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Homelessness, HIV Testing, and the Reach of Public Health Efforts for People Who Inject Drugs, San Francisco, California

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Abstract

Background.—There is a dearth of literature that explicitly examines associations between housing and HIV testing among people who inject drugs (PWID). Thus, the present study investigated the links between housing status and HIV testing for PWID.

Methods.—Respondent-driven sampling recruited 382 HIV-negative PWID, who completed structured interviews in San Francisco. Logistic regression determined whether housing statuses in the past 12 months ([1] owned/rented, [2] single-room occupancy hotels [SROs], [3] living with friends/family/partners, [4] shelters, [5] outdoors) were associated with getting HIV tested in the past 12 months while adjusting for sociodemographics and receptive sharing of injection paraphernalia in the past 12 months.

Results.—PWID who lived in SROs had greater odds of being tested for HIV than PWID who did not live in SROs (*aOR*=1.95, $CI_{.95}$: 1.06–3.60) while adjusting for covariates. Although bivariable analyses indicated that receptively sharing syringes was more common for PWID who lived with others (χ^2[3]=7.94, p=0.047) or lived outdoors (χ^2[3]=9.50, p=0.023) than those who did not, respectively, PWID who lived with others (*aOR*=1.72, $CI_{.95}$=0.95–3.14) or lived outdoors (*aOR*=1.37, $CI_{.95}$=0.74–2.53) did not show greater odds of HIV testing in multivariable analyses.

Conclusions.—PWID who lived in SROs had greater odds of HIV testing than PWID who did not live in SROs. Although PWID who lived with others or outdoors showed greater HIV risk, they did not show greater odds of HIV testing. Public health efforts may be reaching PWID in SROs, but more work is needed to reach PWID who live with other people or outdoors.

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Contributors

Wilson Vincent formulated hypotheses, reviewed the literature, conducted all data analyses, and conceptualized and wrote the manuscript. Jess Lin managed the database, supervised data collection, and assisted with the conceptualization of the manuscript. Danielle Veloso and Desmond Miller conducted data collection and implementation of the original study from which data were drawn. Willi McFarland, who is the principal investigator or NHBS in San Francisco and senior author, assisted with and provided feedback on the conceptualization and writing of the manuscript, was a key leader in the development and implementation of the original study, and provided the data for the present paper. All authors contributed to the development of the manuscript.

Author Disclosures

Declaration of interest

None

Conflict of Interest

No conflict declared.

Keywords

people who inject drugs; housing; injection drug use; HIV testing; harm reduction; surveillance

1. Introduction

People who inject drugs (PWID) are disproportionately affected by HIV infection. Globally, injection drug use (IDU) accounts for 10% of HIV infections, 30% outside of Africa (World Health Organization, 2020), and results in HIV outbreaks (Ball et al., 2019; Conrad et al., 2015; Golden et al., 2019). Up to 40% of PWID share injection equipment (Centers for Disease Control and Prevention [CDC], 2020). The HIV-prevention strategies comprising the Ending the HIV Epidemic (EtHE) initiative require that the risks posed to PWID are addressed (United States Department of Health & Human Services, 2020). HIV screening and treatment in PWID are critical to prevent HIV outbreaks and adverse individual and public health outcomes (Golden et al., 2019; Kamarulzaman & Altice, 2015). However, research has shown that less than half of PWID reported HIV testing in the past year in the United States (US) (Furukawa et al., 2020), and global testing data tend to be sparse (Larney et al., 2017; Metsch et al., 2015).

An estimated 50.3% of PWID have experienced homelessness in North America (Degenhardt et al., 2017). Along with IDU-specific HIV risk, homelessness contributes to HIV outbreaks among PWID internationally, including in North America and Europe (Des Jarlais et al., 2020). A few studies have examined the link between homelessness and HIV testing. For example, in the US, veterans (Noska et al., 2017) and Black sexual-minority men (Creasy et al., 2019) who were homeless had greater odds of recent HIV testing than their respective, more stably housed counterparts, and this is at least partly due to increased testing in settings where homeless persons may be more likely to present (e.g., homeless shelters, substance use treatment programs, emergency departments). Research is needed to test for a similar association among PWID.

