohol consumption were related to having 'less money', being 'more comfortable' and 'less bored' in the hotel, and wanting to change their behaviour (for example, to be 'less violent' or to 'slow down'). One male stated that the hotel staff sometimes gave him alcohol, but this was not enough to stop him from experiencing tremors; although his alcohol intake had decreased in the hotel because he could no longer afford to drink so much or to buy spirits. One participant attributed her increased cannabis consumption to moving into the hotel, stress and boredom, and her subsequent decreased cannabis consumption after moving out of the hotel to reconnecting with family, friends and other 'positive people' as well as to being able to 'go out more' post lockdown.

Participants who reported that they were smoking less tobacco in the hotel explained that this was because smoking was prohibited in the building (so making it 'harder' for them to smoke) and/or they had less money for cigarettes since the pandemic (for example, because they had not been able to obtain money from passers-by on the streets). In addition, one person said that 'will power' was enabling him to smoke less, and another noted that he was trying to improve his lung/respiratory health as he had recently been diagnosed with chronic obstructive pulmonary disease. Despite this, several participants said that they had collected cigarette butts from the ground and smoked them when they had no other tobacco, and one said that he smoked more whenever a friend gave him tobacco. Another explained how she used tobacco to help her sleep, to manage boredom and stress, and to be sociable with friends in the hotel.

At their follow up interviews, one participant attributed his cessation of heroin use to feeling stable in his treatment (with no withdrawal symptoms), moving into the hotel where there were fewer opportunities to use drugs than on the streets, and being away from people who were street homeless. In addition, two participants commented that their cannabis use had decreased because they were finding it more difficult to access this drug in the areas where they were now living.

iv. *The role of treatment and support*

Participants generally spoke positively about the help they were receiving currently or had received previously from pharmacotherapies (methadone and buprenorphine), AA (Alcoholics Anonymous), other treatment groups, counselling services, and residential rehabilitation. Additionally, several participants described current, recent, or planned self-management strategies, such as trying to stop smoking cannabis in collaboration with a friend (which was unsuccessful), avoiding other people who were homeless, undertaking more exercise, or joining fitness classes. Only one participant expressed desire for formal support with their cannabis use whilst they were in the hotel, although a second said that she wanted help at Stage 2. A third participant also said that he wanted some help with his alcohol use after moving out of the hotel, so he had contacted a treatment service and was now waiting to hear back.

Although many of the 8 participants who had ever had a problem with drugs had been offered nicotine replacement patches, gum or e-cigarettes within the hotel or other healthcare settings prior to the hotel, uptake and satisfaction were relatively low. For example, some said that NRT products had made them feel 'unwell'; gum did not 'taste very nice'; or e-cigarettes had 'made them cough', were 'bad for their health', or increased their nicotine consumption. Others explained that they did not need NRT because they did not smoke much tobacco and/or did not want to stop smoking or felt that e-cigarettes had limited use because the cartridge refills were 'too expensive' for them to purchase. Despite this, one participant said that he found the e-cigarette that he had been given in the hotel 'helpful', another commented that she had not been offered e-cigarettes in the hotel but would have liked them, and one said he might ask his doctor about nicotine patches as he had now almost stopped smoking on his own but was anxious about relapsing.

Sub-group comparisons

Table 2 summarises findings from each sub-group by the four research questions. This highlights several important differences and similarities. Most notably, those who had never used alcohol nor illicit drugs (Sub-group 1) and those who had ever had a problem with illicit drugs (Sub-group 4) were most dissimilar in terms of socio-demographic characteristics, particularly with respect to being/not being a UK national, sex, and length of homelessness. Specifically, participants in Sub-group 1 were more likely to be non-UK nationals, to be female, and to have shorter histories of homelessness. In contrast, participants in Sub-group 4 were more likely to be UK nationals, to be male, and to have longer histories of homelessness. Tobacco smoking and alcohol consumption seemed more prone to fluctuating use patterns than taking illicit drugs. However, there were repeated reports of historical use of alcohol and illicit drugs by people who were no longer using those substances, and it was evident that substance use overall decreased whilst participants were living in the hotel from which we had recruited them.

