Results from the 2024 WA State Permanent Supportive Housing Perceptions and Community Health Survey

ADAI ADDICTIONS, DRUG & ALCOHOL INSTITUTE

Saul Petersky; Caleb J. Banta-Green, PhD, MPH, MSW

Key Findings

- 188 residents in Permanent Supportive Housing (PSH) programs completed a **survey on their perceptions of services for people who use drugs in their building** and 115 of these residents also reported on their **personal substance use and substance use treatment needs**.
- 33% of participants **had witnessed an opioid overdose** in their building in the past three months.
- 79% of participants responded they were **"very likely" to ask staff for help** when witnessing an overdose in the building and nearly half (49%) responded that they **could access naloxone from front desk staff**.
- 50% of participants felt there was **"a lot" of drug use in their building**. 34% of participants agreed that **staff openly discussed safer or reduced drug use** with residents.
- Most participants said they **have a friend in the building** (74%) **or in the community** (63%) with whom they could spend time.
- Participants reported the **"top needs in their life right now"** as financial (21%), moving to different housing (17%), health care (13%), and employment (12%).
- 43% felt they are **given opportunities to help make rules and programs** that affect them.
- 58% of participants reported **using drugs or alcohol in the last week**, including cannabis. 14% were currently **receiving methadone, buprenorphine, or naltrexone** treatment medications.
- 80% of participants who reported past week opioid use (n=20) and 68% of participants who reported past week stimulant use (n=37) **were interested in reducing or stopping their use of these drugs.**
- 76% of participants who were asked about their interest in safe supply (n=37) said they would **prefer a safe supply of opioids** over the opioids or the medications for opioid use disorder they are currently using.

Acknowledgments

ADAI would like to thank the PSH residents who agreed to be surveyed and who assisted with pilot testing the survey. We recognize the significant contribution of Tiffany Talley (Public Health-Seattle & King County) who assisted with survey administration and provided ongoing logistical support to this project. We would also like to thank Brianna Groesbeck, Charlotte McIntsoh, Allison Schwartz, Seth Warna and AB Winter (UW MSW students) who helped launch and administer the survey at our first partner site. We would also like to thank Kaela Moontree (Kitsap Public Health District), LeiLani Dawn (UW ADAI), Mary Meyer (Skagit Valley College), and Chan Plett, who helped administer the survey. We gratefully acknowledge Karin Ellis, June Capestany, Taurmini Fentress, Vivian James, Faeble Kievman, Dr. Moo-Hyun Kim, Alison Newman, Dena Salehipour, and Jackson Williams for their roles as key contributors on this project. We sincerely appreciate Christina Harris for their help with qualitative coding.

Background

The 2024 Washington (WA) State Permanent Supportive Housing Perceptions and Community Health (PerCH) Survey builds on previous collaborations between the Addictions, Drug & Alcohol Institute (ADAI) and WA State syringe services programs (SSPs) including the biennial survey of SSP participants. Participants in the 2023 WA State SSP Health Survey who were living unhoused or in temporary/unstable housing (80%, n=1,338) reported that they felt that stable housing would help them reduce use of their main drug (43%) or help them quit using their main drug altogether (25%).[1] 44% of SSP survey respondents identified housing as the "top need" in their life.

The PerCH survey explored experiences of people with histories of homelessness with a variety of drug use patterns, including abstinence, who are currently living in permanent supportive housing (PSH). This exploratory, cross-sectional survey used both multiple-choice questions and open-ended questions to understand demographics and characteristics of survey participants, overdose response experiences, perceptions of substance use policies, quality of community relationships, and participants' personal substance use patterns and needs.

Methods

The planning and design of the PerCH survey began in October 2023. Forty-seven stakeholders with diverse perspectives (e.g., people with current or former experiences of homelessness, current PSH residents, service providers, people who use drugs) provided their input on the PerCH survey design, project aims, questions, and implementation. Forty-three of the 88 questions on the PSH PerCH survey were derived from the 2023 WA State SSP Health Survey, predominantly replicating questions around personal substance use patterns, access to safer drug use and harm reduction supplies, access to and interest in substance use treatment options (including medications for opioid use disorder), and barriers to accessing substance use treatment.

Thirty-one questions were developed by the authors, 14 of which expanded the SSP survey items to include questions on personal use of cannabis, alcohol, "other" drugs, and to include "oral" to drug consumption routes. Other original questions developed for the PerCH survey were about treatment, harm reduction, and participant perceptions. These original questions were developed through team discussion of relevant literature and systematic reviews of similar research on overdose response and prevention in housing environments. Several original questions were developed in collaboration with harm reduction experts and stakeholders who use illegal drugs. The remaining questions on the PerCH survey, mostly asking about participant perceptions, were developed from a variety of sources including a 2021 ADAI survey of housing program staff[2] and SAMSHA's National Outcome Measures for Adult Programs.[3] See Appendix I for details on the sources of PerCH survey questions.

The PerCH survey was designed to capture a wide range of experiences of PSH residents, including those who did not use drugs or who did not wish to disclose their drug use. Part 1 of the survey asked participants about their health care needs, knowledge of overdose response, access to naloxone, perceptions of building policies, community integration, and staff relationships. Part 1 also asked open-ended questions about their experiences living in PSH (Table 1).

Table 1. Eligibility criteria and topics of PerCH Survey components

	Part 1	Part 2
Type and number of respondents	All participants n=188	Only those with past week drug/alcohol use or currently receiving methadone, buprenorphine, or naltrexone n=115
Topics	Demographics, health care, overdose, social integration, experience/perceptions of PSH	Substance use, substance use treatment, access to harm reduction supplies, interest in harm reduction services

Part 2 of the PerCH survey was explicitly optional and asked participants about their personal substance use, substance use treatment, access to safer drug use supplies, and interest in harm reduction services. The screening process for Part 2 of the PerCH survey was designed to identify participants who either reported using drugs or alcohol in the past week or were currently receiving methadone, buprenorphine, or naltrexone from a clinic or health care provider. Participants did not need to specify if they received these medications for opioid use disorder or for any other substance use disorder.

Study recruitment flyers and info sheets for staff and residents were emailed to partner sites at least one week before data collection. UW research staff communicated with partner sites prior to data collection to discuss scheduling preferences and to provide basic information about the PerCH survey to staff and residents.
Participants were recruited by UW research staff with a sign-up sheet that opened the day of the PerCH survey. The timing for data collection depended on geography, building size, and availability of data collection volunteers. The resident sign-up sheet for most data collection days opened at 10:00am and surveys ran from 10:30am to 3:30pm.

Participants were eligible if they were at least 18 years old, able to communicate verbally in English, willing to participate, and were tenants living at partner sites. UW research staff and volunteers obtained verbal consent with participants. Participants received a $20 Visa gift card for completing the PerCH survey. Participants were informed they would receive the same incentive (gift card) no matter if they qualified for Part 2, that the survey was anonymous, and that personally identifiable information would not be collected. The UW Human Subjects Division determined that the survey was exempt from review.

The PerCH survey was verbally administered. Surveys were predominantly conducted in fully private spaces like conference rooms and offices inside partner sites. A small number of surveys were completed in semi-private common areas or outdoors. Large-text flashcards were used as optional visual aids when more than four response options were available (e.g., the list of racial and/or ethnic identities).

The average participant completion time for the survey, excluding consent and screening processes, was nine minutes for Part 1 and an additional five minutes for Part 2. The longest participant completion time for Part 1 and Part 2 was 30 minutes and 33 minutes respectively.

Study data were collected and managed using REDCap electronic data capture tools hosted at University of Washington. [4] Descriptive data analysis was completed using Tableau Desktop. Qualitative responses were team-coded by three people who worked towards a thematic consensus process. A brief optional staff survey was distributed to PerCH partner sites via REDCap after the resident PerCH survey was completed (results to be reported elsewhere).

Participating sites

Permanent supportive housing is legally defined in Washington State as subsidized, indefinite-leased housing with low-barrier admissions aimed at supporting housing stability for individuals with complex health conditions who were homeless or at risk of homelessness.[5] PSH residents are protected under Washington State landlord-tenant laws. Permanent subsidized rent, supportive services, and legal tenancy were eligibility requirements for partner site inclusion. The criteria for the PerCH survey partner sites excluded transitional housing, sites serving households larger than one person, family housing, and housing on tribal lands. Exceptions were made on eligibility criteria on household sizes for sites located in non-metro areas serving adult households of two people.

Twelve organizations were invited to participate in the PerCH survey. One organization's partner site was ineligible due to the presence of minors living in the building. Two organizations did not respond to ADAI's invitation to participate. Nine organizations, with 13 buildings, chose to participate in the PerCH survey (Table 2). Geographic diversity in site selection was prioritized. Appendix II has a map of surveys by Behavioral Health-Administrative Service Organization (BH-ASO).

All PerCH partner sites were single-site PSH where residents lived in individual units on one property. Twelve of thirteen partner sites were sited in standalone buildings with multiple floors. One partner site was comprised of fourplex-style tiny houses leased by tenants. On average, PerCH partner sites had five years of operational service, with the newest buildings placed in service in 2023 and the oldest building placed in service in 2011.

Table 2. Number of PerCH surveys collected by BH-ASO

BH-ASO	PerCH partner sites	Organizations	Number of units in partner sites	Surveys completed
Greater Columbia	1	*requested to remain anonymous*	60	16
King	3	Catholic Community Services of Western WA, Downtown Emergency Service Center, Plymouth Housing	264	56
North Sound	2	Catholic Community Services of Western WA, Compass Health	151	38
Pierce	1	Catholic Community Services of Western WA	50	7
Salish	2	Kitsap Mental Health Services, Serenity House of Clallam County	100	29
Southwest	1	Vancouver Housing Authority	30	10
Spokane	2	*requested to remain anonymous*	102	22
Thurston-Mason	1	New Horizons Communities	30	10
Total	**13**	**9, including anonymous organization(s)**	**787**	**188**

Between February and July 2024, UW research staff and volunteers administered the voluntary, face-to-face questionnaire with 188 participants. The survey was conducted in ten WA State counties.

Part 1 Results: Perceptions and community health

Demographics and characteristics of participants

The survey allowed for multiple responses regarding the questions "What best describes your gender identity?" and "What best describes your racial and/or ethnic identity?". The majority of participants (62%) identified as men and 35% identified as women (Table 3). The **racial and ethnic identities of participants were diverse**, with 46% identifying as any race or ethnicity other than white. White was the largest race/ethnicity category identified by participants (64%). 19% of participants identified as American Indian/Alaska Native and 15% identified as Black or African American. The youngest PerCH survey participant was 23 years old and the oldest was 76 years old. **50-59 year olds were the largest age group of participants** (32%), followed by 60-69 year olds (27%), and 30-39 year olds (19%).

U.S. Military service status in the survey used the National Center for Health Statistics definition as a person having served on active-duty in the U.S. Armed Forces, military reserves, or National Guard (regardless of discharge status).[6] **24% of participants had served in the U.S. Military** under this definition. 82% of participants had **access to a working cellphone** that could make and receive phone calls. Most (88%) of participants had lived in their building for less than five years.

68% of participants had Medicaid insurance (Figure 1). Fewer (16%) had other insurance like Medicare, employer provided insurance, or Veterans Health Administration (VHA) benefits. 14% were dual covered by more than one type of health insurance benefit.

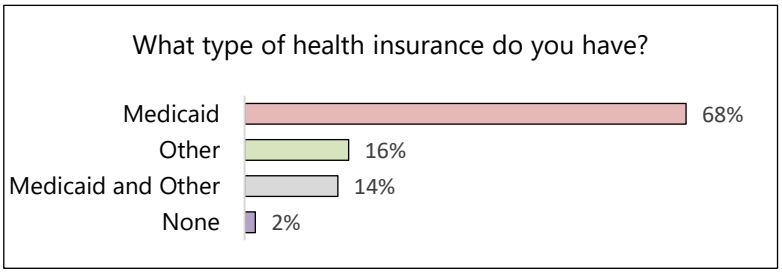


Figure 1. Health insurance n=181, excludes not sure and refuse to answer

Table 3. Demographics and characteristics of PerCH survey respondents n=188					
Gender *n=186 (multiple responses allowed)*	n	%	**Race/ethnicity** *n=186 (multiple responses allowed)*	n	%
Man	116	62%	White	121	64%
Woman	65	35%	*White only*	*99*	*54%*
Refuse to answer	3	2%	*Race/ethnicity other than white only*	*83*	*46%*
Another gender	2	2%	American Indian/Alaska Native	35	19%
Transgender woman	1	1%	Black/African American	28	15%
Age *n=188*			Latino/Hispanic	20	11%
23-29	6	3%	Asian/South Asian	7	4%
30-39	25	13%	Another not listed	7	4%
40-49	36	19%	Native Hawaiian/Pacific Islander	6	3%
50-59	60	32%	Refuse to answer	3	2%
60-69	50	27%	**Length of time lived in building** *n=187*		
70-76	8	4%	0-11 months	49	26%
Refuse to answer	2	1%	12-23 months	66	35%
Not sure	1	1%	24-59 months	49	26%
U.S. military service *n=170*			60-156 months	23	12%
Served on active-duty U.S. Armed Forces, military reserves, or National Guard	41	24%	**Cellphone access** *n=186*		
			Has access to a working cellphone	151	82%

55% of participants said there was a time in the past year they did not go to see a health care provider for a medical/physical issue when they thought they should go. In the past 12 months, 55% of participants **visited an emergency room or urgent care between one and four times.** 15% visited five or more times and 31% did not visit at all (Figure 2).

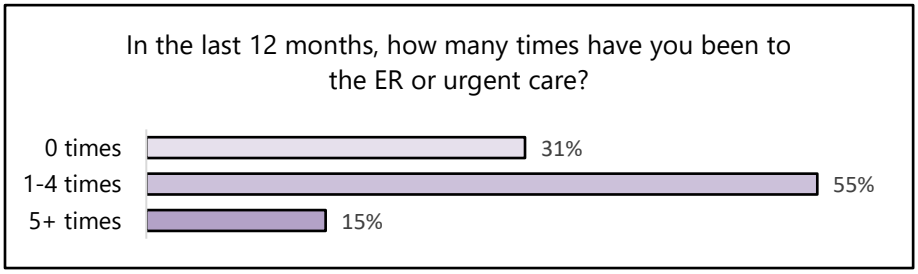


Figure 2. ER visits, n=181, excludes not sure and refuse to answer

Witnessing of overdose, naloxone access, and knowledge of overdose response

33% (n=60) had witnessed at least one opioid overdose in their building in the past three months (Figure 3). An opioid overdose was defined as "where their breathing slowed down or stopped, they couldn't wake up, or someone had to Narcan them."

