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Changes in the PrEP Care Cascade in people who inject drugs in 2018 and 2022

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Abstract

HIV pre-exposure prophylaxis (PrEP) prevents HIV transmission. However, PrEP remains underutilized among people who inject drugs (PWID), even when clinically indicated. Here, we assess changes in PrEP awareness, access, and use in 2018 and 2022 and factors associated with PrEP awareness in 2022. We analyzed a sample of PWID not living with HIV with an indication for PrEP based on National HIV Behavioral Surveillance (NHBS) in Portland, Oregon during the 2018 and 2022 survey cycles. We compared PrEP awareness, access, and use in 2018 and 2022 with χ^2 . Using 2018 and 2022 data, we compared PrEP awareness between the two years with a Poisson regression. Using 2022 data, we assessed factors associated with PrEP awareness. Compared to 2018, PrEP awareness was higher in 2022 (33% vs 17%, $p < 0.001$, aPR = 1.24, 95% CI = 1.14–1.36). There were no significant differences in PrEP access or use between 2018 to 2022. In the 2022 sample, PrEP awareness was higher among those with Hispanic ethnicity compared to white, non-Hispanic PWID (aPR=2.18, 95% CI=1.21–3.90) and previous drug treatment (aPR=1.79, 95% CI=1.20–2.69). Although PrEP awareness was higher in 2022 than 2018, PrEP access and use were unchanged and remained rare. PrEP use among PWID remains insufficient to meet national Ending the HIV Epidemic goals.

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AUTHOR CONTRIBUTIONS

Hunter C. Spencer – conceptualization, data analysis, writing, editing; Matthew A. Town – conceptualization, writing, editing; Lauren Lipira – writing, editing; LaLaine Sevillano – editing; Tim W. Menza – conceptualization, writing, editing.

STATEMENTS AND DECLARATIONS

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interests (or competing interests).

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Abstract

Profilaxis preexposición de VIH (PrEP) previene transmisión de VIH. Sin embargo, PrEP se sigue subutilizando entre las personas que se inyectan drogas, incluso cuando está clínicamente indicado. Aquí, evaluamos cambios en el conocimiento, el acceso, y en el uso de PrEP en 2018 y 2022, y los factores asociados con el conocimiento del PrEP en 2022. Analizamos una muestra de personas que no viven con VIH y que tienen una indicación para el PrEP según la Vigilancia Nacional del Comportamiento del VIH (NHBS) en Portland, Oregón, durante los ciclos de encuesta de 2018 y 2022. Comparamos el conocimiento, el acceso y el uso del PrEP en 2018 y 2022 con χ^2 . Con datos de 2018 y 2022, comparamos el conocimiento del PrEP entre ambos años mediante una regresión de Poisson. Con datos de 2022, evaluamos los factores asociados al conocimiento del PrEP. En comparación con 2018, el conocimiento del PrEP fue mayor en 2022 (33% vs. 17%, $p < 0.001$, $RP_a = 1.24$, IC 95% = 1.14–1.36). No se observaron diferencias significativas en el acceso o uso del PrEP entre 2018 y 2022. En la muestra de 2022, el conocimiento del PrEP fue mayor entre las personas de etnia hispana en comparación con las personas blancas, no hispanas, que se inyectan drogas ($RP_a = 2.18$, IC 95% = 1.21–3.90) y con el tratamiento farmacológico previo ($RP_a = 1.79$, IC 95% = 1.20–2.69). Aunque el conocimiento del uso de PrEP fue mayor en 2022 que en 2018, el acceso y uso del PrEP permaneció sin cambios y se mantuvo poco frecuente. El uso de PrEP entre las personas que se inyectan drogas sigue siendo insuficiente para alcanzar los objetivos nacionales de Fin de la Epidemia del VIH.