Factors that increased and decreased the consumption of substances appeared similar across all sub-groups and substances. For example, increases were related to coping with emotions and problems, being around other people who were using substances, participating in particular activities, or being in certain places or locations. Conversely, decreases in consumption were precipitated by people feeling motivated to improve their health or change their behaviour, not being able to acquire substances (because of lack of money or other circumstances), and receiving treatment or support, including pharmacotherapy, 'prescribed

Table 2
Sub-group comparison by each of the four research questions.

	Sub-group 1: Never used alcohol nor illicit drugs	Sub-group 2: Only ever used alcohol	Sub-group 3: Ever used illicit drugs but without problem	Sub-group 4: Ever had problem with illicit drugs
Research question 1: Socio-demographic characteristics	More non-UK nationals; more females; shorter experience of homelessness; visa & residency problems	More non-UK nationals; no other notable characteristics	No notable characteristics	More males; more under 50 years of age; more born in the UK; more academic qualifications; longer experience of homelessness; less recent paid work
Research question 2: Changing patterns of substance use	Fluctuations in tobacco smoking	Evidence of reduced drinking & smoking in the recruitment hotel	Some had only used substances many years previously; some reported periods of not using substances at all; some reported continued abstinence from alcohol & other drugs; some reported fluctuations in alcohol & tobacco smoking	Some had stopped using substances (except alcohol, tobacco, or cannabis) when they were younger; evidence of reduced tobacco smoking, drinking & illicit drug use in the recruitment hotel
Research question 3: Explanations for changes in substance use	To cope with stress; availability of tobacco; provision of nicotine replacement therapies & e-cigarettes	To cope with stress; motivation to stop because of health problems; availability of tobacco & alcohol or money for purchasing tobacco/ alcohol; provision of e-cigarettes & 'prescribed alcohol'	To cope with stress, boredom, mood, emotions, or other problems; motivation to be healthier or change; other people; events/ activities; availability of substance or money for substances; location/ place	To cope with pain, stress, boredom, depression, or sleeplessness; motivation to be healthier; other people using substances; lack of money to purchase substances; limited availability of cannabis; rules that prohibited smoking in the hotel; provision of pharmacotherapy or treatment/ support
Research question 4: Role of treatment & support	Dislike of sharing accommodation with people who are intoxicated; receptive to nicotine replacement therapies & e-cigarettes	Dislike of sharing accommodation with people who are intoxicated; positive outcomes from e-cigarettes & 'prescribed' alcohol	Dislike of sharing accommodation with people who are intoxicated; generally limited desire for treatment or support in relation to smoking, drinking or illicit drug use	Dislike of sharing accommodation with people who are intoxicated; evidence of good adherence to, & outcomes from, pharmacotherapies; mixed interest in receiving formal treatment; some interest in self-management strategies

alcohol', licensed NRT, or e-cigarettes. Interest in receiving formal treatment was variable despite evidence of some positive outcomes across substances when support was received. Meanwhile, dislike of sharing accommodation with other people who were intoxicated was reported across all groups.

Discussion

Consistent with previous research, we found that males, UK nationals, and people who had been homeless for longer seemed more likely to report problems with alcohol and other drugs (Laporte et al., 2018; Weal, 2020). Meanwhile, lifetime (9/34 or 26.5%) and current (6/34 or 17.6%) problematic drinking and other drug use, as well as tobacco smoking (18/34 or 52.9%), seemed low compared with other studies (Fazel et al., 2008; Sharman et al., 2006; Soar et al., 2020; Torchalla et al., 2011). One likely explanation for this is that Everyone In accommodated, and so provided the research team with access to, a much wider group of people than would normally be found in studies of homelessness; including more non-UK nationals who had less or no experience of both homelessness and alcohol and other drug use (St Mungo's, 2021; Weal, 2020). Reflecting this mix of experience, some participants were anxious about having to share accommodation with people who were intoxicated (Fitzpatrick et al., 2000; Neale, 2001; Neale, 2011), whereas others wanted and needed accommodation with treatment and support (ACMD, 2019).