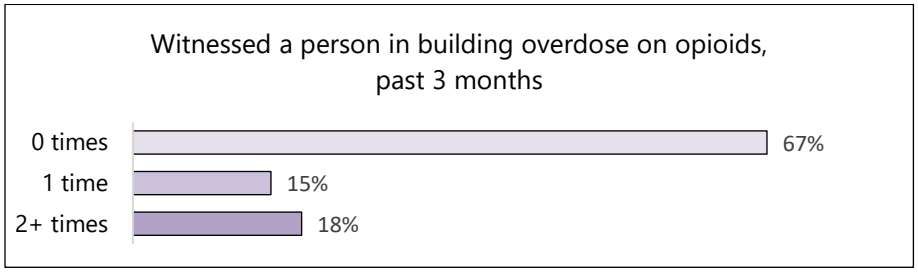


Figure 3. Witnessed an overdose in the building, past three months n=184, excludes not sure.

Four out of five participants (83%) **knew where to access naloxone** if they needed it and **nearly half** (49%) said they **could access naloxone from front desk staff** (Table 4).

Table 4. Sources of immediate access to naloxone (multiple responses allowed) *n=185*

	Personal supply	Front desk staff	Neighbor	Not sure	Another source
n	97	92	50	33	18
%	51%	49%	26%	17%	9%

79% of participants responded they were "very likely" to ask staff for help when witnessing an overdose in the building (Table 5).

Table 5. Likelihood of asking building staff for help with opioid overdose *n=186*

	Very likely	Somewhat likely	Not at all likely	Not sure
n	148	18	15	5
%	79%	10%	8%	3%

We asked participants to respond with "true, false, or not sure" to two questions from the Brief Opioid Overdose Knowledge (BOOK) Questionnaire[7] to assess potential gaps in overdose response education. Figure 4 shows that 77% of participants **confirmed their knowledge of the positive benefits of naloxone** in overdose response **and just over half (53%) believed rescue breathing/CPR could help someone overdosing on opioids (both are true)**.

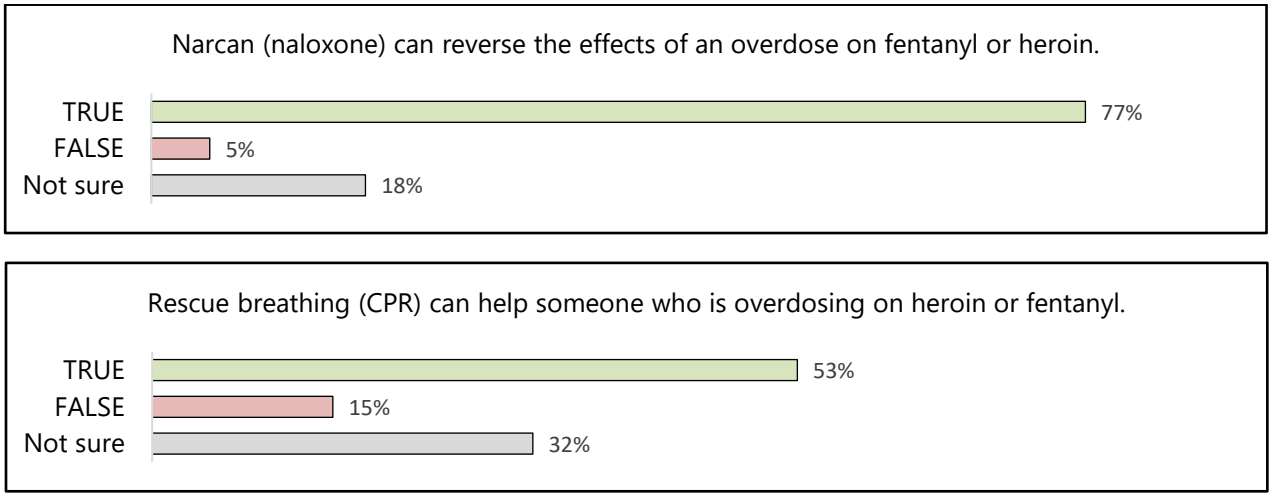


Figure 4. Knowledge of overdose response methods n=186, excludes refuse to answer

Perceptions of substance use and staff approaches to substance use

Participants were asked about their perception of drug use in their building (including cannabis and alcohol use) and how staff addressed that drug use. **Half of participants thought there was "a lot" of drug use in their building**; whereas fewer participants thought there was "moderate" (21%), or "a little" (13%) drug use in their building (Figure 5).

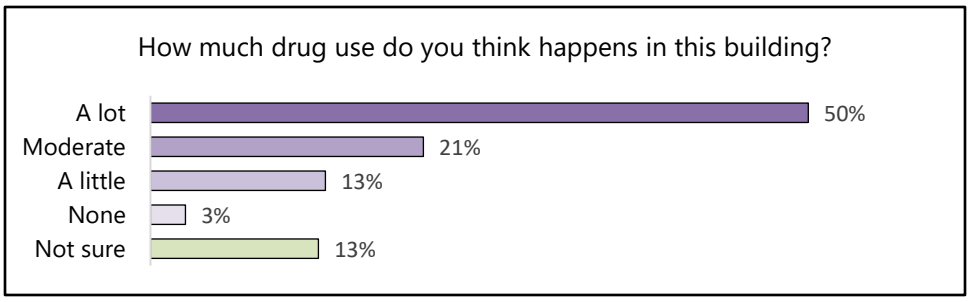


Figure 5. Perception of building drug use n=187, excludes refuse to answer

34% of participants agreed or strongly agreed that staff openly discussed safer or reduced drug use with residents (Figure 6). **38% of participants agreed or strongly agreed that residents lost housing for using drugs** in their building due to policies restricting drug use. In contrast, **45% of participants agreed or strongly agreed that drug use was mostly ignored by staff** unless it caused safety or property damage issues.

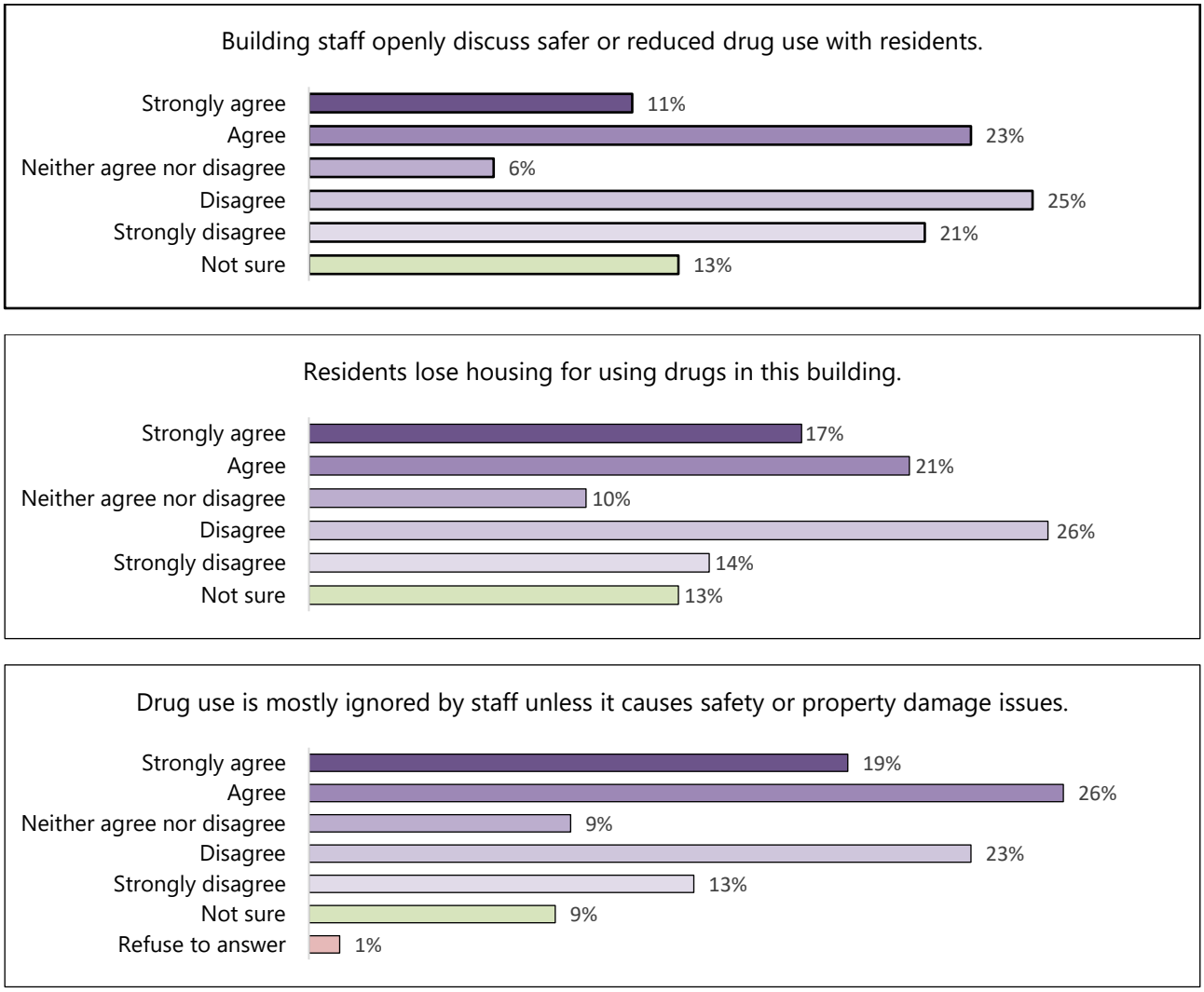


Figure 6. Level of agreement, perceptions of staff approaches to drug use n=187

Relationships with neighbors, visitors, and staff

74% of participants agreed or strongly agreed that they have friends within the building they can spend time with (Figure 7). 63% of participants felt the same about having friends in the broader community, and **54% said their friends can visit them where they live**. Participants could also respond "not applicable" to these questions.

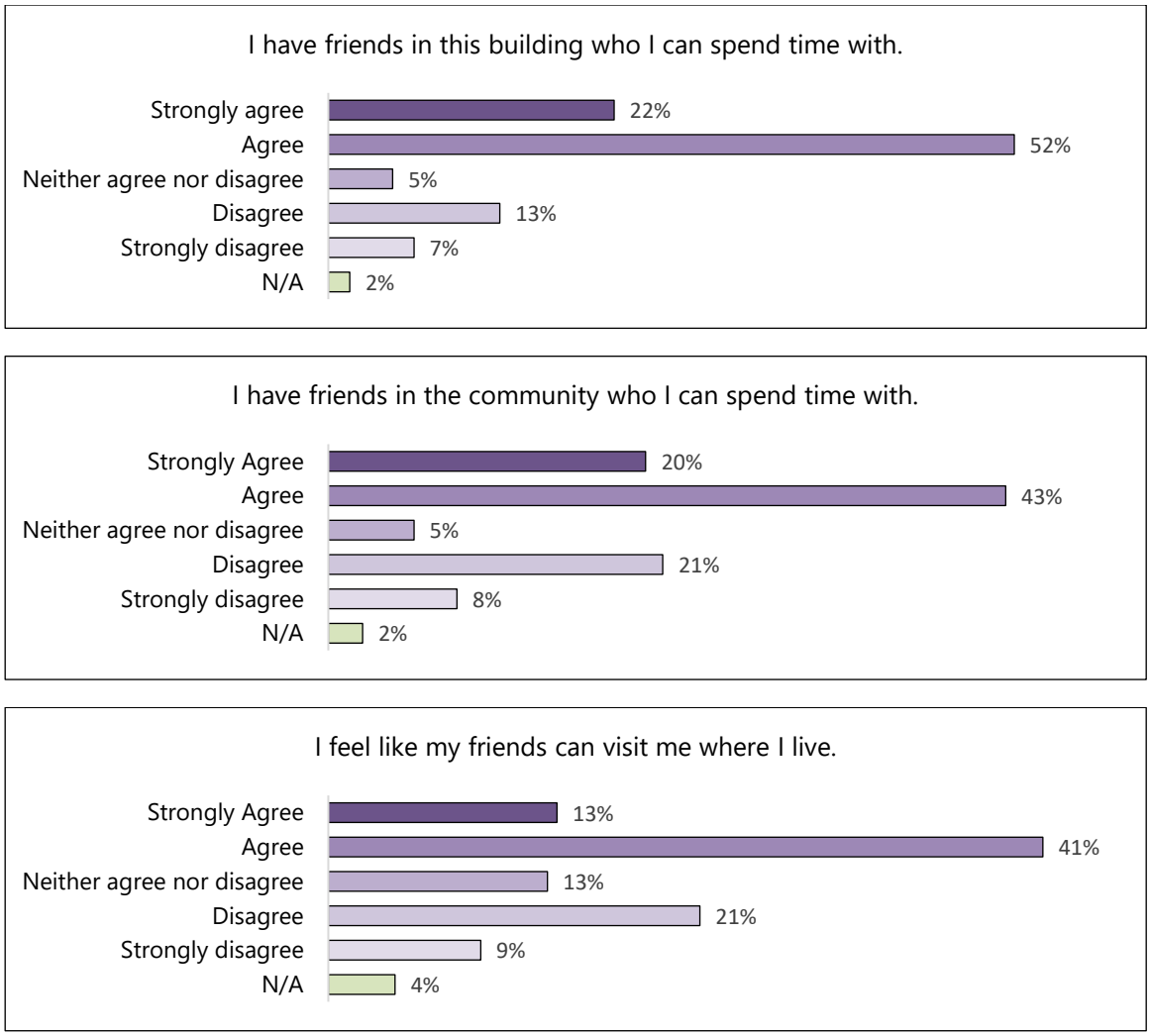


Figure 7. Level of agreement, social integration topics n=184, excludes not sure and refuse to answer

We asked an open-ended question "What barriers do your friends face when visiting you?" to participants who responded that they disagreed or strongly disagreed with the statement "I feel like my friends can visit me where I live." **The most cited barrier for friends visiting participants were restrictive visitor policies (34%)** (Table 6). Other barriers included choosing not to have friends visit (19%) and safety concerns (18%).

Table 6. Top open-ended responses describing barriers for visitors *(multiple responses allowed)* *n=50*

	n	%
Visitor policies	23	34%
Chooses not to have friends visit	13	19%
Safety concerns within building	12	18%
Building stigma	9	13%
Staff behavior	6	9%
Friend behavior	5	7%

"I don't want them to come here because the rules change all the time."

"I'm doing good, and my friends didn't follow me. They're not good company."

"It's not safe. Illegal substance misuse, threats of harm, violence from other tenants."

"Some people in the community believe this is a mental hospital or treatment facility."

66% of participants **felt supported by staff** in achieving their goals, and 44% **felt they are given opportunities** to help make rules and programs that affect them (Figure 8).

