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# Housing assistance among people who are unstably housed and use drugs in Oregon: a cross-sectional study

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## Abstract

**Background** Unstable housing has tremendous harms on health and well-being and people who use drug experience significant barriers to housing. The objectives of this study were to estimate the prevalence of housing assistance among people who use drugs experiencing unstable housing in Oregon and explore factors associated with obtaining housing assistance.

**Methods** We used cross-sectional survey data collected between March and November 2023 from people who were unstably housed and used drugs across eight counties in Oregon ( $N=425$ ). Unstable housing was defined as experiencing unsheltered or sheltered homelessness in the past year. Participants reported whether they obtained housing assistance in the past year. We explored associations between sociodemographic characteristics and housing assistance using multivariable log-binomial models.

**Results** There were 133 participants (31.3%) who reported obtaining housing assistance in the past year. There was a lower prevalence of housing assistance for cisgender men (versus cisgender women and gender expansive participants) ( $PR=0.73$ , 95% CI: 0.55–0.98) and those interviewed in non-urban counties (versus urban counties) ( $PR=0.72$ , 95% CI: 0.53–0.98). Using opioids 21 or more days (versus 0–20 days) was associated with a lower prevalence of obtaining housing assistance ( $PR=0.67$ , 95% CI: 0.48–0.94). Community supervision was associated with a higher prevalence of housing assistance ( $PR=1.70$ , 95% CI: 1.27–2.27).

**Conclusion** We found a large gap in housing assistance for people who use drugs in Oregon and identified several factors associated with obtaining housing assistance. Our findings can inform future interventions to connect people who use drugs with stable housing.

**Keywords** People who use drugs, Homelessness, Unstable housing, Housing assistance

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## Background

An estimated 653,000 people experienced homelessness in the United States (US) in 2023 [1]. Although housing instability is a well-established social determinant of health and well-being [2], there is a lack of affordable housing in the US. In 2022, for every 100 extremely low-income households (household incomes at or below the federal poverty level), only 34 affordable and available rental homes existed, and no US state had an adequate supply of affordable rental housing [3]. Homelessness is associated with an increased risk of substance use disorders and worsening of existing substance use [4]. In the largest representative study of homelessness in the US since the mid-1990s, the California Statewide Study of People Experiencing Homelessness found 65% of participants reported lifetime regular use (three times per week or more) of amphetamines, cocaine, or non-prescribed opioids and 20% experienced at least one overdose [5]. People experiencing homelessness face significant barriers to accessing substance use treatment services [6], and unstable housing is a primary risk factor for fatal and non-fatal overdoses [7–9]. Given the recent US Supreme Court decision on *Grants Pass Oregon v. Johnson*, local governments are now permitted to criminalize public camping, which primarily targets people who are unhoused. Criminalizing homelessness, such as laws against public sleeping or use of shelter, is linked to an increased risk of infectious diseases, violence, and poor mental health outcomes [10, 11]. This punitive approach may be especially harmful for people who use drugs (PWUD) experiencing homelessness.

Intersectional structural factors, such as stigma, discriminatory housing policies, and drug prohibition, disproportionately render PWUD vulnerable to housing instability and homelessness [12]. Among PWUD, prior studies found younger age, male gender, low monthly income, lack of a regular doctor, recent incarceration, stimulant use, and high intensity drug use were associated with housing instability while older age, female gender, drug treatment initiation, and social support were associated with housing stability [13–17]. Understanding individual factors associated with obtaining housing assistance can help inform housing services for PWUD.