In the present study, we tested associations between several specific housing statuses (e.g., living outdoors; living in single-room occupancy hotels, or SROs [i.e., multi-unit buildings with at least some shared accommodations for low-income individuals]) and HIV testing controlling for sociodemographics and receptively sharing injection equipment. We classified renting/owning a home or living in SROs, where residents gain tenant’s rights after 30 days under California law (Housing Rights Committee of San Francisco, 2020), as stable housing; we classified other housing statuses, including living in shelters or outdoors, as less stably housed. Studies rarely distinguish types of unstable housing. We focused on PWID in San Francisco, California, where the cost of living is the second highest in the US (Burrows, 2019) and HIV seroprevalence may be five times greater among homeless and marginally housed persons than in the general population (Robertson et al., 2004). Being more stably housed was expected to be associated with lower odds of HIV testing.

2. Methods

2.1. Data Source

Participants were 382 PWID who participated in the fifth wave of the cross-sectional National HIV Behavioral Surveillance (NHBS) implemented in San Francisco and self-reported as never having tested HIV positive. Details of the methods of the NHBS are reported elsewhere (MacKellar et al., 2007). In brief, NHBS utilized respondent-driven sampling (RDS) to sample PWID in communities in San Francisco. Recruitment was based on peer referral such that initial "seeds" (n=8, 6 of whom were HIV-negative and included in analyses) who were determined to be eligible were enrolled and instructed to recruit three to five other eligible PWID from their diverse social networks. Newly recruited PWID would, in turn, refer additional eligible PWID until the sample size was reached and the sample composition stabilized with respect to key demographics and participation in programs (McFarland et al., 2020). PWID were eligible if they were at least 18 years of age, spoke English, resided in San Francisco or San Mateo counties, and injected non-prescribed drugs in the prior 12 months. Participants received $75 for completing the study and $10 for each eligible, enrolled peer referred. Participation was anonymous; participants provided verbal consent. The protocol was reviewed and approved by the University of California, San Francisco's Committee on Human Research (IRB approval #: 17–24062).

2.2. Measures

Data elements used in the present analyses were collected in the standard NHBS questionnaire. For housing status, five binary, non-mutually exclusive variables were created for housing statuses in the past 12 months: (1) renting or owning a place of residence, (2) living in an SRO hotel, (3) living with friends/family/partners, (4) living in a shelter (e.g., a homeless shelter, a navigation center), and (5) living outdoors. The coding for each variable was *no*=0 (i.e., the reference group), *yes*=1. For HIV testing, we coded a variable indicating having tested in the past month *no*=0, *yes*=1.

We also included receptive sharing of (1) syringes and (2) other injection equipment (i.e., "cookers, cottons, or water"), respectively, in the past 12 months ("0=Never" to "4=Always"). Sociodemographics included age, race or ethnicity ([1] Caucasian/White, [2] African American/Black, [3] Hispanic/Latino, [4] Other), being female (coded 1; all else coded 0 [reference=male]), having a transgender identity (coded 1; all else coded 0 [reference=male]), and identifying as a sexual-minority person (coded 1; heterosexual coded 0). Participants reported their years of education (0="Never attended school" to 6="Any postgraduate studies") and annual income (0=≤$4,999 to 12=≥$75,000). Participants reported whether they were held in a detention center, jail or prison for more than 24 hours in the past 12 months (*no*=0; *yes*=1).

2.3. Data Analysis

We conducted descriptive statistics in Stata 16 (StataCorp, 2019). Using M*plus* 8 (Muthén & Muthén, 2017), we performed simple and multiple logistic regression to yield unadjusted (*OR*) and adjusted (*aORs*) odds ratios and their 95% confidence intervals ($CI_{.95}$) for whether housing statuses were associated with HIV testing. The adjusted model controlled

for sociodemographics and receptively sharing injection equipment. We selected control variables that have been linked to housing instability and HIV testing (Agenor et al., 2019; Broz et al., 2014; Huo et al., 2005; Iroh et al., 2015; Jones, 2016; Keuroghlian et al., 2014; Lo et al., 2018; Lum et al., 2005; Montgomery et al., 2015; Moschion & Johnson, 2019; Nisar et al., 2019; Ostermann et al., 2007; Pitasi et al., 2017; Ransome et al., 2016). These categories are often the foci of HIV screening outreach and messaging. No collinearity was detected. We handled missing data (8.4%) using maximum likelihood. We presented unweighted analyses including seeds following the CDC's approach in their report for the NBHS PWID cycle data (CDC, 2018), another publication using local NHBS data (Roth et al., 2019), and research on the challenges of RDS weighting and improved performance with unweighted regression models (Avery et al., 2019; Li et al., 2018).