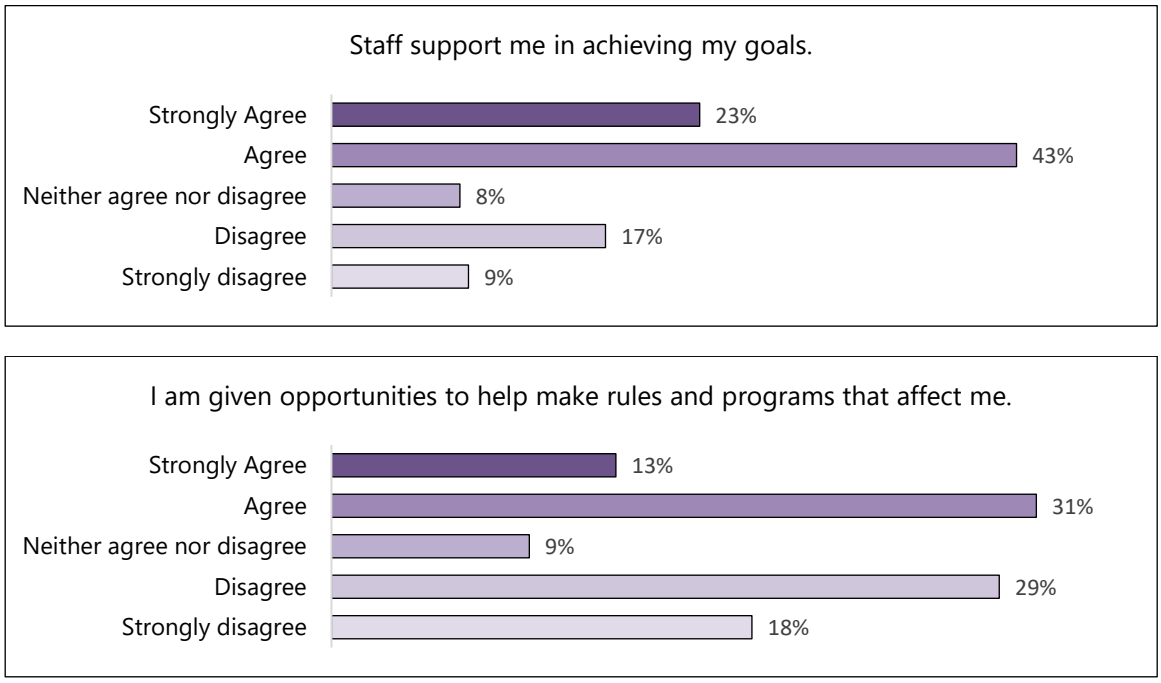


Figure 8. Level of agreement, engagement in housing=184, excludes not sure and refuse to answer

Priority life needs

We replicated the open-ended question "What would you say is the top need in your life right now?" from the 2023 WA SSP Health Survey to understand the unmet needs of participants. **The most identified needs among participants were financial (21%), moving to different housing (17%), and health care access (13%)** (Table 7).

Table 7. Top needs in life right now *(multiple responses allowed)* *n=185*

	n	%
Financial	39	21%
Moving to different housing	32	17%
Health care access	24	13%
Employment	23	12%
Resource navigation	21	11%
Healthy lifestyle (mobility, diet)	20	11%
Transportation	18	10%
Mental health support	17	9%
Substance use services/recovery	16	9%

"Inflation makes it impossible to live off social security."
"Different type of housing. Like a regular apartment."
"I'm waiting on a doctor's appointment."
"I would like to go back to work part-time."
"Fighting eviction because too many possessions."
"Get out of my wheelchair and start walking again."
"I need access to groceries and transportation."
"I need help with setting boundaries, and I haven't gotten any counseling."
"I need help with my addiction."

Participants were also asked "What do you think is working well with your current living situation?" (Table 8). **"Having housing" was the most frequently mentioned benefit of PSH (45%)** among participants, followed by supportive building staff (18%) and affordable rent (11%).

Table 8. What is working well with current living situation *(multiple responses allowed) n=188*

	n	%
Having housing	85	45%
Supportive building staff	34	18%
Affordability of rent	21	11%
Privacy	18	10%
Building or unit quality	18	10%
Nothing or N/A	17	9%
Resources provided by building	17	9%
Social connection with building neighbors	16	9%
Safety in the building	15	8%

"I've been here almost two years. That's the longest time I've been in one place."

"Without the case managers, I don't think I would be as far along in my recovery."

"Rent is lower than other places."

"I enjoy living alone. Getting to know myself."

"It's a blessing. Full kitchens and big bathrooms."

"They do have a support group that comes here. They are so nice, and they bring us lunch."

"I'm here for a reason. I'm more trusting of people. Everyone is here for a reason too."

"Sleeping for the first time in years. I feel safe."

Part 2 Results: Substance use patterns and treatment

This section presents results from Part 2 on questions related to substance use and substance use treatment. **Participants who reported using a drug (including cannabis) or alcohol in the last week (58%)** and/or who were currently receiving methadone, buprenorphine or naltrexone treatment medications (14%) were eligible for Part 2 of the survey. Among the 135 participants who were eligible for Part 2, 94% (n=115) were willing to answer additional questions.

Substance use patterns

Table 9 shows the substances used by participants in the past week and their consumption routes. Cannabis was used by the most participants (69%), followed by alcohol (40%). Methamphetamine use was reported by 38% of participants, with the vast majority (98%) smoking it and 9% injecting it. Fentanyl use was reported by 16% of participants, with all respondents smoking fentanyl and three also orally ingesting fentanyl. Other substances like cocaine or crack, heroin, and benzodiazepines were less commonly used, each by 3%-5% of participants, with varying routes of consumption. The top "main drug" reported by Part 2 participants was cannabis (51%).

Table 9. Substances used in past week and consumption routes* *n=115*									Main drug, excludes not sure and refuse to answer *n=95*	
	Used in past week		**Smoked**		**Injected**		**Oral**		**Considered this their "main drug"**	
	n	%	n	%	n	%	n	%	n	%
Cannabis	79	**69%**	76	96%			29	37%	48	**51%**
Alcohol	46	**40%**					46	100%	19	**20%**
Methamphetamine	44	**38%**	43	98%	4	9%			16	**17%**
Fentanyl	18	**16%**	18	100%	0	0%	3	17%	8	**8%**
Cocaine or crack	6	**5%**	6	100%	0	0%			1	**1%**
Other	3	**3%**	1	33%	0	0%	2	67%	1	**1%**
Heroin	3	**3%**	2	67%	1	33%			2	**2%**
Benzodiazepines	2	**3%**	1	50%	0	0%	1	50%	0	**0%**

**snorting was not included as a route*

Polysubstance use was common. Notably, **among the 20 participants who reported using opioids (fentanyl and/or heroin) all but three (85%) also used a stimulant** (methamphetamine, cocaine, or crack) in the past week. Among the 46 participants who reported alcohol use, almost half (46%, n=21) also reported using an illegal drug (e.g. drugs other than cannabis or alcohol) in the past week. Among the 79 participants who reported cannabis use, 43% (n=34) also reported using an illegal drug in the past week. Among Part 2 participants who confirmed receiving a current prescription for methadone, buprenorphine, or naltrexone for opioid use disorder (n=23, also see table 14), 39% reported also using an illegal drug in the past week.

Substance use treatment and interest in reducing use

Over half of participants (61%) reported not receiving any drug or alcohol treatment in the past (Table 10). Outpatient treatment was received by 21% of participants in the past year, while 13% had participated in a methadone program. Buprenorphine treatment, inpatient treatment, and detox services were less commonly reported by participants.

The most common response to the question "In the past 12 months, what types of drug or alcohol treatment, if any, did you get?" was participation in a 12-step or other recovery support group, reported by 28% of participants (Table 11). However, only 9% of Part 2 participants solely attended 12-step or recovery support groups, whereas 19% had attended these groups in addition to receiving another form of treatment (Table 11).

Of the 49 participants who used an illegal drug in the past week, **69% did not receive any substance use treatment in the past year** (excluding 12-step and recovery support groups), compared to 32% of participants who did not use and illegal drug in the past week and did receive substance use treatment in the past year.

Table 10. Substance use treatment received past year, excludes 12-step and recovery support groups *(multiple responses allowed)* *n=104*		
	n	%
None	63	61%
Outpatient treatment	22	21%
Methadone program	14	13%
Buprenorphine from a health care provider	11	11%
Inpatient treatment	11	11%
Detox	4	4%
Not sure	2	2%
Naltrexone	1	1%

Table 11. Use of 12-step and recovery support groups in past year *n=114*		
	n	%
Used a 12-step or recovery support group	32	28%
Used a 12-step or recovery support group AND treatment	22	19%
Used a 12-step or recovery support group with NO treatment	10	9%

Participants were asked about their interest in reducing or stopping their stimulant (methamphetamine, cocaine, or crack) and/or opioid use (fentanyl or heroin). **68% of participants who used stimulants in the past week expressed interest in reducing or stopping their stimulant use,** while 27% indicated no interest, and 5% were unsure (Figure 9). **80% of participants who used opioids in the past week were interested in reducing or stopping their opioid use,** while 10% indicated no interest, and 10% were unsure (Figure 10).

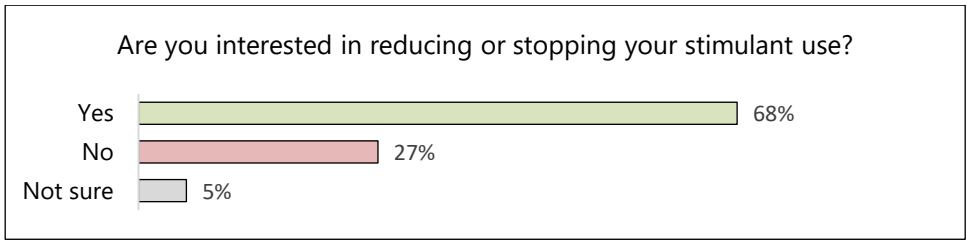


Figure 9. Interest in reducing or stopping stimulant use, people who used stimulants past week n=37

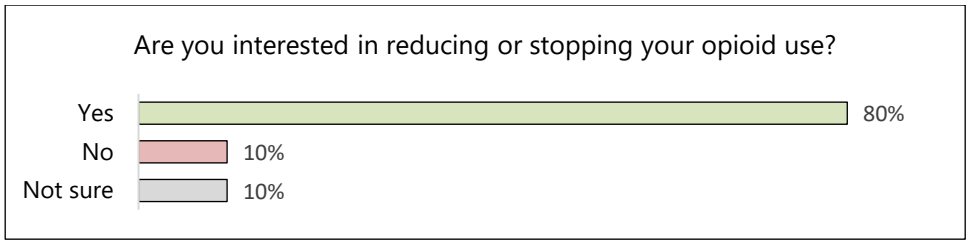


Figure 10. Interest in reducing or stopping opioid use, people who used opioids past week n=20

While 39% of Part 2 participants received some type of substance use treatment in the past year, 18% reported there was a time they "tried to get help to reduce their drug or alcohol use but didn't/couldn't get it" (Table 12). A notable portion of Part 2 participants who had used an illegal drug in the past week (n=49) either faced barriers in accessing help to reduce their substance use or did not choose to seek help: 29% either did not seek help or could not get help to reduce their drug or alcohol use in the last 12 months, whereas 10% of Part 2 participants who did not use illegal drugs in past week (n=62) either did not seek help or could not get help to reduce their drug or alcohol use in the last 12 months (Table 12).

Table 12. Help *to* reduce use in past 12 months

	Tried but didn't/couldn't get help to reduce their substance use	
	n	%
All Part 2 participants, n=111	20	18%
Used an illegal drug in past week, n=49	14	29%
No use of illegal drug in past week, n=62	6	10%

Medications for opioid use disorder

Participants who reported illegal drug use in the past week or had received methadone, buprenorphine, or naltrexone medications within the past year were asked if they were currently receiving any of these medications specifically for opioid use disorder (MOUD). This question was designed to distinguish participants receiving these medications for opioid use disorder from those who may have been prescribed them for other conditions, such as naltrexone for alcohol use disorder. Among these participants, 23 (42%) responded that they do currently receive MOUD. Of these 23

participants, 54% received methadone, 26% received oral buprenorphine/*Suboxone*, and 14% received injectable buprenorphine/*Sublocade or Brixadi* (Table 13). 38% of participants who currently receive MOUD also reported using an illegal drug in the past week (Table 13).

Table 13. Type of MOUD and illegal drug use past *week*, among those currently receiving MOUD *n=23*				
	Type of MOUD		Used illegal drug past week	
	n	%	n	%
Methadone	13	54%	4	17%
Oral buprenorphine (*Suboxone*)	8	26%	4	17%
Injectable buprenorphine (*Sublocade/Brixadi*)	2	14%	1	4%

Participants who used opioids in the past week or who had been prescribed methadone, buprenorphine, or naltrexone in the past year were then asked if they would be interested in receiving MOUD, if it was easy to get and they could get the right dose, from a health care provider in the building or at a mobile clinic parked outside the building (Figure 11). Among those participants who were asked this question, 75% said they were interested, 22% said they were not interested, and 3% said they were not sure.

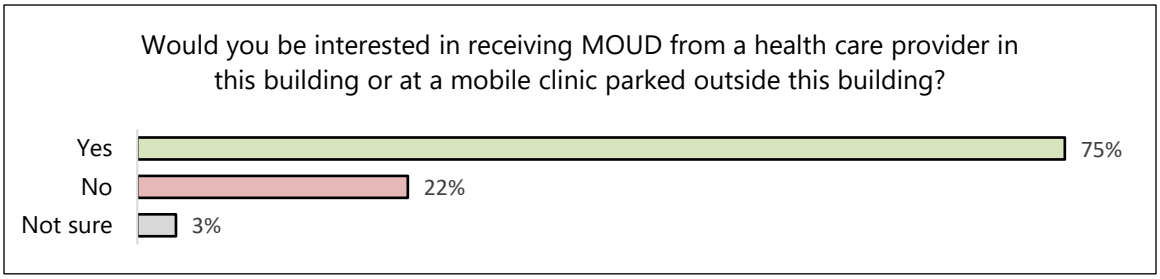


Figure 11. MOUD interest inside/outside building, people who used opioids past week or prescribed MOUD past year n=32

Overdose risk

We asked participants who had used an illegal drug in the past week about their personal history of opioid overdose in the past three months. Of the 44 participants who were asked this question, **82% had not experienced an opioid overdose in the past three months** (Figure 12). 8 participants (18%) had experienced at least one opioid overdose in the past three months. Among participants who used opioids in the past week, **15% reported always using opioids while alone in their apartment in the last 30 days**. Others reported using alone most of the time (25%), some of the time (40%), or never (15%).