The Behavioral Model for Vulnerable Populations (BMVP) [18] is a framework that has been previously used to understand health-seeking behaviors among PWUD [19–21]. The BMVP highlights the social structures and resources among vulnerable populations that may influence a person's ability and opportunity to access services. In particular, vulnerable populations, such as PWUD and people experiencing homelessness, endure numerous problems on a daily basis, which may make obtaining health or social services a lower priority. The BMVP includes three main domains: predisposing,

enabling, and need factors. The predisposing domain are factors that may place individuals in a vulnerable position before seeking services, such as age, gender, race, mental health history, and criminal legal system history. The enabling domain are factors that directly enable or impede service utilization, such as income, insurance, drug use, and availability of resources. The need domain includes self-perceived or observed factors that affect need for a service. Given stigma and discrimination against PWUD can lead to vulnerable housing status [12], it is important to explore factors associated with obtaining housing assistance among PWUD.

Along the US West Coast, homelessness has substantially increased in the past decade. For instance, in Oregon, over 65% of people experiencing homelessness were unsheltered in 2023, one of the highest proportions across the country [1]. Prior studies in Oregon have found reductions in healthcare expenditures after people experiencing homelessness moved into supportive housing [22], and people in recovery housing had reduced emergency department use and reduced readmission to inpatient substance use treatment [23]. Yet, there remain limited studies about access to housing services for PWUD in Oregon, especially during the recent increase in unsheltered homelessness. In the current study, we estimated the prevalence of housing assistance among PWUD who experienced unstable housing in Oregon and used the BMVP to explore factors associated with obtaining housing assistance.

## Methods

### Data

We conducted a large multi-component study evaluating Ballot Measure 110 (M110) in Oregon [24, 25]. M110 was a ballot-initiated measure that decriminalized possession of small amounts of drugs for personal use in February 2021 and provided funding to local organizations for treatment, harm reduction, and housing services between May and September 2022. In 2024, the Oregon state legislature recriminalized drug possession. The present study used quantitative data from a cross-sectional survey with PWUD between March and November 2023. Participants were recruited in collaboration with partner agencies that provide supportive services to PWUD or through direct outreach by the study team to homeless encampments or other locations frequented by PWUD (e.g., community recycling centers). Study eligibility included (1) age 18 years or older (2), able to provide informed consent prior to data collection, and (3) past 30-day use of any of the following drugs: Cocaine/crack, fentanyl, heroin, LSD, MDMA, methadone, methamphetamine, opioid pills, or psilocybin, as verified through a brief screening process.

Among other items, the survey included questions about participant demographics, substance use, overdose experiences, criminal legal system involvement, health and mental health status, and service utilization (see Additional File 1 for key survey questions). Trained interviewers read questions aloud and entered answers directly into a computer-assisted personal interviewing program [26]. Surveys took between 25 and 50 min. Participants were remunerated \$20 in cash for their time spent participating in the survey.

The sample consisted of 468 PWUD who were recruited across eight counties in Oregon (Coos, Douglas, Jackson, Josephine, Lane, Multnomah, Umatilla, and Union counties). Given high rates of homelessness in Oregon [1], we focus on the population of PWUD experiencing unstable housing to identify factors associated with obtaining housing assistance. Therefore, we restricted our analytic sample to PWUD who experienced unstable housing in the past year, described below ( $n = 441$ , 94.2%). Of these, 16 participants were missing data on key variables, resulting in a final analytic sample of 425 participants.

## Measures

### Housing variables

We classified PWUD as experiencing unstable housing in the past year if they endorsed at least one of the following questions: (1) “In the last 12 months, have you spent one or more nights sleeping outdoors on the streets, in a park, in a vehicle or in a tent?” and (2) “In the last 12 months, have you spent one or more nights in a shelter, couch surfing, or staying in a temporary hotel or motel?”

Our outcome of interest, housing assistance, was operationalized as whether participants received housing assistance and/or were on a waitlist for housing for 12 months or less. Participants reported yes or no to the question: “In the last 12 months, did you get housing assistance?” This question was asked broadly to capture the experience of PWUD receiving housing assistance, both formally and informally, and provides a more generalized understanding of how PWUD interact with housing assistance systems. Data on the type of housing assistance was not available. Participants were also asked “Are you currently on a waiting list for housing?” If yes, participants were asked “How long have you been on a waiting list for housing?” Participants who reported being on a waitlist for 12 months or less were categorized as receiving housing assistance in the past year.