3. Results

Table 1 shows sample characteristics and bivariate associations among all variables. Bivariate associations by housing status in the past 12 months suggested that younger PWID were less stably housed than older PWID. For example, PWID who owned or rented a home (mean age [*SD*]=50 [12.4]) were older than PWID who did not own or rent (44.6 [11.7], t=−3.42, p=0.001). In contrast, PWID who lived outdoors (42.0 [11.7]), were younger than PWID who did not live outdoors (50.3 [10.6], t=7.20, p<0.001). Also, a lower percentage of PWID who lived in SROs (25.4%) were incarcerated than PWID who did not live in SROs (37.0%, χ^2[1]=5.12, p=0.024), and a greater percentage of PWID who lived outdoors (39.9%) were incarcerated than those who did not live outdoors (22.5%, χ^2[1]=11.8, p=0.001). Further, a greater percentage of PWID who lived in other people's homes (21.5%) shared syringes used by others than who did not live with others (11.3%, χ^2[3]=7.94, p=0.047). Similarly, a greater percentage of PWID who lived outdoors (19.1%) shared syringes than PWID who did not live outdoors (8.0%, χ^2[3]=9.50, p=0.023). A smaller percentage of PWID who lived in SROs (31.9%) shared other injection equipment used by other people than those who did not live in SROs (47.9%, χ^2[4]=13.74, p=0.008). In contrast, a greater percentage of PWID who lived with others (45.7%) shared other injection equipment than those who did not live with others (40.2%, χ^2[4]=10.3, p=0.036). Not shown in Table 1, 15% of PWID who receptively shared syringes were HIV tested, and 44.9% of PWID who receptively shared other injection equipment were HIV tested.

Table 2 shows unadjusted and adjusted odds ratios of associations between housing statuses in the past 12 months and HIV testing in the past 12 months. PWID who lived in SROs had about twice the odds (*aOR*=1.95, $CI_{.95}$: 1.06–3.60) of getting tested than PWID who did not while adjusting for covariates. The association was not significant in unadjusted analyses (*OR*=1.42, $CI_{.95}$: 0.87, 2.29). PWID who were incarcerated in the past 12 months (*aOR*=1.99, $CI_{.95}$: 1.14, 3.49) and PWID who lived in other people's homes (*aOR*=1.98, $CI_{.95}$: 1.15, 3.42) had roughly twice the odds of getting tested than PWID who did not in unadjusted analyses. However, these associations were not significant for PWID who were incarcerated (*aOR*=1.49, $CI_{.95}$: 0.79, 2.79) or PWID who lived with other people (*aOR*=1.72, $CI_{.95}$: 0.95, 3.14) while adjusting for covariates.

4. Discussion

The present findings are among the few to focus on the link between housing status and HIV testing, particularly among PWID. These findings show that PWID who lived in SROs had approximately twice the odds of HIV testing than PWID who did not live in SROs when adjusting for covariates. Historically, SROs have been identified as some of the few viable housing options for PWID as well as sites that could IDU-related risk. Thus, services may include onsite HIV support programs (e.g., testing, needle exchange, counseling) (Bucher et al., 2007; Evans & Strathdee, 2006). Existing public health foci on reaching PWID struggling with some of the greater socioeconomic barriers, such as lack of housing (Bucher et al., 2007; Metsch et al., 2015; Robertson et al., 2004; Wenzel et al., 2017), may be working, at least for PWID who live in SROs.

Although PWID who lived in other people's homes or who lived outdoors did not differ in HIV testing from PWID who did not when adjusting for covariates, greater proportions of PWID who lived in other people's homes and who lived outdoors receptively shared syringes than those who did not in bivariable analyses. Also, a greater proportion of PWID who lived in other people's homes receptively shared other injection equipment than those who did not. Thus, for PWID who lived in other people's homes and who lived outdoors, both HIV screening efforts and housing services are needed, as these persons may have difficulty storing or managing unshared injection equipment. Also, harm reduction services (e.g., HIV chemoprophylaxis, naloxone) should be provided (Peckham & Young, 2020). Additionally, unstable housing may disproportionately affect younger PWID. As such, housing services and related outreach may be particularly important for younger PWID. Given the relatively low incarceration of PWID who lived in SROs and high incarceration of PWID who lived outdoors, housing services like SROs may provide alternatives to incarcerating homeless PWID.