Keywords

HIV; HIV Prevention; Pre-exposure prophylaxis (PrEP); PrEP awareness; people who inject drugs (PWID)

INTRODUCTION

Though progress has been made in reducing the number of new HIV infections, HIV remains a public health priority in the United States (U.S.) [1]. In 2022, people who inject drugs (PWID) accounted for 7% of new infections in the U.S. [1]. The Centers for Disease Control and Prevention (CDC) attribute the disproportionately high incidence of HIV among PWID to both injection-related risk behaviors, such as sharing injection equipment (including needles, syringes, and other components of the injection apparatus) and sex-related risk behaviors, such as condomless sex with partners of unknown HIV status [2, 3]. Substance use disorders (SUD) increase HIV risk for PWID because HIV and SUD function as a syndemic in the U.S. in which both epidemics interact and amplify one another [4, 5]. Simultaneously, injection drug use leads to higher odds of a HIV acquisition through sex as injection drug use is correlated with recent viral and bacterial sexually transmitted infections [6]. Therefore, HIV prevention among PWID could contribute to ending the HIV epidemic.

Initiation and sustained use of pre-exposure prophylaxis (PrEP), antiretrovirals taken by people not living with HIV who are at risk of HIV acquisition, effectively prevents HIV transmission among PWID [7, 8]. PrEP is recommended for people at risk of HIV via substance use by both the U.S. Preventative Services Task Force (USPSTF) [9] and CDC

[10]. Yet, adoption of PrEP has been slow [3] [11]. A 2021 systematic review found PrEP utilization ranged from 0–3% among PWID in the U.S. [2]. Improving PrEP use among PWID, is an important strategy to achieving HIV epidemic control by 2030 as outlined in the U.S. Ending the HIV Epidemic plan [12].

The “PrEP care cascade” refers to a series of sequential stages that a person completes to realize the benefit of PrEP [2]. Stages include: 1) PrEP awareness, or recognition that PrEP exists as an option for HIV prevention, 2) PrEP knowledge, or familiarity with specific features of PrEP, 3) perception of an individual’s HIV risk, 4) willingness to use PrEP, 5) access to PrEP or having a health care provider to discuss it with, 6) initiation of PrEP, and 7) sustained use [2]. PWID in the U.S. have inconsistent success along the PrEP care cascade with a 2021 meta-analysis of the PrEP care cascade among PWID finding: variable awareness (range 1–57%), knowledge (13–39%), and risk perception (1–66%), as well as low access (5–18%) and use (0–3%) [2].

Research indicates that the PrEP care cascade may vary by location. In a study based in Portland, Oregon in 2018, 15% of PWID were aware of PrEP and less than 1% used PrEP whereas in a similar study based in San Francisco, California 57% of PWID were aware of PrEP and 3% reported PrEP use [13]. The PrEP care cascade also varies with individual factors. In the U.S., factors associated with greater PrEP awareness and use in PWID include sexual behaviors, such as men who have sex with men (MSM) and people who engage in transactional sex, those with higher education, substance use treatment participants, and syringe exchange program attendees [2, 3, 13–15]. Evidence of changes in PrEP awareness over time is inconsistent. Among gay/bisexual-identifying male PWID who reported sex with men, PrEP awareness was higher in 2022 (65%) compared to 2018 (45%), but PrEP awareness was similar in 2018 and 2022 (approximately 40%) among heterosexual-identifying men with similar injection and sexual behaviors in a national sample in the U.S.[15]. Likewise, PrEP awareness was similar among PWID in San Francisco between 2018 and 2022 [14]. In a national sample of commercially insured PWID from 2010–2019, PrEP use increased from 0.0 per 100 patient years to 0.3 per 100 person years. [16]

Contextual changes in Oregon in between 2018 and 2022, including the COVID-19 pandemic and related healthcare adaptations, a rapid increase of fentanyl in the unregulated drug supply, and state policy change to decriminalize small amounts of drugs in 2021, may have impacted the PrEP care cascade in PWID in 2022 as compared to 2018 [17]. As such, this study sought to improve understanding of the PrEP care cascade among PWID living in Portland, Oregon using survey data from 2018 and 2022. The aims of our study were to: 1) compare differences in the proportion of PWID at three key stages in the PrEP care cascade (PrEP awareness, access and use) in 2018 and 2022; 2) identify factors associated with PrEP awareness in 2022; and 3) provide recommendations designed to increase utilization of PrEP among PWID.