This diversity of experience speaks to our first research question: i. what are the socio-demographic characteristics of people with different patterns of substance use? In practice, we found four substantive participant sub-groups with different characteristics and needs: 1. people who had never used alcohol nor illicit drugs, although some reported dependence on tobacco (mostly asylum seekers or refugees who had become homeless relatively recently); 2. people who had ever consumed alcohol, and often smoked tobacco, but had never used illicit drugs (more likely to be male, drinking socially or occasionally, and largely not reporting dependence); 3. people who had ever used illicit drugs but did not report experiencing any problems (mostly male and users of cannabis, alcohol, and tobacco, although with some previous experience of taking other drugs); and 4. people who reported having had a problem with alcohol and other drug use, who frequently also smoked tobacco (gen-

erally male, born in the UK, without recent paid work, and with longer histories of homelessness). These findings remind us that, despite high substance use prevalence overall, many people experiencing homelessness do not use alcohol nor illicit drugs and many do not smoke tobacco. Furthermore, those who do may not consider that they have a problem and will therefore not want support.

Our second research question (ii. how do patterns of substance use amongst people who are homeless change over time?) enables us to ascertain how fixed or changeable substance use behaviours amongst people experiencing homelessness are likely to be. Here, we found that patterns of substances use often changed, even over very short periods of time. During the 9-month interview period, participants who had never used alcohol nor illicit drugs (Sub-group 1) described both increases and decreases in their tobacco consumption, whilst those who had used illicit drugs without problems (Sub-group 3) reported both increases and decreases in cannabis, tobacco, and alcohol use. Overall, however, substance use seemed more likely to decrease than increase (see also Gardner et al., 2020; St Mungo's, 2021). Thus, several participants who had only ever consumed alcohol (Sub-group 2) reported reduced drinking in the hotel, and some spoke of reductions in their tobacco intake. Meanwhile, those who had ever used illicit drugs without a problem (Sub-group 3) often stated that they consumed fewer drugs now than in the past, whilst those who had ever had a problem with illicit drugs (Sub-group 4) mostly described reduced tobacco, alcohol, and other drug use over the course of the study.

Findings relating to our third research question (iii. what factors explain changes in patterns of substance use amongst people who are homeless?) revealed that participants attributed their substance use, and changes in use, to a range of influences that can be broadly grouped into: i. 'coping strategies'; ii. 'motivation to change'; iii. 'people'; iv. 'activities'; v. 'access to substances'; vi. 'places'; and vii. 'treatment and support'. Using a basic socio-ecological model as a heuristic (Bronfenbrenner, 1979), i. 'coping strategies' and ii. 'motivation to change' are broadly intrapersonal (psychological) in orientation; iii. 'people' and iv. 'activities' are interpersonal (social) in orientation; and v. 'access to substances', vi. 'place', and vii. 'treatment and support' are structural (or resource-based) in orientation (see Fig. 1). We do not suggest that that this is a comprehensive model or that these seven factors are discrete or have unambiguous effects; on the contrary, they intercon-