### Other characteristics

Informed by prior research and the BMVP [13–18], we examined several potential factors that may be associated with obtaining housing assistance. For the predisposing domain, we examined age, gender, race-ethnicity, and

county. We standardized age with a mean of zero and standard deviation of one. We asked participants to self-report their gender and race-ethnicity. Response options for gender included Cisgender Woman, Cisgender Man, Transgender, Non-binary, Two-Spirit, Agender/No gender, Other and options for race-ethnicity included White, Black/African American, Asian, Native Hawaiian/Pacific Islander, Hispanic or Latinx, Native American/Alaskan Native, Middle Eastern/North African, Other. We categorized the county in which participants were interviewed into Urban (Multnomah and Lane counties) and Non-urban (Coos, Douglas, Jackson, Josephine, Umatilla, and Union).

For the enabling domain, we examined stimulant use in the past 30 days, opioid use in the past 30 days, drug treatment or support in the past year, jail in the past year, and community supervision in the past year. Participants self-reported the number of days they used any of the following drugs in the past 30 days: fentanyl alone or mixed with stimulants (methamphetamine, powder or crack cocaine), heroin alone or mixed stimulants (methamphetamine, powder or crack cocaine), opioid pills, methamphetamine, powder or crack cocaine, benzodiazepines and tranquilizers, bath salts/ synthetic cathinone, psychedelics (LSD or psilocybin), marijuana/cannabis, and beer, wine, or liquor. To measure frequency of stimulant use and opioid use, we first categorized self-reported usage in days for each drug into: 0–20 days or 21 or more days. These categories were selected based on the distributions across all drugs. We then categorized participants’ stimulant use frequency based on the highest frequency reported among the following drugs: fentanyl mixed with stimulants, heroin mixed with stimulants, methamphetamine, and powder or crack cocaine. Similarly, we categorized participants’ opioid use frequency as the highest frequency among the following drugs: fentanyl alone or mixed with stimulants, heroin alone or mixed with stimulants, and opioid pills. We also included an indicator (yes/no) for whether participants started drug treatment or support in the past year, which we defined as any endorsement of the following treatment options: Buprenorphine maintenance from a doctor or program (e.g. Suboxone or Subutex); Methadone maintenance from a clinic; Naltrexone shots (e.g. Vivitrol); Buprenorphine shots (e.g. Sublocade); Outpatient drug treatment; Residential or inpatient drug treatment; Drug detox; Self-help groups like Narcotics Anonymous (NA) or Alcoholics Anonymous (AA). We included an indicator (yes/no) for whether participants spent any time in jail in the past year. We also included an indicator (yes/no) for whether participants were on any of the following types of community supervision in the past year: probation, post-prison supervision/parole, supervised release, or other.

For the need domain, we did not examine specific variables because we limited the sample to PWUD in need of housing assistance as defined by whether they experienced unstable housing in the past year.

### Statistical analyses

We described the sample using summary statistics. We conducted a multivariable log-binomial regression with robust standard errors to explore associations between sociodemographic characteristics and housing assistance in the past year. We included all characteristics in the model and estimated adjusted prevalence ratios (PR) and 95% confidence intervals (95% CI). We assessed multicollinearity by estimating variance inflation factors (VIF) for independent variables [27]. VIFs were all less than two, suggesting minimal issues with multicollinearity. We were unable to explore specific gender expansive and racial-ethnic disparities due to small sample sizes. Therefore, we grouped cisgender women and gender expansive people and compared to cisgender men, and we grouped non-White and Multiracial individuals and compared to White individuals. We performed all analyses using Stata 18 [28].