Less than one fifth of PWID who receptively shared syringes were HIV tested compared to nearly half of PWID who shared other injection equipment. Thus, PWID who share syringes especially require attention. Receptively sharing syringes or other injection equipment showed no association with testing. This lack of association suggests that public health programming is direly needed for PWID engaging in the highest-risk behaviors related to IDU. These findings are particularly troubling given that many PWID experience missed opportunities for HIV testing in healthcare settings (Furukawa et al., 2020).

Several study limitations must be noted. First, these cross-sectional data cannot establish causality or temporality with respect to associations among variables, and findings may not generalize to PWID outside of the San Francisco area. Second, the use of self-report measures may introduce bias (e.g., recall bias, social desirability). Third, sample size was relatively small, which may affect reliability of the data and power. However, trimmed analyses did not alter primary findings. Also, although the roughly 8% missing data were handled using maximum likelihood, missing data may have affected the findings. Further, unweighted data used in the present sample may not account for network size and clustering within recruitment chains. Additionally, the present findings might overestimate HIV testing

behaviors if PWID who complete these types of studies are also more likely to be involved in public health efforts than PWID who do not complete such studies.

4.1 Conclusion

In summary, PWID who lived in SROs were more likely to engage in HIV testing than PWID who did not live in SROs when adjusting for other variables. Despite reporting more sharing of injection paraphernalia, PWID who lived in other people's homes or outdoors were not tested more than PWID who did not live with others or outdoors. Although HIV screening efforts and other harm-reduction and prevention programs may be reaching PWID who live in SROs, more work may be needed to reach PWID who are less stably housed and potentially sharing injection equipment. Additionally, younger PWID may need to be screened and reached with housing services as potential prevention measures. Providing PWID with housing in combination with increased efforts at outreach related to using sterile injection equipment may be necessary to address the HIV-prevention needs of PWID.

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Highlights

- Living in single-room occupancy hotels was associated with getting HIV tested
- Living with others was associated with sharing syringes but not HIV testing
- Living outdoors was associated with sharing syringes but not HIV testing
- Younger people who inject drugs (PWID) were less stably housed than older PWID
- Public health and HIV screening efforts may not be reaching unstably housed PWID

Table 1.

Sample Characteristics of HIV-Negative People Who Inject Drugs (PWID), National HIV Behavioral Surveillance, Survey of PWID, Wave 5, San Francisco, 2018 (*N*=382)