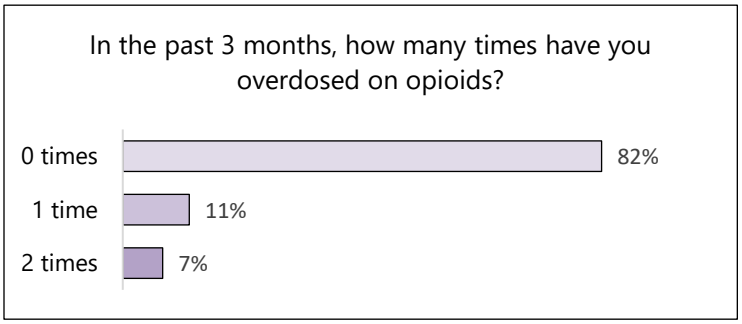


Figure 12. Personal opioid overdose, people who used illegal drugs past week n=44

Safe consumption space, harm reduction, and safe supply

50% of participants who used an illegal drug in the past week were **not interested in using a theoretical safe consumption space within their building**. This was defined as "a place where it would be legal for people to use drugs. There would be staff on-site to respond to an overdose." 42% expressed interest and 8% were unsure (Figure 13).

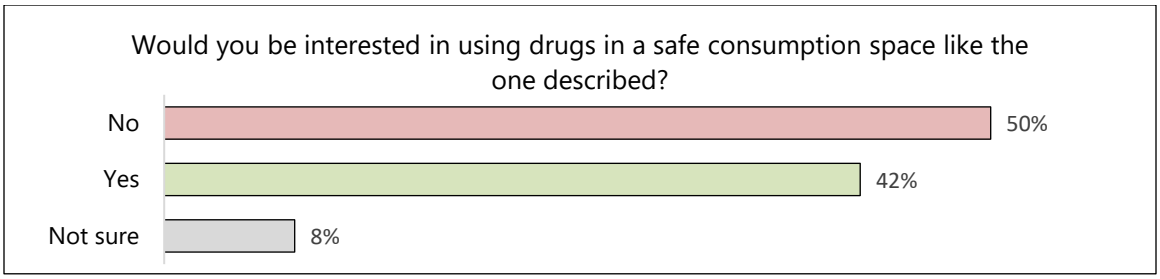


Figure 13. Safe consumption site interest, people who used illegal drugs past week n=38

Most participants who used an illegal drug in the past week or received MOUD in the past year (69%, n=44) **did not receive safer use or harm reduction supplies from staff** in their building within the last year, while 31% did receive such supplies (Figure 14).

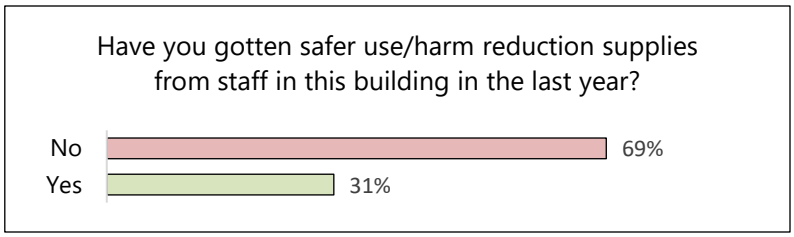


Figure 14. Harm reduction supply from staff past year, people who used illegal drugs past week or prescribed MOUD past year n=64

Of the participants who did not receive safer use or harm reduction supplies in the past year (n=44), **55% were not interested in receiving these supplies** from staff (Figure 15).

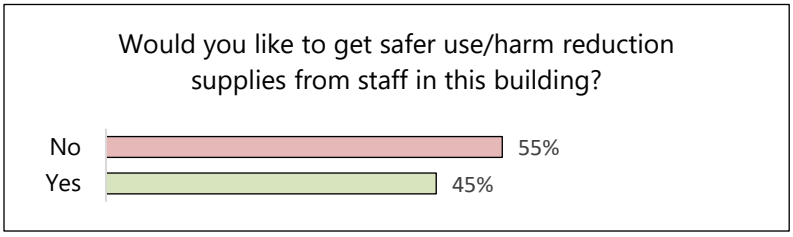


Figure 15. Interest in harm reduction supplies, people who did not receive safer use/harm reduction supplies, n=44

In the last three months, 80% of participants who used an illegal drug in the past week **did not use test strips to check what is in their drugs**, while 20% (n=10) did report using test strips (Figure 16).

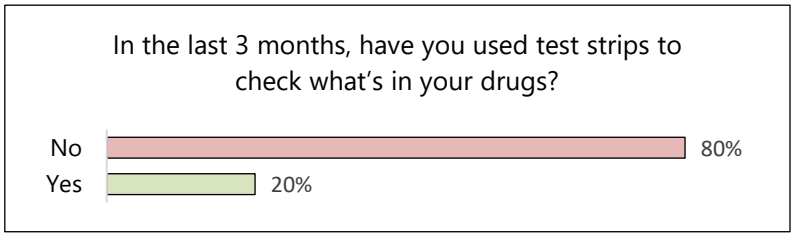


Figure 16. Test strip use, people who used illegal drugs in past week n=49

We asked participants who had used an opioid in the past week or who had been prescribed MOUD in the past year about their interest in safe supply, which was verbally defined for participants with the following text:

> *"The next question is about something called safe supply, a way for people to legally access opioids and be able to know the dose and quantity. These opioids are regulated and of a medical grade. Safe supply can be provided in a variety of ways such as clinics or pharmacies, where you use the medications onsite and they are prescribed by a doctor, or where you buy them from storefronts like dispensaries and no prescription is necessary. These safe supply options don't currently exist in Washington State. We want to learn if people might want to use them."*[41]

76% of participants who were asked about their interest in safe supply said they would **prefer a safe supply over the opioids they are currently using and/or the MOUD they are currently prescribed**. In contrast, 19% of these participants said they would not prefer a safe supply, and 5% were unsure (Figure 17).

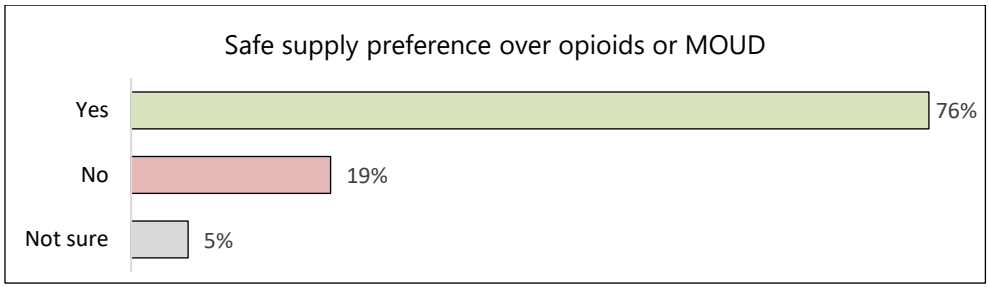


Figure 17. Safe supply interest, people who used opioids past week or prescribed MOUD past year n=37

Discussion

Overview

We found that the process of conducting the survey was challenging yet informative, providing important insights into the lived experiences of PSH residents. Participants were enthusiastic about sharing their perspectives, particularly on issues related to substance use, community integration, and the supports available to them. We are honored that 94% of participants who qualified for Part 2 were willing to share their personal substance use and treatment histories with no additional incentive.

Findings from PSH residents indicated a diverse range of perceptions on substance use, staff approaches to substance use, and knowledge of overdose response. Given the exploratory nature of this early-phase survey, the focus was on descriptive analysis to better understand these initial insights.

Participants who used drugs provided insights into the challenges they face, including the risk of overdose, their access of treatment services, and their opinions on harm reduction interventions such as safe consumption sites and safe supply medications.

This was the first survey of this kind that we are aware of in Washington State and the first project interviewing clients in PSH for ADAI. There are very few reports and research projects that have used surveys with structured and open ended questions to engage PSH residents around substance use, especially in the United States. There are many lessons learned and opportunities for refinement in future iterations of this work.

Demographics and characteristics of participants

Race and gender demographic representation of PerCH survey participants can be discussed in comparison with two datasets: enrollees in the 2024 WA State Foundational Community Supports (FCS) Supportive Housing Program (n=13,897),[8] and demographics of people served by specific PerCH partner sites as reported by the WA Department of Commerce.

WA FCS Supportive Housing enrollees are Medicaid-eligible and fall into one of several vulnerability categories such as experiencing chronic homelessness or history of institutionalization. While these enrollees are not all necessarily living in PSH, many organizations that provide PSH do receive FCS reimbursement for on-site supportive services.[9]

46% of PerCH survey participants identified as a race or ethnicity other than white only, comparatively higher than the 35% of WA FCS Supportive Housing program enrollees who identified as "any minority." Survey participants who

identified as women were underrepresented (35%), compared to WA FCS Supportive Housing program enrollees who identified as female (51%).

The Washington State Department of Commerce publishes an annual Homeless Housing Project Expenditure Report, known as the Golden Report,[10] which uses data from the state's Homeless Management Information System.[11] Site-specific data from the 2023 Golden Report provides a basis for comparing the demographics of PerCH survey participants. Data is available from the Golden Report from ten sites (n=522 total residents) that were also included in the PerCH survey, from which we surveyed 150 participants.

There are some differences in site-specific racial/ethnic identification between these datasets: 66% of PerCH participants identified as white, compared to 73% in the Golden Report. Additionally, 16% of PerCH participants identified as American Indian/Alaska Native, versus 8% in the Golden Report, and 17% of PerCH participants identified as Black/African American, compared to 20% in the Golden Report. The other racial/ethnic categories were nearly identical across both datasets. The gender identities across these sites are similar, with 61% of PerCH participants identifying as men and 37% as women, compared to 64% of Golden Report respondents identifying as men and 35% as women.

Survey participants also represented a substantially higher percentage (24%) of people having served in the U.S. military within this the group compared to the percentage of veterans in WA State among civilians over the age of 18 (8%) in the general population.[12] The overrepresentation of U.S. military service among survey participants may be due to the HUD-Veterans Affairs Supportive Housing (HUD-VASH) program[13] that provides rental subsidies for 4,214 PSH beds set-aside for veterans in WA State, accounting for 31% of PSH bed inventory statewide.[14]

The 2020 demographic report of WA FCS Supportive Housing enrollees (ages 18 to 64, n=422) can be used to compare the demographic composition of middle-aged and older adults in the PerCH survey (ages 23 to 64, n=167).[15] In the PerCH survey, 11% of participants were under 34, 20% were aged 35-44, 27% were aged 45-54, and 42% were aged 55-64. In contrast, among FCS Supportive Housing enrollees, 32% were under 34, 27% were aged 35-44, 28% were aged 45-54, and 13% were aged 55-64.

Unpublished 2024 demographic data on PSH adult residents in Snohomish County, provided by Catholic Community Services of Western Washington (CCSWW) (n=352), offers a second comparison for the demographic composition of middle-aged and older adults in the PerCH survey. CCSWW reports that 23% of Snohomish County PSH residents are under 36, 26% are aged 36-46, 42% are aged 47-62, and 9% are over 63. In contrast, 10% of PerCH participants were under 36, 21% were aged 36-46, 53% were aged 47-62, and 16% were over 63.

Both the Washington FCS data and the CCSWW Snohomish County data indicate a higher concentration of middle-aged and older adults participating in the PerCH survey compared to other recipients of supportive housing services and PSH residents in Washington State. Research is needed to understand the complex needs of older adults living in PSH.[16] Key areas for this research include the integration of health care services within PSH, strategies to support aging in place, gaps in cognitive support, and the coordination of in-home, long-term care services.[17]

14% of survey participants were covered by more than one type of health insurance benefit, mirroring the 15% of WA FCS Supportive Housing enrollees who are dually eligible for both Medicaid and Medicare. Dual-enrolled Medicaid/Medicare beneficiaries often struggle with understanding their benefits and making informed enrollment decisions.[18] Future research with PSH residents in WA State may benefit from providing multiple options for respondents to differentiate between employer provided insurance, VHA benefits, and Medicare to explore avenues for collaboration with managed care organizations.

The finding that 83% of survey participants have access to a working cellphone suggests potential for future remote research with PSH residents. Notably, very few partner sites offered free Wi-Fi or computer access to residents. Phone access can help alleviate loneliness among older adults[19] and improve communication between residents and service

providers, particularly in rural areas. [20] Future research could also explore the impact of the Affordable Connectivity Program (ACP) ending in June 2024,[21] specifically how the ACP may have affected access to both cellphone and home internet services for PSH residents.

Witnessing of overdose, naloxone access, and knowledge of overdose response

More overdose deaths in the USA and Canada occur within housing environments compared to other locations such as outdoor environments.[22,23] However, housing environments are often neglected in literature addressing overdose prevention and response efforts.[24,25] Overdose deaths are disproportionately high among residents in supportive housing environments.[26,27,28] In 2023, 279 (21%) of overdose deaths in King County, WA occurred among people living in a location operated or subsidized by governmental or social service agency, including PSH.[29]

77% of participants confirmed their knowledge of the utility of naloxone in overdose response and just over half (53%) correctly believed rescue breathing/CPR could help someone overdosing on opioids. Overdose response education has been shown to create safer community spaces within housing environments by reducing overdoses in common areas like hallways and bathrooms.[30] These survey results demonstrate the potential for additional opioid overdose response education sited in WA PSH programs.

Beyond formal overdose response training,[30,31] access to naloxone is a fundamental tool in empowering PSH residents to respond effectively to overdoses.[32] Four out of five participants (83%) knew where to access naloxone and 49% responded that they could access naloxone from front desk staff. Notably, UW research staff observed that nearly all partner sites had naloxone available onsite but resident knowledge of the availability of naloxone varied.

Perceptions of substance use and staff approaches to substance use

In the 2021 ADAI survey of housing program staff in WA State, housing staff expressed many challenges in addressing substance use among residents including difficulty in balancing needs between residents who use drugs and residents who are trying to pursue abstinence. Of the thirteen partner sites in the PerCH survey, only two had explicit "zero tolerance" policies towards all substance use, including cannabis and alcohol.

A zero-tolerance approach to substance use in PSH refers to strict policies that prohibit any form of substance use on-site, with potential consequences such as eviction. In contrast, a "don't ask, don't tell" approach involves staff avoiding addressing substance use if it does not create safety risks or property damage. Harm reduction, as applied in PSH, focuses on strategies that aim to reduce the harms of substance use without requiring abstinence for residents to receive housing. Some PSH programs may combine these approaches, such as adopting flexible zero-tolerance policies where staff encourage open discussions about safer or reduced substance use while still promoting a substance-free environment.