## Results

### Sample characteristics

In our sample of 425 PWUD who experienced unstable housing in the past year, the median age was 40 (interquartile range [IQR]: 31–51) and 64% identified as cisgender men (Table 1). Nearly two in three participants self-identified as White and 15% self-identified as Multiracial. Among Multiracial participants ( $n=64$ ), most identified as Native American/Alaskan Native and White (44%,  $n=28$ ), followed by Hispanic and White (16%,  $n=10$ ), and Black and White (8%,  $n=5$ ) (data not shown). Over 90% of participants lived in Oregon three or more years. Most interviews were conducted in urban counties (61%). Over two thirds of participants used stimulants 21 or more days in the past month and 41% used opioids 21 or more days. Almost one third of participants started any drug treatment or support in the past year. Participants reported starting various forms of drug treatment or support in the past year including self-help groups (e.g. Narcotics Anonymous or Alcoholics Anonymous, 30%), drug detoxification programs (28%), outpatient programs (28%), buprenorphine treatment (25%), residential treatment (20%), and methadone (20%) (data not shown; participants could select more than one, so percentages add up to more than 100%). Approximately one in three participants spent at least one night in jail in the past year and more than a quarter were on community supervision. The majority of those on community supervision were on probation (Table 1). Almost one quarter

of participants experienced an opioid-related overdose in the past year.

Over 97% of the sample spent one or more nights outside, in a park, in a vehicle or in a tent in the past year and 70% spent one or more nights in a shelter, couch-surfed, or stayed in a temporary hotel or motel. Less than one third of participants reported obtaining housing assistance in the past year (Table 1). Of those who obtained housing assistance, 61% were on a housing waitlist in the past year.

### Predictors of housing assistance

Results from our multivariable analyses are depicted in Fig. 1 and full estimates are in Additional Table 1. Compared to cisgender women and gender expansive PWUD, cisgender men had a lower prevalence of obtaining housing assistance (PR=0.73, 95% CI: 0.55–0.98). Those interviewed in non-urban counties also had a lower prevalence compared to those in urban counties (PR=0.72, 95% CI: 0.53–0.98). PWUD who used opioids 21 or more days in the past month had a lower prevalence of housing assistance in the past year compared to those who used less than 21 days (PR=0.67, 95% CI: 0.48–0.94). PWUD who spent time in jail had a lower prevalence of obtaining housing assistance.

PWUD who were on any form of community supervision had 1.70 times the prevalence of housing assistance as PWUD who were not on community supervision (95% CI: 1.27–2.27). We found positive associations for PWUD who were older, identified as non-White or Multiracial, and started drug treatment in the past year, but these were not statistically significant. We did not find associations with stimulant use in the past month.

## Discussion

Using data from a community-based study of PWUD in Oregon, we estimated the prevalence of housing assistance among PWUD who experienced unstable housing and explored factors associated with obtaining housing assistance. Less than one third of participants obtained housing assistance in the past year. Guided by the BMVP, we also found important factors that affected obtaining housing assistance among PWUD who experienced unstable housing, including cisgender men, non-urban counties, high frequency opioid use, and community supervision.

Of the 468 PWUD enrolled in the larger study, 94% experienced unstable housing in the past year. Among PWUD experiencing unstable housing, only 31% obtained housing assistance. Our findings demonstrate a large unmet need for access to housing services for PWUD. In addition to decriminalizing small amounts of drugs for personal use and expanding treatment and harm reduction services, Oregon's M110 also funded

**Table 1** Descriptive statistics among people who use drugs and experienced unstable housing in the past year, Oregon, *N* = 425