METHODS

Participants and Procedures

The National HIV Behavioral Surveillance (NHBS) is a rotating annual survey funded by CDC that cyclically focuses on different groups with high priority for HIV treatment and prevention, including MSM, individuals at increased risk for acquiring HIV via heterosexual contact, and PWID [18, 19]. NHBS is comprised of 19 projects sites spread throughout the U.S. where each site covers a metropolitan statistical area (MSA). The current study uses survey data from PWID who participated in the 2018 and/or 2022 NHBS cycles in the Portland, Oregon- Vancouver, Washington- Hillsboro, Oregon metropolitan statistical area (MSA). The Oregon Health Authority's Science and Epidemiology Council and the Human Subjects Research Review Committee at Portland State University deemed NHBS to be public health surveillance and therefore exempt from further Institutional Review Board oversight. All participants provided verbal consent for participation and HIV testing; written, signed consent was waived.

For PWID cycles, each NHBS site uses respondent driven sampling (RDS) methodology to recruit participants. In this method, a small number of initial participants, called "seeds," are recruited via convenience sampling. Seeds then recruit peers within their social network, termed the initial "wave." These new participants then recruit peers from their social networks in successive waves until the target sample size is attained or the data collection period ends, whichever comes first. Each seed and participant could recruit up to five other participants. For this study, participants were included if they were 18 years of age or older, currently lived within the MSA, spoke English and/or Spanish, and reported injection drug use in the past 12 months. Participation in previous cycles did not affect eligibility.

During the survey, participants were questioned about their HIV status and other behaviors related to HIV risk. Participants not living with HIV with at least one PrEP indication were included in analyses. An indication for PrEP was defined as having injection-related indications, sex-related indications, or both, based on CDC guidelines [10]. An indication for PrEP based on injection risk factors was defined by self-reported sharing of any injection equipment (syringes, needles, or other supplies such as cookers, cotton, or water). Participants were considered to have an indication for PrEP based on sexual risk if they reported engaging in one or more of the following risk factors: condomless sex with a casual partner, most recent sexual partner with positive HIV status not on antiretrovirals or with unknown use of antiretrovirals, or gonorrhea and/or syphilis infection in the last 12 months. Missing data was assumed to be random and participants with missing data were excluded from the analysis.

In both 2018 and 2022, PrEP awareness, access, and use were defined in response to three separate questions, each answered dichotomously. PrEP awareness was defined by response to the question: "Pre-Exposure Prophylaxis, or PrEP, is an antiretroviral medication, such as Truvada, taken for months or years by a person who is HIV-negative to reduce the risk of getting HIV. Before today, have you ever heard of HIV PrEP?" PrEP access was defined in response to the question: "In the past 12 months, have you had a discussion with a healthcare provider about taking PrEP?" PrEP use was defined in response to the question:

“In the past 12 months, have you taken PrEP to reduce the risk of getting HIV?” Missing data were imputed as “no” for each.

Statistical Analysis

In this cross-sectional study among PWID who were indicated for PrEP, descriptive statistics were first used to summarize sample characteristics and indications for PrEP from 2018 and 2022. Differences across samples were tested with χ^2 . We then performed three analyses. First, to assess differences in the proportion of PWID at three key stages of the PrEP care cascade at two time points, we compared percentages of PrEP awareness, access, and use from 2018 and 2022, testing for differences with χ^2 . We then used a Poisson regression with robust standard error to generate the adjusted prevalence ratio (aPR) of PrEP awareness associated with survey year and 95% confidence interval (CI). We controlled for demographic factors (age, gender, race, and sexual identity), factors associated with PrEP awareness in our past work (reporting a usual source of health care and education), and variables in the current dataset that were significantly different by year in bivariate analysis (current insurance, use of medications for opioid use disorder in the last 12 months, drug treatment in the last 12 months, transactional sex in the last 12 months, and any methamphetamine use in the last 12 months) [20]. Gender, sexual identity, race, and ethnicity categories were defined by CDC and standardized across NHBS sites. Age was categorized as <30 years, 30–39 years, 40–49 years, and ≥ 50 years. Education was categorized as beyond high school or not.

Next, to identify correlates associated with PrEP awareness in 2022, we again used a Poisson regression with robust standard errors to estimate aPR. We constrained the number of variables in this model due to fewer events. We selected variables considered the most clinically relevant, for example, we included drug treatment in the last 12 months because this represented a point of potential intervention to improve the PrEP care cascade. We included: demographic characteristics, current health insurance, any methamphetamine use in the last 12 months, drug treatment in the last 12 months, and self-reported transactional sex in the last 12 months. We chose not to model PrEP access and PrEP use because events were sparse, and we did not have sufficient power to identify associations of interest. We performed analyses in Stata BE version 18.5 [21].