34% of participants agreed that staff openly discussed safer or reduced drug use with residents, indicating a harm reduction approach, 38% of participants agreed that residents lost housing for using drugs in their building, indicating a zero tolerance approach, and 45% of participants agreed that drug use was mostly ignored by staff unless it caused safety or property damage issues, indicating a "don't ask, don't tell" approach.

While some supportive housing residents may prefer zero tolerance or "don't ask don't tell" approaches to substance use,[33,34] inconsistent implementation of substance use policies can lead to increased tensions within supportive housing environments, resulting in higher risks of overdose and unsafe substance use patterns.[35] Residents working on recovery goals around substance use might feel unsupported by visible drug use. Residents who use drugs might feel stigmatized or at risk of losing housing due to punitive policies. Conversely, housing retention can be improved for PSH residents who are living in buildings that have substance use policies that align with their individual needs.[36,37]

Future research could identify potential issues around substance use-related service implementation PSH by investigating the relationship between residents' perceptions of substance use policies, witnessing of opioid overdose, knowledge of overdose response, and access to naloxone.

Relationships with neighbors, visitors, and staff

74% of participants agreed or strongly agreed that they have friends within the building they can spend time with, 63% of participants felt the same about having friends in the broader community, and 54% said their friends can visit them where they live. The most cited barrier for friends visiting participants were restrictive visitor policies (34%).

Social integration requires both internal and external networks outside housing environments.[38,39] While the survey results indicate that many participants have established internal social networks and feel supported by staff, there may be challenges experienced by participants related to external community integration, restrictive visitor policies, and resident involvement in decision-making.

Restrictive visitor policies in supportive housing can often discourage residents from inviting friends or family to visit them, contributing to feelings of isolation and loneliness, and affecting community integration.[14,40] These visitor policies are often put in place to promote community safety but can also narrow social networks for PSH residents. This may compound the increased reliance on local, often substance-using networks within the PSH environment as residents transition to PSH.[41] These limited social networks can isolate PSH residents who actively distance themselves from their social network members who they perceive as negative influences.[42,43]

The effectiveness of different approaches to substance use in PSH like harm reduction, "don't ask don't tell," and "zero tolerance," can be tied to how buildings balance institutional control with the individual autonomy of residents. Trusting relationships with staff can lead to collaborative approaches to substance use for individual PSH residents,[34,44] increased open discussion of substance use,[45] and an increase in housing stability.[37,46,47]

While 66% of PerCH survey participants felt supported by staff in achieving their goals, fewer (43%) felt they are given opportunities to help make rules and programs that affect them, suggesting a potential for improving resident involvement in decision-making processes in WA PSH. Studies of tenant overdose response organizers in single-resident occupancy (SRO) housing have demonstrated the potential of empowering residents to design and implement harm reduction policies and interventions, resulting in higher-fidelity overdose response, stronger mutual aid, and enhanced tenant-staff rapport.[30,31,32] Consumer participation in rulemaking in harm reduction projects can result in operational flexibility and destigmatization of drug use.[48] However, an ad hoc approach to rule making in harm reduction programs can also lead to arbitrary enforcement. Legal protections in tandem with harm reduction programming have been more successful in implementing equitable, consumer-led harm reduction models.[49]

There is a significant revenue gap in funding the operations and services of supportive housing projects in WA State, which may impact PSH staff to resident ratios, their capacity to build rapport with residents, and improve resident involvement in decision-making processes.[50]

Priority life needs

The financial needs identified by 21% of participants are consistent with findings that financial insecurity is a pervasive issue among people with histories of homelessness, particularly those who rely on fixed incomes due to age and/or disability.[16,17,51]

Moving to different housing, the second highest top need among participants (17%), can be understood through the limitations of PSH to provide sufficient support for residents to transition to market-rate or other income-restricted housing programs. According to the Moving On Toolkit published by the Corporation for Supportive Housing, residents often wish to move out of PSH to achieve more independence, live closer to family, or reside in different

neighborhoods.[52] However, because of the limited financial resources among PSH residents,[37] and the lack of availability of Moving On initiative programs embedded in PSH,[53] the prospect of leaving PSH may be challenging for most residents.

The most frequently mentioned benefit of PSH by participants was simply having housing (26%). This reflects the profound impact that stable housing may have for PSH residents, many of whom have experienced long periods of chronic homelessness. The second and third most frequently mentioned benefits of PSH by participants, supportive staff (11%), and affordability (7%), parallel with several studies reporting supportive staff and affordability as important factors in determining PSH residents' satisfaction and housing stability.[37,44,45,54,55]

Substance use patterns

While cannabis was the most used substance among Part 2 participants, 43% (n=34) of participants who reported cannabis use also reported using an illegal drug in the past week.

Smoking was the predominant method of drug consumption for most Part 2 participants. This aligns with the growing trend of smoking over injecting as observed in harm reduction programs, including among participants in the 2023 WA State SSP survey. People who use drugs may prefer smoking over injecting due to perceived safety, longer-lasting effects, and the fear or discomfort associated with needles.[56] The reduction in injection-related health risks, however, might come with other public health challenges, such as the need to manage the risks associated with smoking, including respiratory issues.[57]

Substance use treatment and interest in reducing use

Of the 49 participants who used an illegal drug in the past week, 69% did not receive any substance use treatment in the past year (excluding 12-step and recovery support groups), compared to 32% of participants who did not use and illegal drug in the past week and did receive substance use treatment in the past year. A portion of Part 2 participants who used illegal drugs in the past week and wanted help to reduce their use either faced barriers in accessing help to reduce their substance use or chose not to access help (29%).

Some residents may be ambivalent about engaging in treatment due to fears of losing housing or not receiving appropriate support.[58] Other barriers for PSH residents in accessing substance use treatment may include stigma, lack of trust in service providers, and limited availability of harm reduction services within housing environments.[59] Recovery from substance use disorders for supportive housing residents can be a complex, individualized process that is not necessarily driven by formal treatment. Instead, recovery may occur gradually or through significant life events.[60]

44% of Medicaid-only enrollees in the WA State Foundational Community Supports (FCS) Supportive Housing Program (n= 10,787) have received substance use disorder services in the past year, higher than the 36% of PerCH Part 2 participants who have received any drug or alcohol treatment in the past year (excluding those who only used 12-step and recovery support groups). However, it is important to note that Part 2 of the survey may have screened out participants who are currently receiving drug or alcohol treatment (other than treatment medications for substance use disorders), and therefore were not asked about their current access to treatment. Additionally, while 44% of Medicaid-only FCS Supportive Housing enrollees have received substance use disorder services in the past year, 27% had an unmet treatment need indicated for these services.

More research is needed to understand the acceptability and limitations of 12-step and recovery support groups for PSH residents. 28% of Part 2 participants reported attending a 12-step or other recovery support group in the past year. 9% of Part 2 participants reported *only* attending one of these groups with no other treatment for drug or alcohol use. 12-step groups are widely accessible and can provide structure for people with histories of homelessness who are seeking recovery from substance use disorders.[61]

Some members of 12-step programs may choose not to carry naloxone due to concerns that doing so could imply an expectation of relapsing into substance use. [62] While the traditional 12-step recovery model is widespread and includes a diverse membership,[63] it may not resonate with all cultural groups. For instance, a study of American Indian and Alaska Native people living in a large Pacific Northwest city found that participants preferred recovery pathways that incorporated indigenous cultural practices rather than the standard 12-step approach. [64]

The potential for studying contingency management in supportive housing environments is emerging. Contingency management provides tangible incentives for positive behaviors such as abstinence or attendance at treatment sessions. Although it was not explored in the PerCH survey, contingency management has shown promise in other settings, such as low-barrier harm reduction treatment programs, and could be effective in PSH, where traditional treatment models may not fully address residents' unique challenges. [65] Over 30 years ago, a contingency management program in New England demonstrated improved retention in substance use disorder treatment and increased durations of abstinence among residents in transitional housing.[66]

Washington and California are the only states in the U.S. where Medicaid and Medicare can reimburse providers for contingency management services, and these services are beginning to be implemented in WA State PSH.[67] We hope that forthcoming results on the use of contingency management in PSH, including from local researchers at Washington State University[68] and the University of Washington, will encourage providers of PSH to consider future participation in contingency management services and research.[69]

Medications for opioid use disorder

A large treatment gap exists for people with opioid use disorder (OUD) receiving medications for OUD (MOUD), which are the most effective and evidence-based treatment for OUD.[70,71] Methadone and buprenorphine also significantly reduce opioid and all-cause mortality, providing substantial harm reduction benefit in addition to supporting recovery.[72,73] Most people with OUD want to stop or reduce their use and are interested in MOUD.[74] While many people with OUD access an array of services in harm reduction and other community-based organizations, many also have difficulty starting or engaging in care at traditional substance use disorder treatment clinics or primary care clinics.[75,76] 75% of participants who used opioids in the past week or who had been prescribed methadone, buprenorphine, or naltrexone in the past year said they were interested in receiving MOUD from a health care provider in the building or at a mobile clinic parked outside the building. Further research with WA PSH residents could study the efficacy of integrated MOUD care models within PSH in maintaining engagement with substance use disorder treatment.

Among participants currently receiving MOUD, 35% reported using an illegal drug in the past week. Methamphetamine use has been associated with poorer retention in MOUD.[77,78] Among Veterans Health Administration patients in WA State, co-occurrence of multiple substance use disorders, including alcohol, cannabis, and amphetamine use disorders, negatively impacted both the initiation and continuation of MOUD.[79] However, research has documented good retention on buprenorphine for those who use methamphetamine if the care model does not discharge people for continued methamphetamine use.[80,81]

Overdose risk

18% of participants who had used an illegal drug in the past week experienced an opioid overdose in the past three months. 80% of participants who used opioids reported using opioids alone at least some of the time in the past 30 days. The high rate of solitary use also indicates that many residents may be engaging in drug use in isolation as a means of avoiding surveillance or stigma, which further exacerbates their risk of fatal overdose. Solitary opioid use in housing environments can increase the risk of fatal overdoses for residents because there is no immediate help available during an overdose incident.[82,83] However, solitary drug use can be a coping mechanism for residents to avoid surveillance, control, or violence, especially among women who use drugs.[84,85]

Naloxone alone cannot substantially decrease fatal overdoses, particularly in the context of using alone. Overdose monitoring approaches can increase safety for people who use drugs alone. Examples of these approaches include pulse oximeters have been implemented in overdose prevention settings to monitor oxygen saturation levels in people who smoke opioids.[86] While they provide valuable real-time data on hypoxemia, their effectiveness in preventing fatal overdoses is still unclear and requires more research.[87] Wearable overdose prevention technologies, such as skin patch sensors[88] and wristbands,[89] have demonstrated moderate acceptability among people who use drugs. Smartphone apps designed to alert bystanders during an overdose have demonstrated moderate acceptability among those who have access to phones and data.[90] Supervised consumption phone lines, which provide remote overdose monitoring have demonstrated acceptability among women and gender-diverse individuals who may face barriers in accessing physical supervised consumption spaces.[91,92] There is an urgent need to test the effectiveness and acceptability of these overdose monitoring approaches in real world settings, especially among PSH residents who use drugs alone.

In a study examining the use of overdose button technology in a women-only supportive housing environment, the technology was primarily used for emergencies unrelated to personal overdose, such as sex work-related violence and other tenants' overdoses. Although participants found the button helpful for real-time harm mitigation, they did not consistently use it for its intended purpose of providing emergency response to personal overdoses for people using drugs alone.[82]

Safe consumption space, harm reduction, and safe supply

50% of participants who used an illegal drug in the past week were not interested in using a theoretical safe consumption space in their building, while 42% expressed interest. Safe consumption spaces are designed to reduce overdose risk by providing a controlled environment with staff present to respond to overdoses. However, residents in supportive housing may view safe consumption spaces negatively due to fears of increased surveillance and loss of privacy, along with potential stigmatization and internalized stigma, both associated with being seen using such services.[82,93] These factors could contribute to the reluctance of some PSH residents to use safe consumption spaces, despite the safety benefits they offer. There are social and mental health factors that might influence a lack of interest in using safe consumption spaces including the volume of noise experienced by some people who use drugs in these spaces,[94] perceptions that these spaces feel medicalized or institutionalized,[95] and the lack of emotional and psychological supports available in these spaces.[96]

69% of participants did not receive safer use or harm reduction supplies from staff in the past year and 55% were not interested in receiving these supplies from staff, highlighting both the potential lack of availability of these supplies in partner sites, and challenges to engage residents around harm reduction or safer use supplies if they became available. These results suggest that a significant portion of participants may not choose to acquire harm reduction or safer use supplies from staff. Factors such as fear of police and anti-drug user stigma may influence whether residents choose to use safer use and harm reduction supply programs embedded in housing environments.[97] However, housing-based safer use and harm reduction supply programs may also offer immediate access to supplies and reduce the risks associated with carrying supplies in public (such as police encounters). For further discussion on safer smoking supplies, see the ADAI brief Distribution of Safer Drug Smoking Supplies as a Public Health Strategy.[98]

We did not ask participants about their interest in harm reduction vending machines, which have demonstrated potential in providing immediate, anonymous[99] access to critical supplies such as naloxone,[100,101] HIV tests,[101] fentanyl test strips, [101] and wound care materials.[102] Stakeholders may view these machines positively, especially in distributing naloxone and fentanyl test strips, recognizing their ability to enhance access to life-saving resources.[102] However, as harm reduction vending machines become more widely available in WA State, there may be future opportunities for assessing their potential in engaging with PSH residents who may avoid SSPs or harm reduction services due to stigma or fear of law enforcement.

Safe supply refers to the regulated provision of drugs traditionally obtained through illegal markets, aimed at reducing harm from unregulated drug use by offering safer alternatives.[103] It differs from MOUD as its primary focus is providing

an alternative supply,[104] rather than supporting the goals of abstinence or reducing overall drug use. Research on safe supply programs in supportive housing in Canada has demonstrated potential to reduce overdose risk, reduce non-prescribed opioid use, and connect participants to behavioral health and supported-employment services.[81,105] In the United States, safe supply faces significant legal challenges, particularly due to the Controlled Substances Act and enforcement by the Drug Enforcement Agency (DEA), making its implementation difficult under current regulations.[106] Despite these federal regulations, a study conducted in King County, WA found that 81% of participants who injected opioids reported that a regulated opioid supply would be acceptable to them.[107]

Notably, 76% of participants who were currently using opioids or prescribed MOUD (n=37) said they would prefer a safe supply of opioids over the opioids they are currently using and/or the MOUD they are currently prescribed, indicating opportunity for future research to investigate the acceptability of safe supply programs in PSH.