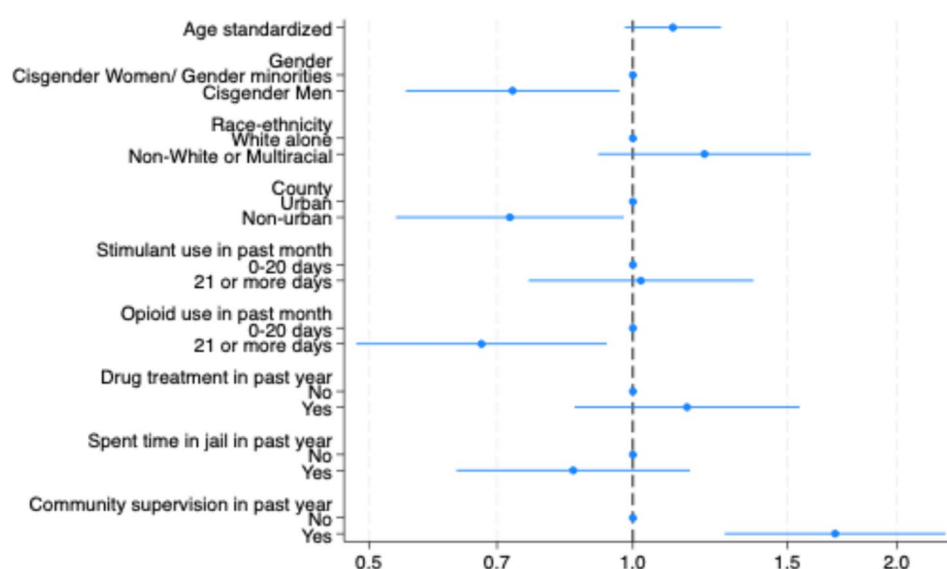
	Total ( <i>n</i> = 425)	Obtained housing assistance in the past year	
		No	Yes
	N (%)	<i>n</i> = 292 (68.7%)	<i>n</i> = 133 (31.3%)
Age (median (IQR))	40 (31–51)	39 (31–50)	43 (32–53)
Gender			
Cisgender women	143 (33.6%)	90 (62.9%)	53 (37.1%)
Cisgender men	273 (64.2%)	195 (71.4%)	78 (28.6%)
Gender expansive (non-binary, transgender, two-spirit)	9 (2.1%)	7 (77.8%)	2 (22.2%)
Race or ethnicity			
White	281 (66.1%)	201 (71.5%)	80 (28.5%)
Black	30 (7.1%)	19 (63.3%)	11 (36.7%)
Asian	2 (0.5%)	2 (100%)	0 (0%)
Native Hawaiian/Pacific Islander	5 (1.2%)	3 (60.0%)	2 (40.0%)
Latinx/Hispanic	21 (4.9%)	14 (66.7%)	7 (33.3%)
Native American/Alaskan Native	17 (4.0%)	10 (58.8%)	7 (41.2%)
Multiracial**	64 (15.1%)	40 (62.5%)	24 (37.5%)
Other	5 (1.2%)	3 (60.0%)	2 (40.0%)
Years living in Oregon ( <i>n</i> = 339)**			
≤ 2 years	32 (9.4%)	22 (68.8%)	10 (31.3%)
3–10 years	64 (18.9%)	50 (78.1%)	14 (21.9%)
≥ 11 years	243 (71.7%)	164 (67.5%)	79 (32.5%)
Urban county			
Urban	259 (60.9%)	173 (66.8%)	86 (33.2%)
Non-urban	166 (39.1%)	119 (71.7%)	47 (28.3%)
Experienced an overdose in past year	99 (23.3%)	69 (69.7%)	30 (30.3%)
Stimulant use in past 30 days			
0–20 days	132 (31.1%)	87 (65.9%)	45 (34.1%)
21 or more days	293 (68.9%)	205 (70.0%)	88 (30.0%)
Opioid use in past 30 days			
0–20 days	249 (58.6%)	160 (64.3%)	89 (35.7%)
21 or more days	176 (41.4%)	132 (75.0%)	44 (25.0%)
Started any drug treatment in the past year	126 (29.6%)	85 (67.5%)	41 (32.5%)
Type of drug treatment or support ( <i>n</i> = 126)***			
Buprenorphine	32 (25.4%)	25 (78.1%)	7 (21.9%)
Methadone	26 (20.6%)	19 (73.1%)	7 (26.9%)
Outpatient treatment	35 (27.8%)	21 (60.0%)	14 (40.0%)
Residential or inpatient treatment	25 (19.8%)	18 (72.0%)	7 (28.0%)
Drug detoxification program	35 (27.8%)	25 (71.4%)	10 (28.6%)
Self-help groups	38 (30.2%)	21 (55.3%)	17 (44.7%)
Any time in jail in past year	144 (33.9%)	101 (70.1%)	43 (29.9%)
Any community supervision in past year	113 (26.6%)	66 (58.4%)	47 (41.6%)
Type of community supervision***			
Probation	59 (52.2%)	35 (59.3%)	24 (40.7%)
Parole	31 (27.4%)	19 (61.3%)	12 (38.7%)
Supervised release/ other	23 (20.4%)	12 (52.2%)	11 (47.8%)
<i>Housing variables</i>			
Spent one or more nights outdoors, in a park, vehicle, or tent	413 (97.2%)	285 (69.0%)	128 (31.0%)
Spent one or more nights in a shelter, couch surfing, or temporary hotel/ motel	299 (70.4%)	194 (64.9%)	105 (35.1%)
Has been on a waitlist for housing for 12 months or less	81 (19.1%)	0	81 (100%)