Results

In 2018, six seeds were recruited, five of whom actively recruited other PWID and subsequent PWID were recruited in 2–19 waves resulting in 530 participants with 439 (83%) not living with HIV. In 2022, four seeds were recruited, and subsequent recruitment was accomplished in 3–14 waves resulting in 335 participants with 278 (83%) reported not living with HIV. In 2022, PWID were less likely to have only injection related indications for PrEP (84%) compared to 2018 (91%) ($\chi^2=6.51$, $p=0.011$) (Figure 1).

Table 1 shows that PWID indicated for PrEP in both 2018 and 2022 were predominantly white, male, and heterosexual. They were also similar in education level, homelessness, having a usual source of care, and history of gonorrhea or syphilis. In 2022, participants were older (mean age 42 versus 37, $t=-5.34$, $p<0.001$) more frequently reported health

insurance (93% versus 85%, $\chi^2=7.32$, $p=0.007$), transactional sex (25% versus 11%, $\chi^2=17.20$, $p<0.001$), and methamphetamine use (96% versus 90%, $\chi^2=6.82$, $p=0.009$) compared to 2018. In 2022, participants less frequently reported drug treatment (36% versus 58%, $\chi^2=24.23$, $p<0.001$) and medications for opioid use disorder (50% versus 63%, $\chi^2=8.27$, $p=0.004$), compared to 2018.

In 2022, a greater proportion of PWID with a PrEP indication were aware of PrEP, compared to 2018 (33% vs 17%, $p<0.001$). There were no significant differences in PrEP access or PrEP use between years (Figure 2). Table 2 shows the adjusted association of PrEP awareness and year. PWID indicated for PrEP in 2022 were more likely to be aware of PrEP compared to PWID indicated for PrEP in 2018, even when controlling for age, gender, sexual orientation, race and ethnicity, education, homelessness, insurance status, presence of a usual source of care, methamphetamine use, transactional sex, previous drug treatment, use of medication for opioid use disorder, and syringe exchange utilization (aPR=1.24, 95% CI=1.14–1.36).

In multivariable analysis of only 2022 data adjusted for demographic variables, education, insurance status, previous drug treatment, methamphetamine use, and transactional sex (Table 3), PrEP awareness was significantly higher among PWID indicated for PrEP who were Hispanic, compared to those who were white, non-Hispanic (aPR=2.18, 95% CI=1.21–3.90), those with self-reported gay or lesbian sexual identity compared to those with heterosexual identity (aPR=2.15, 95% CI= 1.18–3.94), and those who reported drug treatment compared to those who did not (aPR=1.79, 95% CI=1.20–2.69). PrEP awareness was lower in those self-reporting race as “Other” (aPR=0.01, 95% CI= 0.00–0.01), but there were only seven PWID in this category. PrEP awareness was lower among those reporting methamphetamine use (aPR=0.84, 95% CI=0.57–1.23), but the association was not statistically significant.

DISCUSSION

Among participants in the 2022 PWID NHBS cycle in the Portland, Oregon MSA, PrEP awareness was higher than in 2018, but PrEP access and use remained low and similar between 2018 to 2022. In 2022, fewer respondents had only an injection indication for PrEP. This reflects trends toward both decreased injection equipment sharing and more frequent concurrent injection and sexual risk factors in the 2022 sample. In 2022, Hispanic ethnicity and self-reported drug treatment in the previous 12 months were associated with greater PrEP awareness. This association was not present in our previous analysis of 2018 data, but gay or lesbian sexual identity was associated with PrEP awareness in both years [20].

Our estimates of PrEP access, and use aligned with ranges described in a systematic review of the PrEP care cascade among PWID conducted from 2013 to 2020 [2]. Encouragingly, our estimate of PrEP awareness among PWID was higher than previous estimates, [2] but consistent with several more recent studies showing low overall PrEP utilization [14–16, 22–26]. An analysis of a national claims database of commercially insured PWID found the rate of PrEP prescriptions increased from 0.000 per 100 person years in 2010 to only 0.295 per 100 person years in 2019 [16]. Our PrEP care cascade estimates were similar to recent

estimates from Seattle (51% of syringe exchange clients reported PrEP awareness with only 2% reporting PrEP use) and in San Francisco (55% of PWID were aware of PrEP, 6% had access to PrEP, and 2% reported past-year use of PrEP) [14, 26].