Limitations

Recruitment limitations

Geographic diversity in site selection was challenging due to the lack of PSH in counties outside the I-5 corridor that met eligibility criteria. We observed that most rural PSH was limited to families and large households, with single adult PSH integrated into buildings that also offered family PSH (and thus ineligible to participate in this survey). Rural PSH development is challenged by limited social services infrastructure, constraints of federal tax credit programs, higher per-resident costs due to smaller-scale buildings, and competition for funding.[108] Additionally, rural and suburban PSH may be more likely to serve families as Continuum of Care Programs (CoCs) in these areas often have higher proportions of families experiencing homelessness compared to single-adult households.[109] In the 2023 Housing Inventory Count Report to HUD,[110] Washington's Balance of State CoC, which includes 24 small and medium-sized counties,[111] reported that 27% of Permanent Supportive Housing (PSH) beds were designated for families. This contrasts with 19% of PSH beds set aside for families in the Seattle/King County CoC, 16% in the Spokane City & County CoC, and 7% in the Vancouver/Clark County CoC.

While most recruitment of participants was facilitated by UW research staff with a sign-up sheet available on the day of the survey, there were two sites where recruitment deviated from this method. One site's staff chose to select residents who expressed interest in participation, at random, and created a survey schedule based on resident preferences. Several prospective participants were not present for their scheduled timeslot, and UW research staff chose to recruit residents who were present in the milieu. This difference in recruitment may have led to increased participation from residents who had prior enthusiasm to participate, who were motivated to present for their timeslot, or who may have had good relations with staff. Another site had staff who chose to create their own schedule of residents who they believed would have diverse experiences with substance use, despite explicit instruction to not complete a sign-up sheet in advance. This method, however, was observed to have increased participation from residents who used illegal drugs.

While building staff involvement with participant recruitment may lead to selection bias, staff may also be able to leverage prior rapport with residents who may be less trusting of academic research staff.[112]

We reached a moderate number of sites and participants representing diverse geographies in WA State. We believe the findings are likely unrepresentative of all PSH residents who use illegal drugs due to the limitations of our recruitment strategy. We did not intentionally engage with residents who used illegal drugs, and there is evidence that people who use illegal drugs like are less likely to engage with harm reduction research when there are concerns around confidentiality and the privacy of the space where research is conducted.[113] The recruitment of participants in common areas visible to staff may have impacted the willingness to participate in the survey among residents who used illegal drugs. Future research involving PSH residents could pursue other recruitment strategies like door-to-door surveys (with residents' consent) or surveys conducted remotely via phone. These experiences highlight that anonymity

is challenging to maintain, coercion is critical to avoid, and that additional resources would be needed for more intensive recruitment approaches.

Certain subpopulations within the PSH residents, such as those experiencing severe mental health symptoms, non-English speakers, or those who are less engaged with services, may be underrepresented in the survey. This underrepresentation could lead to an incomplete understanding of the full spectrum of needs and experiences within PSH environments, particularly for those who might be most vulnerable or have the most complex needs.

Evaluation limitations

This survey provides a descriptive snapshot among residents who **volunteered to participate**. It cannot be used to generalize resident experiences among an entire building, organization, or geography. Participants in this survey may not reflect the demographics, characteristics, perceptions, or needs of WA PSH residents.

Additionally, there is no aggregated data describing all residents living in WA PSH as it is legally defined. Data from WA FCS Supportive Housing can serve as a reference point to discuss PerCH survey participants, but it is insufficient to evaluate the strengths or weaknesses of the recruitment strategy. Not all PSH residents are eligible for or enrolled in FCS benefits. Additionally, while the Golden Report shows aggregate demographic percentages of people served by PSH programs by county, it does not report the number of people served by these programs due to data suppression guidelines.[114] Furthermore, the Golden Report lacks data for three PerCH partner sites, limiting the effectiveness of site-specific comparisons to evaluate the demographics of all PerCH participants.

Several gaps exist in the evaluation of PSH programs in WA State in capturing the full scope of needs of residents. For example the WA Healthcare Authority PSH Fidelity Review Process lacks questions on substance use and treatment.[115] According to the WA Department of Commerce, more data collection is necessary to accurately reflect resident characteristics and outcomes, as well as additional qualitative and quantitative research to assess PSH program fidelity.[116]

Current evaluations of WA PSH residents are limited by sample size and reliance on data from the WA State Department of Social and Health Services, [117] which may underrepresent residents who do not voluntarily interact with these systems. These data sources may also lack geographic diversity[118] and may be outdated. [119]

Design limitations

Some of the questions asked in Part 2 of the survey were not asked to the intended groups of participants due to skip pattern errors in REDCap. While these data have been cleaned to reflect the intended groups of participants for each question, there are inconsistencies in the number of participants who were asked questions due to these errors. Additionally, questions regarding veteran status and interest in mobile MOUD were added to the survey design prior to data collection after the first partner site, impacting these results to reflect the characteristics and experiences of survey participants at all partner sites.

The reliance on self-reported data for substance use, overdose experiences, and treatment history introduces the possibility of recall bias. Participants may not accurately remember or may choose to underreport sensitive information, such as illegal drug use or instances of overdose, due to stigma or fear of repercussions. This could lead to an underestimation of substance use prevalence and related risks among survey participants.

The cross-sectional nature of the survey captures a snapshot in time, which precludes the ability to assess changes in residents' behaviors, perceptions, and needs over time. This design does not account for the dynamic nature of substance use and recovery, where PSH residents' situations and needs may fluctuate. Longitudinal studies would provide a more robust understanding of how PSH residents' experiences and service needs evolve, particularly in response to changes in housing or health policies.

Conclusions

Overdose prevention and response efforts. Substance use and the high prevalence of opioid overdose in PSH environments highlight the urgent need for effective overdose prevention and response strategies. While ensuring naloxone access and providing incentivized overdose response education are important, survey results indicate that many residents already have substantial access to naloxone, knowledge of overdose response, and willingness to seek help from staff during overdose emergencies. Therefore, future research is needed to explore overdose prevention strategies in PSH like safe consumption spaces, supervised consumption phone lines, peer-led interventions, wearable technology, and integration of rigorous, trauma-informed, harm reduction approaches to address substance use in PSH, especially to address the risks of solitary substance use.

Staff training and support. Participants' perceptions of inconsistent staff approaches to substance use and limited harm reduction engagement suggest a need for more consistent implementation of policies around substance use in WA PSH. The effectiveness of harm reduction and substance use interventions in PSH depends on building staff capacity and engagement. It is recommended that PSH providers support ongoing training for building staff to deepen their confidence in engaging residents who use drugs.

Resident-centered policy implementation. The survey responses reflect the ongoing tension between institutional control (such as through restrictive visitor policies) and the need for resident autonomy. Effective harm reduction and community integration strategies in PSH settings require a careful balance of these factors. Trusting relationships with staff and collaborative rule making can empower residents and improve housing stability and social cohesion.

Access to substance use treatment and support. Given that residents who used stimulants and/or opioids expressed interest in reducing or stopping their use of these drugs, and that a significant portion of participants who used illegal substances did not receive any substance use treatment in the past year, PSH providers should explore ways to integrate more accessible and varied treatment options within housing settings. This includes expanding the availability of medications for opioid use disorder and providing onsite substance use disorder services to reduce the logistical, relational, and psychological barriers to treatment.

Lessons learned. The 2024 PerCH survey project provided valuable insights into WA PSH residents' perceptions of substance use within their buildings, as well as the availability and need for services and policies to support people who use drugs. Consistent communication throughout the process effectively built trust with housing providers and facilitated participant recruitment. We hope that the results from this report can inform tangible policy changes, empowering WA PSH residents to see real improvements in their housing environments.

Citation

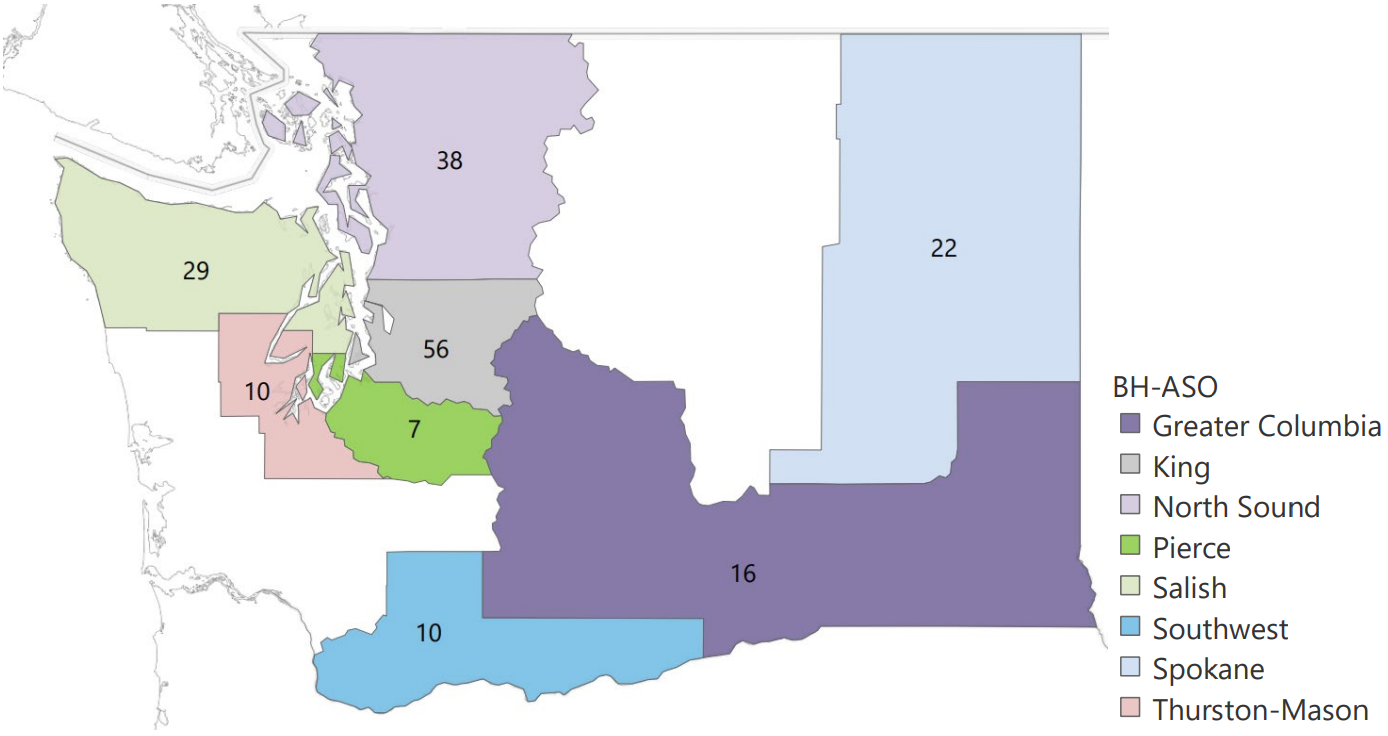
Petersky S, Banta-Green CJ. Results from the 2024 WA State Permanent Supportive Housing Perceptions and Community Health Survey. Seattle, WA: Addictions, Drug & Alcohol Institute, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Washington, September 2024. URL: https://adai.uw.edu/download/10123/

Appendix I: Sources of 2024 PSH PerCH Survey questionnaire items

List of questionnaire items, divided by question type category and source						
	Screening, characteristics, and demographics	Drug use	Healthcare and personal needs	Treatment and harm reduction	Overdose and overdose response	Perceptions of policies, community integration, and staff relations
2023 WA SSP Health Survey	5, 6, 7	36, 37, 38, 39, 40, 43, 44, 45, 47, 48, 49, 50, 51, 52, 53, 71, 62, 65, 66, 77	9, 10, 11, 29	68, 70, 71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 85	14, 15	
Designed by authors Petersky & Banta-Green	1, 2, 3, 4, 8, 12, 31, 32, 33	34, 35, 41, 42, 48, 54, 55, 56, 57, 58, 59, 60, 63, 64, 67		69, 79, 87, 88	16	13, 17
Other source	86 (CDC)[6]		30 (suggested by Billy Golden, Manager, Drug User Health, National Alliance of State and Territorial Aids Directors)	78 (Palayew)[107]	18, 19 (Dunn)[7]	20, 21, 22 (ADAI),[2] 23, 24, 27 (SAMHSA),[3] 25, 26 (Tsemberis),[120] 28 (Pathways),[121]

Appendix II: PerCH Surveys by Behavioral Health-Administrative Service Organizations (BH-ASOs)

This figure shows the number of PSH PerCH surveys administered in each BH-ASO in 2024.



References

1. Kingston S, Newman A, Banta-Green C, Glick S. Results from the 2023 WA State syringe services program health survey. Seattle, WA: Addictions, Drug & Alcohol Institute, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Washington. April 2024. Accessed August 23, 2024. https://adai.uw.edu/download/9208

2. Newman A, Kingston S. Housing program staff want more training to address substance use among residents. Seattle, WA: Addictions, Drug & Alcohol Institute, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Washington. December 2021. Accessed August 23, 2024. https://adai.uw.edu/housing-survey-2021

3. Center for Mental Health Services. National outcome measures (NOMs) client-level measures for discretionary programs providing direct services for adult programs. Substance Abuse and Mental Health Services Administration. November 2021. Accessed August 23, 2024. https://spars.samhsa.gov/sites/default/files/2022-02/CMHSNOMSAdultToolNovember2021.pdf

4. REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies, providing an intuitive interface for validated data capture, audit trails for tracking data manipulation and export procedures, automated export procedures for seamless data downloads to common statistical packages, and procedures for data integration and interoperability with external sources. The REDCap instance used is supported by the Institute of Translational Health Sciences, which is funded by the National Center for Advancing Translational Sciences of the National Institutes of Health under award number UL1TR002319. Accessed August 23, 2024. https://www.iths.org/investigators/forms-templates/citation-information/

5. Revised Code of Washington. RCW 36.70A.030. Washington State Legislature. Accessed August 23, 2024. https://app.leg.wa.gov/rcw/default.aspx?cite=36.70a.030

6. National Center for Health Statistics. Veterans health statistics questionnaire. Centers for Disease Control and Prevention. Updated June 19, 2020. Accessed August 23, 2024. https://www.cdc.gov/nchs/nhis/veterans_health_statistics/questionnaire.htm

7. Dunn KE, Barrett FS, Yepez-Laubach C, et al. Brief opioid overdose knowledge (BOOK): A questionnaire to assess overdose knowledge in individuals who use illicit or prescribed opioids. *J Addict Med*. 2016;10(5):314-323. doi:10.1097/ADM.0000000000000235

8. DSHS Research and Data Analysis Division. Washington State's foundational community supports programs - supportive housing. Published March 18, 2024. Accessed August 23, 2024. https://www.hca.wa.gov/assets/program/fcs-admin-report-supportive-housing-202403.pdf