\* Most Multiracial participants identified as Native American/Alaskan Native and White (43.8%), followed by Hispanic and White (15.6%), and Black and White (7.8%)

\*\* This question was added to the survey one month into data collection; thus, *n* = 86 are missing values.

\*\*\* Participants could select more than one; therefore, total percentages add to more than 100%. Abbreviations: Interquartile range (IQR)





**Fig. 1** Factors associated with housing assistance in the past year among people who use drugs and experienced unstable housing, Oregon,  $n=425$ . We conducted a multivariable log-binomial regression to estimate prevalence ratios and 95% CIs between sociodemographic characteristics and housing assistance in the past year

low-threshold housing and recovery housing units, housing assistance services, and peer support specialists who referred PWUD to housing [29]. Peer recovery support specialists may be especially important for connecting PWUD to housing assistance as their lived experience can create trust and improve engagement [30]. Peer support specialists are credentialed individuals who are in long-term recovery from a substance use related problem and people receiving such peer support have positive outcomes, such as reduced substance use, improved treatment or recovery outcomes, increased housing stability, decreased criminal legal system involvement, and decreased hospital / emergency room use [30]. M110 helped to significantly expand Oregon's peer support workforce, doubling the number of active peers from 1,400 to 2,800 between 2022 and 2023 [29]. Our study occurred only 7–15 months after funding was released and further research is needed to understand the impacts of M110 funding on increasing housing services for PWUD in need.

Using the BMVP, we found cisgender men and those interviewed in non-urban counties had lower prevalences of obtaining housing assistance. Our results are consistent with previous studies that found men were more likely to experience housing instability [16, 31] and support the growing evidence of increasing housing instability among rural PWUD [32–34]. Our findings point to additional factors that may exacerbate vulnerabilities for PWUD who experienced unstable housing to access housing services.

We found using opioids 21 or more days was associated with a lower prevalence of obtaining housing assistance

in the past year. Our results support prior studies that have demonstrated associations between higher levels of drug use and housing instability [13, 16]. In recent years, Oregon has experienced a dual housing and opioid overdose crisis: over 65% of people experiencing homelessness were unsheltered in 2023 [1], and over 1,800 people died of an opioid-related overdose [35]. Our findings show a large gap in connecting people who regularly use opioids to housing services. Therefore, special attention on the intersection between opioid use and housing instability is needed. Prior studies have documented the social and physical barriers of supportive housing for PWUD, such as constant observation or restrictive rules at shelters and unhygienic living conditions in single room occupancy (SRO) units [36]. The acceptability of available housing specifically for PWUD should be considered when designing and implementing housing assistance services for this population.