Variable		Total Sample (*N*=382)	Owned or Rented† (*n*=63)	Lived in SRO† (*n*=144)	Lived in Another Person's Home† (*n*=116)	Lived in a Shelter† (*n*=115)	Lived Outdoors† (*n*=220)
Age, mean (SD)		45.51 (11.97)	50.2 (12.4)[c]	48.3 (10.2)[c]	43.0 (11.9)[c]	43.4 (11.5)[a]	42.0 (11.7)[c]
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Race/ethnicity							
Caucasian/White		174 (45.6)	23 (36.5)	66 (45.8)	49 (42.2)	52 (45.2)	108 (49.1)
African American/ Black		77 (20.2)	18 (28.6)	27 (18.8)	23 (19.8)	27 (23.5)	40 (18.2)
Hispanic/Latino		56 (14.7)	13 (20.6)	21 (14.6)	15 (12.9)	14 (12.2)	34 (15.6)
Other races/ ethnicities*		75 (19.6)	9 (14.3)	30 (20.8)	29 (25.0)	22 (19.1)	38 (17.3)
Gender							
Male		250 (66.1)	35 (55.6)	90 (63.4)	69 (60.0)	73 (64.0)	142 (65.1)
Female		121 (32.0)	27 (42.9)	48 (33.8)	45 (39.1)	40 (35.1)	74 (33.9)
Transgender		7 (1.9)	1 (1.6)	4 (2.8)	1 (0.87)	1 (0.9)	2 (0.92)
Sexual-minority (non-heterosexual) status	No	289 (77.5)	47 (74.6)	107 (76.4)	84 (74.3)	94 (83.2)	165 (76.4)
	Yes	84 (22.5)	16 (25.4)	33 (23.6)	29 (25.7)	19 (16.8)	51 (23.6)
Education							
≤Grade 8		18 (4.7)	1 (1.6)	4 (2.8)	5 (4.3)	8 (7.0)	13 (5.9)
Grades 9–11		58 (15.2)	9 (14.3)	23 (16.0)	14 (12.1)	12 (10.4)	34 (15.5)
Grade 12 or GED		159 (41.6)	25 (36.7)	52 (36.1)	50 (43.1)	44 (38.3)	98 (44.6)
Some college, associate's degree, or technical degree		129 (33.8)	24 (38.1)	58 (40.3)	39 (33.6)	43 (37.4)	65 (29.6)
Bachelor's degree		16 (4.2)	4 (6.4)	5 (3.5)	6 (5.2)	7 (6.1)	8 (3.6)
Any postgraduate studies		2 (0.5)	0 (0.0)	2 (1.4)	2 (1.7)	1 (0.87)	2 (0.91)
Annual income							
>$10,00		152 (40.2)	12 (19.1)[c]	51 (35.7)	47 (40.9)	48 (41.7)	98 (45.0)
$10,000–$19,999		152 (40.2)	37 (58.7)	67 (46.9)	44 (38.3)	40 (34.8)	77 (35.3)
$20,000 - $39,999		46 (12.2)	5 (7.9)	17 (11.9)	14 (12.2)	18 (15.7)	28 (12.8)
≥$40,000		28 (7.4)	9 (14.3)	8 (5.6)	10 (8.7)	9 (7.8)	15 (6.9)
Incarcerated in the past 12 months	No	236 (67.4)	43 (78.2)	100 (74.6)[a]	63 (57.8)	65 (61.3)	122 (60.1)[c]
	Yes	114 (32.6)	12 (21.8)	34 (25.4)	46 (42.2)	41 (38.7)	81 (39.9)

Variable		Total Sample (*N*=382)	Owned or Rented† (*n*=63)	Lived in SRO† (*n*=144)	Lived in Another Person's Home† (*n*=116)	Lived in a Shelter† (*n*=115)	Lived Outdoors† (*n*=220)
Receptive syringe sharing in the past 12 months							
Never		327 (85.6)	54 (85.7)	130 (90.3)	91 (78.5)[a]	96 (83.5)	178 (80.9)[a]
Rarely		50 (13.1)	8 (12.7)	14 (9.7)	23 (19.8)	16 (13.9)	38 (17.3)
About half the time		4 (1.1)	1 (1.6)	0 (0.0)	2 (1.7)	3 (2.6)	3 (1.4)
Most of the time		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Always		1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)
Receptive sharing of other equipment in the past 12 months							
Never		222 (58.1)	36 (57.1)	98 (68.1)[b]	63 (54.3)[a]	58 (50.4)	105 (47.7)
Rarely		116 (30.4)	18 (28.6)	32 (22.2)	46 (39.7)	42 (36.5)	87 (39.6)
About half the time		26 (6.8)	3 (4.7)	6 (4.2)	5 (4.31)	10 (8.7)	19 (8.6)
Most of the time		14 (3.7)	5 (7.9)	5 (3.5)	1 (0.9)	3 (2.6)	5 (2.3)
Always		4 (1.1)	1 (1.6)	3 (2.1)	1 (0.9)	2 (1.7)	4 (1.8)
Housing status in the past 12 months†							
Owned/rent home	No	319 (83.5)	---	132 (91.7)[b]	95 (81.9)	106 (92.2)[b]	198 (90.0)[c]
	yes	63 (16.5)	---	12 (8.3)	21 (18.1)	9 (7.8)	22 (10.0)
Lived in an SRO	No	238 (62.3)	51 (81.0)[b]	---	76 (65.5)	86 (74.8)[b]	172 (78.2)[c]
	Yes	144 (37.7)	12 (19.1)	---	40 (34.5)	29 (25.2)	48 (21.8)
Lived in another person's home	No	266 (69.6)	42 (66.7)	104 (72.2)	---	74 (64.4)	129 (58.6)[c]
	Yes	116 (30.4)	21 (33.3)	40 (27.8)	---	41 (35.7)	91 (41.4)
Lived in a shelter	No	267 (69.9)	54 (85.7)[b]	115 (79.9)[b]	75 (64.7)	---	134 (60.9)[c]
	Yes	115 (30.1)	9 (14.3)	29 (20.1)	41 (35.3)	---	86 (39.1)
Lived outdoors	No	162 (42.4)	41 (65.1)[c]	96 (66.7)[c]	25 (21.6)[c]	29 (25.2)[c]	---
	Yes	220 (57.6)	22 (34.9)	48 (33.3)	91 (78.5)	86 (74.8)	---
Was tested for HIV in the past 12 months	No	102 (27.8)	23 (37.7)	33 (23.6)	21 (18.9)[a]	28 (25.0)	51 (24.1)
	Yes	265 (72.2)	38 (62.3)	107 (76.4)	90 (81.1)	84 (75.0)	161 (75.9)