9. Corporation for Supportive Housing. Underwriting supportive housing services with Medicaid. Washington State Health Care Authority. Accessed August 23, 2024. https://www.hca.wa.gov/assets/underwriting-supportive-housing-services-medicaid.pdf

10. Washington State Department of Commerce. Continuum of care housing inventory count report 2023. Accessed August 30, 2024. https://deptofcommerce.app.box.com/s/w3ffkn4q8nflmvzcfrrz7wv2d7w3u6wh

11. Washington State Department of Commerce. Homeless management information system (HMIS). Washington State Department of Commerce. Accessed August 30, 2024. https://www.commerce.wa.gov/serving-communities/homelessness/hmis/

12. U.S. Census Bureau. Veteran status: 2022 American community survey 1-year estimates. Accessed August 23, 2024. https://data.census.gov/table/ACSST1Y2022.S2101?q=Veterans&g=040XX00US53

13. U.S. Department of Housing and Urban Development. HUD-VASH: Veterans affairs supportive housing program. Accessed August 23, 2024. https://www.hud.gov/program_offices/public_indian_housing/programs/hcv/vash

14. U.S. Department of Housing and Urban Development. 2023 Washington state continuum of care housing inventory count report. Accessed August 30, 2024. https://files.hudexchange.info/reports/published/CoC_HIC_State_WA_2023.pdf

15. Washington State Department of Social and Health Services (DSHS), Research and Data Analysis Division. Permanent supportive housing in the foundational community supports program: Interim report 2018–2020. DSHS; 2020. Accessed August 30, 2024. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-251.pdf

16. Padgett DK, Tiderington E, Tran Smith B, Derejko K-S, Henwood BF. Complex recovery: Understanding the lives of formerly homeless adults with complex needs. *J Soc Distress Homeless*. 2016;25(2):60-70. doi:10.1080/10530789.2016.1173817

17. Corporation for Supportive Housing (CSH). Healthy aging in supportive housing: Toolkit for service providers, developers, and property managers. CSH; 2021. Accessed August 30, 2024. https://www.csh.org/wp-content/uploads/2022/04/CSH-Healthy-Aging-Toolkit-WEB.pdf

18. Lind A, Bittinger K, Xiao Y, et al. Navigating dual eligibility: A survey of dually enrolled Medicare and Medicaid beneficiaries. DSHS Research and Data Analysis Division. Olympia, WA; July 2024. Report 9.127. Accessed August 30, 2024. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-9-127.pdf

19. Kotwal AA, Holt-Lunstad J, Newmark RL, et al. Social isolation and loneliness among San Francisco Bay Area older adults during the COVID-19 shelter-in-place orders. *J Am Geriatr Soc*. 2021;69(1):20-29. doi:10.1111/jgs.16865

20. Stefancic A, Henwood BF, Melton H, Shin S-M, Lawrence-Gomez R, Tsemberis S. Implementing housing first in rural areas: Pathways Vermont. *Am J Public Health*. 2013;103(S2). doi:10.2105/AJPH.2013.301606

21. Federal Communications Commission. Affordable Connectivity Program (ACP) Fact Sheet. Updated June 3, 2024. Accessed August 23, 2024. https://www.fcc.gov/sites/default/files/ACP-Fact-Sheet-Post-ACP-Ending.pdf

22. Mack KA, Jones CM, Ballesteros MF. Illicit drug use, illicit drug use disorders, and drug overdose deaths in metropolitan and nonmetropolitan areas. *MMWR Morb Mortal Wkly Rep*. 2017;66(19):1-12. doi:10.15585/mmwr.ss6619a1

23. Gomes T, Murray R, Kolla G, et al. Changing circumstances surrounding opioid-related deaths in Ontario during the COVID-19 pandemic. *Public Health Ontario*. 2021. Accessed August 23, 2024. https://odprn.ca/wp-content/uploads/2021/05/Changing-Circumstances-Surrounding-Opioid-Related-Deaths.pdf

24. Doran KM, Fockele CE, Maguire M. Overdose and homelessness—Why we need to talk about housing. *JAMA Netw Open*. 2022;5(1). doi:10.1001/jamanetworkopen.2021.42685

25. Fleming T, Boyd J, Chayama KL, Knight KR, McNeil R. Using alone at home: What's missing in housing-based responses to the overdose crisis? *Harm Reduct J*. 2024;21(1):24. doi:10.1186/s12954-024-00933-y

26. Rowe CL, Riley ED, Eagen K, Zevin B, Coffin PO. Drug overdose mortality among residents of single room occupancy buildings in San Francisco, California, 2010-2017. *Drug Alcohol Depend*. 2019;204:107571. doi:10.1016/j.drugalcdep.2019.107571

27. BC Coroners Service. Illicit drug toxicity deaths in BC: January 1, 2012–April 30, 2022. Accessed August 23, 2024. https://www.apbc.ca/wp-content/uploads/2022/09/illicit-drug.pdf

28. Nesoff ED, Wiebe DJ, Martins SS. City streetscapes and neighborhood characteristics of fatal opioid overdoses among people experiencing homelessness who use drugs in New York City, 2017–2019. *Int J Drug Policy*. 2022;110:103904. doi:10.1016/j.drugpo.2022.103904

29. King County Department of Public Health. Overdose deaths dashboard. Updated August 23, 2024. Accessed August 23, 2024. https://kingcounty.gov/en/dept/dph/health-safety/medical-examiner/reports-dashboards/overdose-deaths-dashboard

30. Nowell M, Masuda JR, Tenant Overdose Response Organizers. "You need to just provide health services:" Navigating the politics of harm reduction in the twin housing and overdose crises in Vancouver, BC. *Int J Drug Policy*. 2020;82:102774. doi:10.1016/j.drugpo.2020.102774

31. Bardwell G, Fleming T, Collins AB, Boyd J, McNeil R. Addressing intersecting housing and overdose crises in Vancouver, Canada: Opportunities and challenges from a tenant-led overdose response intervention in single room occupancy hotels. *J Urban Health*. 2019;96(1):12-20. doi:10.1007/s11524-018-0294-y

32. Olding M, Joshi N, Castellanos S, et al. Saving lives in our homes: Qualitative evaluation of a tenant overdose response program in supportive, single-room occupancy (SRO) housing. *Int J Drug Policy*. 2023;118:104084. doi:10.1016/j.drugpo.2023.104084

33. Knight KR, Lopez AM, Comfort M, et al. Single room occupancy (SRO) hotels as mental health risk environments among impoverished women: The intersection of policy, drug use, trauma, and urban space. *Int J Drug Policy*. 2014;25(3):556-561. doi:10.1016/j.drugpo.2013.10.011

34. Burns VF, Leduc JD, St-Denis N, Walsh CA. Finding home after homelessness: Older men's experiences in single-site permanent supportive housing. *Hous Stud*. 2020;35(2):290-309. doi:10.1080/02673037.2019.1598550

35. Pauly B, Wallace B, Barber K. Turning a blind eye: Implementation of harm reduction in a transitional programme setting. *Drugs (Abingdon Engl)*. 2018;25(1):21-30. doi:10.1080/09687637.2017.1337081

36. Collins SE, Malone DK, Clifasefi SL. Housing retention in single-site housing first for chronically homeless individuals with severe alcohol problems. *Am J Public Health*. 2013;103(S2). doi:10.2105/AJPH.2013.301312

37. Lee S, Wong YL, Rothbard AB. Factors associated with departure from supported independent living programs for persons with serious mental illness. *Psychiatr Serv*. 2009;60(3):367-373. doi:10.1176/ps.2009.60.3.367

38. Piat M, Sabetti J, Padgett D. Supported housing for adults with psychiatric disabilities: How tenants confront the problem of loneliness. *Health Soc Care Community*. 2018;26(2):191-198. doi:10.1111/hsc.12508

39. Marshall CA, Boland L, Westover LA, et al. Effectiveness of interventions targeting community integration among individuals with lived experiences of homelessness: a systematic review. *Health Soc Care Community*. 2020;28(6):1843-1862. doi:10.1111/hsc.13030

40. Marshall CA, McKinley C, Costantini J, et al. 'The Big Island Model': Resident experiences of a novel permanent supportive housing model for responding to rural homelessness. *Health Soc Care Community*. 2022;30(6). doi:10.1111/hsc.13920

41. Rhoades H, La Motte-Kerr W, Duan L, et al. Social networks and substance use after transitioning into permanent supportive housing. *Drug Alcohol Depend*. 2018;191:63-69. doi:10.1016/j.drugalcdep.2018.06.027

42. Henwood BF, Rhoades H, Hsu H-T, et al. Changes in social networks and HIV risk behaviors among homeless adults transitioning into permanent supportive housing: A mixed methods pilot study. *J Mix Methods Res*. 2017;11(1):124-137. doi:10.1177/1558689815607686

43. Golembiewski E, Watson DP, Robison L, Coberg JW. Social network decay as potential recovery from homelessness: A mixed methods study in housing first programming. *Soc Sci*. 2017;6(3):96. doi:10.3390/socsci6030096

44. Nixon LL, Burns V. Exploring harm reduction in supportive housing for formerly homeless older adults. *Can Geriatr J*. 2022;25(3):285-294. doi:10.5770/cgj.25.551

45. Tiderington E, Stanhope V, Henwood BF. A qualitative analysis of case managers' use of harm reduction in practice. *J Subst Abuse Treat*. 2013;44(1):71-77. doi:10.1016/j.jsat.2012.03.007

46. Kirsh B, Gewurtz R, Bakewell RA. Critical characteristics of supported housing: Resident and service provider perspectives. *Can J Community Ment Health*. 2011;30(1):15-30. doi:10.7870/cjcmh-2011-0002

47. Kasprow WJ, Rosenheck RA, Frisman L, DiLella D. Referral and housing processes in a long-term supported housing program for homeless veterans. *Psychiatr Serv*. 2000;51(8):1017-1023. doi:10.1176/appi.ps.51.8.1017

48. Davidson PJ, Wenger LD, Lambdin BH, Kral AH. Establishment and enforcement of operational rules at an unsanctioned safe drug consumption site in the United States, 2014-2020. *Am J Public Health*. 2022;112(S2). doi:10.2105/AJPH.2022.306714

49. Wallace B, Pagan F, Pauly B. The implementation of overdose prevention sites as a novel and nimble response during an illegal drug overdose public health emergency. *Int J Drug Policy*. 2019;66:64-72. doi:10.1016/j.drugpo.2019.01.017

50. Washington State Department of Commerce. (2022). Washington state investments in housing operations and tenancy support services: Cost projections and program enhancements. Olympia, WA: Washington State Department of Commerce. Accessed August 23, 2024. https://deptofcommerce.box.com/shared/static/1eutafumw7kf5btvqw5i4p4h2lbqkas3.pdf

51. Padgett DK, Bond L, Gurdak K, Henwood BF. Eliciting life priorities of older adults living in permanent supportive housing. *Gerontologist*. 2020;60(1):60-68. doi:10.1093/geront/gnz040

52. Corporation for Supportive Housing. Moving on toolkit: A guide to housing choice and stability for supportive housing tenants. July 2018. Accessed August 23, 2024. https://www.csh.org/wp-content/uploads/2018/07/MovingOnToolkit_Complete.pdf

53. Tiderington E, Goodwin J, Noonan E. Leaving permanent supportive housing: a scoping review of moving on initiative participant outcomes. *Hous Stud*. 2024;39(1):203-226. doi:10.1080/02673037.2022.2045006

54. Adair CE, Kopp B, Distasio J, et al. Housing quality in a randomized controlled trial of housing first for homeless individuals with mental illness: correlates and associations with outcomes. *J Urban Health*. 2016;93(4):682-697. doi:10.1007/s11524-016-0062-9

55. Leickly E, Townley G. Exploring factors related to supportive housing tenure and stability for people with serious mental illness. *J Community Psychol*. 2021;49(6):1787-1805. doi:10.1002/jcop.22573

56. Bardwell G, Austin T, Maher L, Boyd J. Hoots and harm reduction: A qualitative study identifying gaps in overdose prevention among women who smoke drugs. *Harm Reduct J*. 2021;18(1):1-10. doi:10.1186/s12954-021-00479-3

57. Kral AH, Lambdin BH, Browne EN, et al. Transition from injecting opioids to smoking fentanyl in San Francisco, California. *Drug Alcohol Depend*. 2021;227:109003. doi:10.1016/j.drugalcdep.2021.109003

58. Pringle J, Grasso K, Lederer L. Integrating the integrated: Merging integrated dual diagnosis treatment (IDDT) with housing first. *Community Ment Health J*. 2017;53(6):672-678. doi:10.1007/s10597-017-0107-x

59. O'Connell MJ, Kasprow WJ, Rosenheck RA. The impact of current alcohol and drug use on outcomes among homeless veterans entering supported housing. *Psychol Serv*. 2013;10(2):241-249. doi:10.1037/a0030816

60. Henwood BF, Padgett DK, Smith BT, Tiderington E. Substance abuse recovery after experiencing homelessness and mental illness: Case studies of change over time. *J Dual Diagn*. 2012;8(3):238-246. doi:10.1080/15504263.2012.697448

61. Wittman F, Polcin D, Sheridan D. The architecture of recovery: Two kinds of housing assistance for chronic homeless persons with substance use disorders. *Drugs Alcohol Today*. 2017;17(3):157-167. doi:10.1108/DAT-12-2016-0032

62. Bowles JM, Smith LR, Mittal ML, et al. "I wanted to close the chapter completely … and I feel like that [carrying naloxone] would keep it open a little bit": Refusal to carry naloxone among newly-abstinent opioid users and 12-step identity. *Int J Drug Policy*. 2021;94:103200. doi:10.1016/j.drugpo.2021.103200

63. Humphreys K, Barreto NB, Alessi SM, et al. Impact of 12 step mutual help groups on drug use disorder patients across six clinical trials. *Drug Alcohol Depend*. 2020;215:108213. doi:10.1016/j.drugalcdep.2020.108213

64. Nelson LA, Collins SE, Birch J, et al. Content analysis of preferred recovery pathways among urban American Indians and Alaska Natives experiencing alcohol use disorders. J Cross Cult Psychol. 2023;54(1):142-160. doi:10.1177/00220221221132778

65. Winstead T, Singh S, Floyd AS, Banta-Green CJ. Contingency Management for Methamphetamine Use: Qualitative Interviews at Harm Reduction Programs. Seattle, WA: Addictions, Drug & Alcohol Institute, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Washington. April 2024. Accessed August 23, 2024. https://adai.uw.edu/wordpress/wp-content/uploads/CM-for-Meth-Use-Qualitative-Interviews-2024-3.pdf

66. Rash CJ, Alessi SM, Petry NM. Substance abuse treatment patients in housing programs respond to contingency management interventions. *J Subst Abuse Treat*. 2017;72:97-102. doi:10.1016/j.jsat.2016.07.001