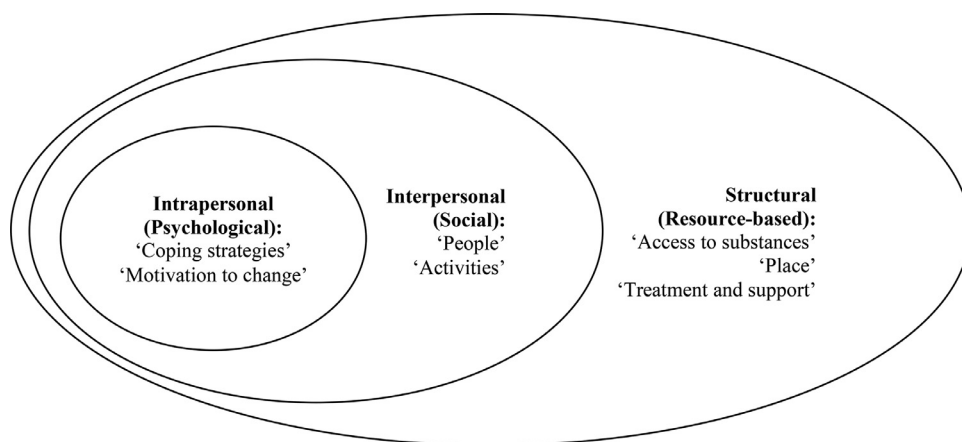


Fig. 1. Factors associated with changes in substance use.

nect and are difficult to disentangle. Yet, these seven explanatory factors derive from statements about actual changes reported by the research participants, and, as such, point to interventions, and intervention components, that can potentially reduce substance use amongst other people experiencing homelessness.

Turning to our fourth research question (iv. what is the role of treatment and support?) and, by implication, how can we best help people experiencing homelessness and using substances, we can now draw upon our socio-ecological model. Beginning with intrapersonal factors, participants indicated that they used tobacco, alcohol, and other drugs to ‘cope’; for example, to manage their emotions or mood, escape problems, combat stress, fight depression, and suppress pain (Carver et al., 2020; Klee & Reid, 1998; Neale, 2001; Patterson et al., 2022; Rubin et al., 2021). Conversely, some used substances less often when they felt ‘settled’ or ‘stable’, and others ascribed reductions in their substance use to ‘will power’ or personal ‘motivation’ (for example, to be ‘healthier’ or ‘less violent’) (Patterson et al., 2022; Rubin et al., 2021). From this, it appears that psychological interventions (such as motivational interviewing, stress management or coping strategies) may help people who are homeless to manage their substance use (Maria et al., 2018). Nonetheless, our data also suggest that the impact of psychological support is likely to be limited without social and structural interventions that address the complex mix of wider life problems and stressors that people who are homeless and using substances routinely experience (Orciari et al., 2022; Patterson et al., 2022; Rubin et al., 2021; Soar et al., 2020).

In terms of social factors, participants often stated that they consumed alcohol and tobacco to ‘be sociable’ with peers, and/or explained how ‘being around people who were using drugs’ increased their personal use (Jurewicz et al., 2022; Patterson et al., 2022; Soar et al., 2020). On the other hand, alcohol, cannabis, and heroin use all seemed to decrease when participants were away from people who used drugs, around people who disapproved of drugs, or back in contact with supportive family or friends (Neale & Brown, 2015). These findings suggest that relational interventions that enable people to decrease their contact with others who are using drugs and/or to re-build non-drug using social networks may assist people experiencing homelessness to address their substance use (Copello et al., 2006; Montgomery et al., 2020; Neale & Brown, 2015; Parkes et al., 2022). Moreover, as substance use was often triggered by specific activities and reduced by ‘keeping busy’ or ‘not being bored’, providing people who are homeless with opportunities to develop new skills, interests and hobbies may offer alternative experiences that provide a valuable diversion from drug consumption (Carver et al., 2020).