It is well-documented that criminal legal system exposures are associated with poor individual physical and mental health and community harms [37, 38] and are associated with discontinuation of substance use disorder treatment and recidivism [39]. Therefore, it was unexpected that we found PWUD who were on community supervision had a 70% higher prevalence of obtaining housing assistance in the past year. In contrast, we found any time in jail was associated with a 12% lower prevalence of housing assistance, though this was not statistically significant. Community supervision may suggest engagement with a larger institutional system that may improve access to housing assistance. For instance, some community supervision programs in Oregon link

individuals to transitional or permanent supportive housing as part of their program [40]. Such linkages to housing systems are critical for those transitioning to community supervision given existing research documenting how incarceration, including community supervision, can lead to housing instability [41]. Given the large unmet need for housing assistance in our study, other mechanisms for linking PWUD to housing assistance are needed, such as increasing utilization of the peer workforce to connect people to housing.

In our sample, we did not find statistically significant associations between age, race-ethnicity, stimulant use, initiation of drug treatment or support, or jail and obtaining housing assistance. It may be that for this specific disadvantaged population of PWUD who experienced unstable housing, these factors were not as salient with respect to obtaining housing assistance above and beyond gender, urban vs. non-urban counties, opioid use, and community supervision.

Our results should be considered along with potential limitations. First, this was a cross-sectional study and causal relationships cannot be established. Future longitudinal studies are needed to understand the temporal relationships between the individual factors we identified and housing assistance. Second, data were self-reported and subject to reporting bias. Third, we did not collect information on the type of housing assistance that participants received. Future studies exploring the types of housing that are available and acceptable to PWUD would be invaluable to inform housing policies for this marginalized population. Fourth, we sampled participants from eight counties in Oregon, but this was not a random sample. Given drug use is heavily stigmatized and policed, we used a targeted sampling approach that included recruitment at homeless encampments. Therefore, our sample may be subject to selection bias with a high number of participants experiencing unsheltered homelessness. However, this population of PWUD who experience unstable housing is a key population for service providers and policymakers. Finally, we were unable to examine racial and ethnic disparities due to limited heterogeneity in our sample.

## Conclusion

Unstable housing has tremendous harms on health and well-being. PWUD are at especially vulnerable to unstable housing and homelessness. Our study found a large gap in housing assistance for PWUD experiencing unstable housing in Oregon and identified important factors associated with obtaining housing assistance. Our findings can inform future interventions to connect PWUD with stable housing.

## Abbreviations

M110	Ballot Measure 110
CI	Confidence Interval
PWUD	People who use drugs
PR	Prevalence ratio
US	United States

## Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12889-025-21925-y>.

Supplementary Material 1

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## Author contributions

EOC conceptualized the research question, developed the analytic approach, analyzed the data, visualized results, wrote the original draft, and revised the manuscript. LDW participated in conceptualization, data collection, interpretation of results, project administration, and revising the manuscript. DG participated in data collection, project administration, and reviewing the manuscript. GL participated in funding acquisition, project administration, and writing and revising. MG participated in data collection and reviewing the manuscript. BHL participated in conceptualization, methodology, funding acquisition, and writing and revising. AHK participated in conceptualization, methodology, funding acquisition, project administration, supervision, and writing and revising.

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## Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

## Declarations

### Ethics approval and consent to participate

All study procedures were approved by the Institutional Review Board within the Office of Research Protection at Research Triangle Institute (RTI) International (STUDY00022367) and adhered to the Declaration of Helsinki. Participants provided informed consent prior to data collection. There were no refusals to participate by anyone who presented at data collection sites and was eligible to participate.

### Consent for publication

Not applicable.

### Competing interests

The authors declare no competing interests.

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