67. Greenstone S. Seattle tries new approach for treating addiction: Gift cards. The Seattle Times. Updated June 6, 2024. Accessed August 23, 2024. https://www.seattletimes.com/seattle-news/homeless/seattle-tries-new-approach-for-treating-addiction-gift-cards/

68. Fraser ER, Hill-Kapturczak N, Jett J, et al. Mixed-methods trial of a phosphatidylethanol-based contingency management intervention to initiate and maintain alcohol abstinence in formerly homeless adults with alcohol use disorders. *Contemp Clin Trials Commun*. 2021;22:100757. doi:10.1016/j.conctc.2021.100757

69. University of Washington Department of Psychiatry and Behavioral Sciences. Implementing contingency management in a supportive housing context to promote resident well-being. Accessed August 23, 2024. https://psychiatry.uw.edu/project/implementing-contingency-management-in-a-supportive-housing-context-to-promote-resident-well-being/

70. Krawczyk N, Rivera BD, Jent V, Keyes KM, Jones CM, Cerdá M. Has the treatment gap for opioid use disorder narrowed in the U.S.?: A yearly assessment from 2010 to 2019". *Int J Drug Policy*. 2022;110:103786. doi:10.1016/j.drugpo.2022.103786

71. Hser YI, Zhu Y, Fei Z, et al. Long-term follow-up assessment of opioid use outcomes among individuals with comorbid mental disorders and opioid use disorder treated with buprenorphine or methadone in a randomized clinical trial. *Addiction*. 2022;117(1):151-161. doi:10.1111/add.15594

72. Pierce M, Bird SM, Hickman M, et al. Impact of treatment for opioid dependence on fatal drug-related poisoning: a national cohort study in England. *Addiction*. 2016;111(2):298-308. doi:10.1111/add.13193

73. Larochelle MR, Bernson D, Land T, et al. Medication for opioid use disorder after nonfatal opioid overdose and association with mortality: A cohort study. *Ann Intern Med*. 2018;169(3):137-145. doi:10.7326/M17-3107

74. McMahan VM, Kingston S, Newman A, Stekler JD, Glick SN, Banta-Green CJ. Interest in reducing methamphetamine and opioid use among syringe services program participants in Washington State. *Drug Alcohol Depend*. 2020;216. doi:10.1016/j.drugalcdep.2020.108243

75. Banta-Green CJ, Newman A, Kingston S. Washington state syringe exchange health survey: 2017 results. Alcohol & Drug Abuse Institute, University of Washington Webpage.

76. Simon CB, Tsui JI, Merrill JO, Adwell A, Tamru E, Klein JW. Linking patients with buprenorphine treatment in primary care: Predictors of engagement. *Drug Alcohol Depend*. 2017;181:58-62. doi:10.1016/j.drugalcdep.2017.09.017

77. Russell C, Law J, Imtiaz S, et al. The impact of methamphetamine use on medications for opioid use disorder (MOUD) treatment retention: A scoping review. *Addict Sci Clin Pract*. 2023;18(1):1-48. doi:10.1186/s13722-023-00402-0

78. Tsui JI, Mayfield J, Speaker EC, et al. Association between methamphetamine use and retention among patients with opioid use disorders treated with buprenorphine. *J Subst Abuse Treat*. 2020;109:80-85. doi:10.1016/j.jsat.2019.10.005

79. Frost MC. *Understanding the Impact of Co-Occurring Substance Use Disorders on Receipt of Medications for Opioid Use Disorder in the Veterans Health Administration to Inform Care Improvement*. ProQuest Dissertations & Theses; 2022.

80. Hood JE, Banta-Green CJ, Duchin JS, et al. Engaging an unstably housed population with low-barrier buprenorphine treatment at a syringe services program: Lessons learned from Seattle, Washington. *Subst Abus*. 2020;41(3):356-364. doi:10.1080/08897077.2019.1635557

81. Kratina-Hathaway Z, Radick AC, Leroux BG, et al. Methamphetamine use and illicit opioid use during buprenorphine treatment. *J Subst Use Addict Treat*. 2023;151:208934. doi:10.1016/j.josat.2022.208934

82. Bardwell G, Fleming T, McNeil R, Boyd J. Women's multiple uses of an overdose prevention technology to mitigate risks and harms within a supportive housing environment: a qualitative study. *BMC Womens Health*. 2021;21(1):51. doi:10.1186/s12905-021-01196-6

83. Ivsins A, MacKinnon L, Bowles JM, Slaunwhite A, Bardwell G. Overdose prevention and housing: A qualitative study examining drug use, overdose risk, and access to safer supply in permanent supportive housing in Vancouver, Canada. *J Urban Health*. 2022;99(5):855-864. doi:10.1007/s11524-022-00679-7

84. Fleming T, Boyd J, Gagnon M, Kerr T, McNeil R. Using drugs alone in single-room occupancy housing: Understanding environmental drivers of overdose risk. *Int J Drug Policy*. 2024;128:104444. doi:10.1016/j.drugpo.2024.104444

85. Collins AB, Boyd J, Czechaczek S, Hayashi K, McNeil R. (Re)shaping the self: An ethnographic study of the embodied and spatial practices of women who use drugs. *Health Place*. 2020;63:102327. doi:10.1016/j.healthplace.2020.102327

86. Moe, J., Chavez, T., Marr, C. et al. Feeling safer: effectiveness, feasibility, and acceptability of continuous pulse oximetry for people who smoke opioids at overdose prevention services in British Columbia, Canada. *Harm Reduct J* 21, 45 (2024). https://doi.org/10.1186/s12954-024-00963-6

87. Moe J, Buxton JA, Wang YE, et al. Physiologic oxygen responses to smoking opioids: an observational study using continuous pulse oximetry at overdose prevention services in British Columbia, Canada. Harm Reduct J. 2024;21(1):89-11. doi:10.1186/s12954-024-01011-z

88. Ahamad K, Dong H, Johnson C, et al. Factors associated with willingness to wear an electronic overdose detection device. *Addict Sci Clin Pract*. 2019;14(1):23-23. doi:10.1186/s13722-019-0153-5

89. Kanter K, Gallagher R, Eweje F, et al. Willingness to use a wearable device capable of detecting and reversing overdose among people who use opioids in Philadelphia. *Harm Reduct J*. 2021;18(1):1-75. doi:10.1186/s12954-021-00522-3

90. Tsang VWL, Papamihali K, Crabtree A, Buxton JA. Acceptability of technological solutions for overdose monitoring: Perspectives of people who use drugs. *Substance abuse*. 2021;42(3):284-293. doi:10.1080/08897077.2019.1680479

91. Viste, D., Rioux, W., Cristall, N. et al. Association of drug overdoses and user characteristics of Canada's national mobile/virtual overdose response hotline: the National Overdose Response Service (NORS). *BMC Public Health* 23, 1869 (2023). https://doi.org/10.1186/s12889-023-16751-z

92. Lee A, Jafri F, Viste D, et al. Perceptions of Overdose Response Hotlines and Phone Application Services Among Women and Gender-diverse Individuals Who Use Drugs in Canada: A Qualitative Study. *J Addict Med*. Published online 2024. doi:10.1097/ADM.0000000000001325

93. Kerman N, Manoni-Millar S, Cormier L, Cahill T, Sylvestre J. "It's not just injecting drugs": supervised consumption sites and the social determinants of health. *Drug Alcohol Depend*. 2020;213:108078. doi:10.1016/j.drugalcdep.2020.108078

94. Duncan T, Duff C, Sebar B, Lee J. "Enjoying the kick": locating pleasure within the drug consumption room. *Int J Drug Policy*. 2017;49:92-101. doi:10.1016/j.drugpo.2017.07.005

95. Duncan T, Sebar B, Lee J, Duff C. Atmospheres of engagement within a German drug consumption room. *Social Science & Medicine*. 2020;253:112922-10. doi:10.1016/j.socscimed.2020.112922

96. McNeil R, Dilley LB, Guirguis-Younger M, Hwang SW, Small W. Impact of supervised drug consumption services on access to and engagement with care at a palliative and supportive care facility for people living with HIV/AIDS: A qualitative study. *J Int AIDS Soc*. 2014;17(1):18855. doi:10.7448/IAS.17.1.18855

97. Chayama KL, Ng C, Fleming T, et al. Housing-based syringe services programs to improve access to safer injecting equipment for people who inject drugs in Vancouver, Canada: A spatially oriented qualitative study. *Harm Reduct J*. 2023;20(1):126. doi:10.1186/s12954-023-00862-2

98. Singh S, Banta-Green C, Kingston S. Distribution of safer drug smoking supplies as a public health strategy. Seattle, WA: Addictions, Drug & Alcohol Institute, Department of Psychiatry & Behavioral Sciences, School of Medicine, University of Washington. January 2022. Accessed August 23, 2024. https://adai.uw.edu/SaferSmoking-Brief-2022

99 Wagner NM, Kempe A, Barnard JG, et al. Qualitative exploration of public health vending machines in young adults who misuse opioids: A promising strategy to increase naloxone access in a high risk underserved population. *Drug Alcohol Depend*. 2022;5:100094-. doi:10.1016/j.dadr.2022.100094

100. Arendt D. Expanding the accessibility of harm reduction services in the United States: Measuring the impact of an automated harm reduction dispensing machine. *J Am Pharm Assoc*. 2023;63(1):309-316. doi:10.1016/j.japh.2022.10.027

101. Otiashvili D, Kirtadze I, Vardanashvili I, Tabatadze M, Ober AJ. Perceived acceptability of and willingness to use syringe vending machines: results of a cross-sectional survey of out-of-service people who inject drugs in Tbilisi, Georgia. *Harm Reduct J*. 2019;16(1):21-12. doi:10.1186/s12954-019-0292-8

102. Stewart RE, Cardamone NC, Loscalzo E, et al. "There's absolutely no downside to this, I mean, except community opposition": A qualitative study of the acceptability of vending machines for harm reduction. *Harm Reduct J*. 2023;20(1):25. doi:10.1186/s12954-023-00747-4

103. Ledlie S, Garg R, Cheng C, et al. Prescribed safer opioid supply: A scoping review of the evidence. *Int J Drug Policy*. 2024;125:104339-104339. doi:10.1016/j.drugpo.2024.104339

104. Glegg S, McCrae K, Kolla G, et al. "COVID just kind of opened a can of whoop-ass": The rapid growth of safer supply prescribing during the pandemic documented through an environmental scan of addiction and harm reduction services in Canada. *Int J Drug Policy*. 2022;106:103742-103742. doi:10.1016/j.drugpo.2022.103742

105. Harris MTH, Seliga RK, Fairbairn N, et al. Outcomes of Ottawa, Canada's managed opioid program (MOP) where supervised injectable hydromorphone was paired with assisted housing. *Int J Drug Policy*. 2021;98:103400. doi:10.1016/j.drugpo.2021.103400

106. Szalavitz M. Undoing Drugs: The Untold Story of Harm Reduction and the Future of Addiction. First edition. Hachette Go; 2021.

107. Palayew A, Banta-Green CJ, Lamont M, et al. Acceptability and anticipated effectiveness of a safe supply of opioids, among people who inject opioids in King County, WA. *Int J Drug Policy*. 2024;127:104389. doi:10.1016/j.drugpo.2024.104389

108. BERK Consulting. Rural and urban considerations factsheet. Washington State Department of Commerce. 2023. Accessed August 23, 2024. https://deptofcommerce.app.box.com/s/0h376b95xh30ob5t9i84i54n83s8n0nq

109. U.S. Department of Housing and Urban Development. Coordinated entry core elements. June 2017. Accessed August 23, 2024. https://files.hudexchange.info/resources/documents/Coordinated-Entry-Core-Elements.pdf

110. U.S. Department of Housing and Urban Development. CoC Housing Inventory Count Reports. HUD Exchange. Accessed August 30, 2024. https://www.hudexchange.info/programs/coc/coc-housing-inventory-count-reports/?filter_Year=2023&filter_Scope=CoC&filter_State=WA&filter_CoC=&program=CoC&group=HIC

111. Washington State Department of Commerce. Continuum of Care. Washington State Department of Commerce. Accessed August 30, 2024. https://www.commerce.wa.gov/serving-communities/homelessness/continuum-of-care/

112. Fielding-Miller R, Kim S, Bowles J, Streuli S, Davidson P. "We're already doing this work": Ethical research with community-based organizations. *BMC Med Res Methodol*. 2022;22(1):237. doi:10.1186/s12874-022-01713-7

113. Hetrick AT, Young AM, Elman MR, et al. Correction: A cross-sectional survey of potential factors, motivations, and barriers influencing research participation and retention among people who use drugs in the rural USA. *Trials*. 2023;24(1):618. doi:10.1186/s13063-023-07531-6

114. Washington State Department of Commerce. HMIS Data Suppression Guidance. Washington State Department of Commerce; 2023. Accessed August 30, 2024. https://deptofcommerce.app.box.com/s/8zcvytdzv08v3hou244uwuzmtt00vfxj

115. Washington State Healthcare Authority. PSH fidelity reviewer course and manual. Accessed August 23, 2024. https://deptofcommerce.app.box.com/s/yivb0mpdh48nvm0aqr4agf3kb8eqjm4l/file/1579218196331v

116. Pazolt M. Washington state investments in affordable housing projects, including permanent supportive housing. Washington State Department of Commerce. June 6, 2023. Accessed August 23, 2024. https://deptofcommerce.box.com/shared/static/1eutafumw7kf5btvqw5i4p4h2lbqkas3.pdf

117. Washington State Department of Social and Health Services. Supportive housing services. Accessed August 23, 2024. https://www.dshs.wa.gov/altsa/stakeholders/supportive-housing-services

118. Galvez M, Lucenko B, Black C, Felver BEM. Permanent supportive housing in Washington State: Costs and benefits. Washington State Department of Social and Health Services. October 2013. Accessed August 23, 2024. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-199.pdf

119. Shah MF, Estee S, Albrecht C, Yette R, Felver BEM. A profile of housing assistance recipients in Washington State: History of arrests, employment, and social and health service use. Washington State Department of Social and Health Services. July 2011. Accessed August 23, 2024. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-160.pdf

120. Tsemberis S, Rogers ES, Rodis E, Dushuttle P, Skryha V. Housing satisfaction for persons with psychiatric disabilities. *J Community Psychol*. 2003;31(6):581-590. doi:10.1002/jcop.10067

121. Stefancic A, Tsemberis S, Messeri P, Drake R, Goering P. The Pathways housing first fidelity scale for individuals with psychiatric disabilities. *Am J Psychiatr Rehabil*. 2013;16(4):240-261. doi:10.1080/15487768.2013.847741