Finally, in respect of structural factors, participants stated that they were more likely to smoke or use alcohol and other drugs if substances were available or accessible to them. The pandemic had frequently re-

duced opportunities to acquire substances because participants had less money, obtaining substances was more difficult, and substances were not permitted in the hotel. Relatedly, substance use often changed when participants moved into or out of the hotel and when they were in specific places associated with substance use or where accessibility to substances was different. Meanwhile, opioid replacement therapy, prescribed alcohol, licensed NRT, e-cigarettes and other forms of treatment and support were frequently associated with less consumption (Gardner et al., 2020; Magwood et al., 2020; St Mungo’s, 2021). These findings are consistent with providing drug-free accommodation (such as ‘sober living houses’) (ACMD, 2019; Mericle et al., 2019; Polcin et al., 2010) to help people who wish to avoid substance use or be abstinent. However, they equally support the value of ‘Housing First’ services to provide harm reduction and treatment for those reporting on-going addiction (ACMD, 2019; Baxter et al., 2019; Bretherton and Pleace, 2015; Padgett et al., 2016). Within emergency accommodation more generally, meanwhile, both smoke-free and drug-free areas and other forms of alcohol and other drug treatment can help to cater for residents’ diverse needs (Soar et al., 2020; Vijayaraghavan et al., 2020).

Conclusions

Our study offers detailed insights into substance use amongst a cohort of people experiencing homelessness who were housed in emergency hotel accommodation during the COVID-19 pandemic. Whilst our findings may not be empirically generalisable, they add to existing literature and have potential relevance for policy and practice. We identified a sizable sub-group of people who had no experience of substance use and who wished to be accommodated separately from people who were consuming alcohol and other drugs. In contrast, other participants described their substance use as problematic, and wanted and benefitted from onsite opioid replacement therapy or prescribed alcohol (ACMD, 2019; Magwood et al., 2020). In between, we found people who used alcohol and other drugs currently or previously but without identifying themselves as having ongoing problems. Many participants smoked and receptivity to NRT and e-cigarettes was mixed, but some participants engaged successfully so emphasising the overall benefit of this type of adjunctive support (see also Gardner et al., 2020; Rubin et al., 2021; Soar et al., 2020).

Substance use amongst study participants changed very quickly, with more decreases than increases across all substance types. These findings provide grounds for optimism as they indicate that the consumption of tobacco, alcohol and illicit drugs by people experiencing homelessness can be reduced. Changes were undoubtedly influenced by the unprecedented circumstances of the COVID-19 pandemic as well as the hotel accommodation provided as part of the Government policy response. To what extent this mix of intervention and context is ever likely to be

replicated is unclear (and another pandemic is obviously not desirable). Nonetheless, our findings have revealed how the combined provision of unconditional shelter and basic amenities, pharmacological treatment, psychosocial support, and a safe space where substances were not available and other people who were using substances could be avoided were instrumental in enabling people experiencing homelessness to reduce their use of legal and illicit drugs. Looking to the future, we argue that policy makers and providers could more routinely combine these interventions in order to address the diverse substance-related problems reported by people who are homeless whilst also supporting those who want to be, or wish to remain, abstinent.

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Ethics approval

The authors declare that they have obtained ethics approval from an appropriately constituted ethics committee/institutional review board where the research entailed animal or human participation.

King's College London Research Ethics Committee: CREC-HR-19/20-18676.

Declarations of Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

In the last three years, J.N. has received, through her university, research funding from Mundipharma Research Ltd and Camurus AB (for unrelated research) and an honorarium from Indivior (for an unrelated conference presentation). S.P. is part-funded by income from research grants obtained from MundiPharma Research Ltd and Camurus AB. N.M. has received, through her university, research funding from Mundipharma Research Ltd (for unrelated research). She has also received, through her university, consultancy payment from an agency for Mayne Pharma International (also unrelated to the article under consideration). E.R. is employed by the South London and Maudsley (SLaM) NHS Foundation Trust and, from April 2020 until January 2021, worked as the clinical lead for the Homeless Hotel Drug and Alcohol Service (HDAS-London). He additionally holds an honorary employment contract at the Office of Health Improvement and Disparities (OHID) at the Department of Health and Social Care (DHSC), UK. In the last three years, J.S. has received, through his university, research funding from Mundipharma Research Ltd, Camurus AB, Accord Healthcare and Pneumowave (all for unrelated research). L.H. and D.R. report no competing interests.

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