Note.

[a] $p<0.05$

[b] $p<0.01$

[c] $p<0.001$. Significance levels are in reference to associations between the variable category in the row (e.g., Receptive syringe sharing in the past 12 months) and the variable category in the column (e.g., Lived with another person in the past 12 months). Analyses with expected values of zero were conducted using Fischer's exact test. Otherwise, they were conducted using Pearson's chi-squared test or, for the continuous age variable, *t* tests. Percentages add up by column, not by row. Percentages may not sum to 100 due to rounding. Also, subsample sizes may not sum to 382 due to missing data. SRO=single-room occupancy hotel.

[†] Housing categories are not mutually exclusive.

[*] Of the total sample of 382 PWID, “other races/ethnicities” included participants who identified as American Indian/Alaska Native (*n*=5, 1.3%), Asian or Native Hawaiian or other Pacific Islander (*n*=8, 2.1%), and different combinations of multiple races or ethnicities (*n*=62, 16.2%).

Table 2.

Housing Statuses and Their Associations with HIV Testing Among People Who Inject Drugs (PWID), National HIV Behavioral Surveillance, Survey of PWID, Wave 5, San Francisco, 2018 (*N*=382)

	OR	**(95% CI$_{OR}$)**	***aOR***	**(95% CI$_{aOR}$)**
Age	0.97	0.95, 0.99	0.98	0.96, 1.00
Race Ethnicity (Ref = White)				
African American	0.76	0.44, 1.31	1.33	0.68, 2.61
Hispanic/Latino	1.83	0.88, 3.80	2.23	1.00, 4.94
Other races/ethnicities [*]	1.76	0.936, 3.32	1.87	0.93, 3.77
Gender				
Female	1.03	0.63, 1.69	0.90	0.51, 1.57
Transgender	1.95	0.22, 16.86	1.98	0.21, 19.10
Sexual minority (i.e., non-heterosexual)	1.28	0.73, 2.26	1.11	0.58, 2.11
Education	0.83	0.65, 1.07	0.79	0.60, 1.05
Annual income	0.99	0.92, 1.07	1.02	0.93, 1.11
Incarcerated in the past 12 months	1.99	1.14, 3.49	1.49	0.79, 2.79
Receptive syringe sharing in the past 12 months	1.07	0.63, 1.83	0.95	0.53, 1.70
Receptive sharing of other injection equipment in the past 12 months	1.06	0.81, 1.33	1.05	0.77, 1.43
Housing in the past 12 months [†]				
Own/rent home	0.58	0.32, 1.03	0.89	0.43, 1.84
Lived in SRO	1.42	0.87, 2.29	1.95	1.06, 3.60
Lived in another person's home	1.98	1.15, 3.42	1.72	0.95, 3.14
Lived in shelter	1.23	0.74, 1.88	1.16	0.66, 2.04
Lived outdoors	1.55	0.98, 2.45	1.37	0.74, 2.53

Note. OR=unadjusted odds ratio from simple logistic regression. *aOR*=adjusted odds ratio from multiple logistic regression. CI=confidence interval. SRO=single room occupancy hotel. Missing data were handled using maximum likelihood.

[†] Housing categories are not mutually exclusive.

[*] Of the total sample of 382 PWID, "other races/ethnicities" included participants who identified as American Indian/Alaska Native (*n*=5, 1.3%), Asian or Native Hawaiian or other Pacific Islander (*n*=8, 2.1%), and different combinations of multiple races or ethnicities (*n*=62, 16.2%).