PrEP awareness and willingness to use PrEP are often thought of as primary barriers to PrEP use and adherence among PWID [2, 11, 25]. However, in this study and others, greater PrEP awareness was not related to PrEP use [26]. These data suggest that PrEP awareness does not necessarily motivate PWID to utilize PrEP and indicates that increased awareness campaigns [27] may not be effective interventions to improve PrEP utilization. Our study adds to observations that the relationship between PrEP awareness and use is not clearly understood and the idea that PWID make stepwise progression through the PrEP care cascade cannot be assumed.

Less participants reported previous drug treatment in 2022 (35%) compared to 2018 (58%). The decline in drug treatment utilization may have contributed to low PrEP access and use despite improved awareness. COVID-19 pandemic related disruptions in access to treatment may have contributed to the decline in drug treatment utilization [28]. Another potential explanation is policy change to decriminalize possession of drugs for personal use. This policy, Oregon Measure 110, intended to increase access to drug treatment, but implementation was marked by inconsistent access to drug treatment [29].

Our analysis found several high-risk factors that were notably unrelated with increased PrEP awareness. We did not find a significant association between PrEP awareness and methamphetamine use. Among a recent cluster of HIV infections in Portland, Oregon methamphetamine was the preferred substance in 77% of survey respondents and chem-sex, the use of drugs, especially methamphetamine, to enhance sexual experiences, was reported by 82% [30]. Similarly, transactional sex was not associated with PrEP awareness in 2022. Furthermore, while those with Hispanic/Latino ethnicity had greater awareness, zero participants who used PrEP were Hispanic/Latino. The lack of greater PrEP use in this population is alarming given the persistently high incidence of HIV among Hispanic/Latino people nationwide [1]. These findings underscore gaps in the local HIV prevention strategy.

An important strength of this analysis was our sample inclusion criteria. Restricting the analytic sample to PWID known HIV-negative status and an indication for PrEP improves the interpretability of our findings by selecting PWID who could most benefit from PrEP. Restricting analytic samples to PWID with a PrEP indication is uncommon, even among recent analyses of NHBS data [14, 20, 25], but could become standard. For our analysis, we complied strictly with certain CDC definitions of PrEP indication. For example, we used an inclusive definition of sharing injection equipment that included all components of the injection apparatus consistent with CDC. However, we were unable to fully match CDC indications for PrEP based on HIV status of injection partners. For sexual risk factors, we also chose not to include people who only reported condomless sex with a single main partner to exclude people who may have low risk for HIV acquisition due to limited sexual partnerships. The CDC recommends questioning for recent STI within the last six months but the STI questions in the NHBS survey only asked about results in the last twelve months. Finally, CDC includes extra-vaginal chlamydia in the definition of recent STI among MSM

and transgender women who have sex with men, but we excluded this criterion because information about site of chlamydial infection was not collected and because the proportion of MSM and transgender participants was low.

Limitations of this study relate to its design as an analysis of two separate cross-sectional surveys with important differences between years. We accounted for this by adjusting for confounding factors to estimate the true effect of survey year on PrEP awareness and by reporting the correlates of PrEP awareness for 2022 alone. We did not adjust for the respondent driven sampling in our statistical analysis, but recruitment proceeded in a sufficient number of waves to minimize bias due to the sampling technique [31]. We could only assess three stages of the PrEP care cascade because other stages (such as knowledge, self-perceived HIV risk, willingness, and adherence) were not addressed on the survey in either year. The survey defined PrEP as a medication taken orally and did not address long-acting PrEP. Finally, one component of the definition of a sexual risk factor for HIV in this study, condomless sex with a casual partner, may have underestimated the number of people at risk for HIV via condomless sex with a main partner, but we chose this definition to generate a more conservative sample.

CONCLUSION

Among PWID at risk for HIV in the 2022 NHBS survey, most participants had an indication for PrEP and PrEP awareness was higher than in the past, but PrEP use remained negligible. Ending the HIV epidemic will require greater uptake of PrEP among PWID, but interventions focused on raising PrEP awareness may be insufficient. Instead, future interventions could focus on other steps of the PrEP care cascade, like interventions to improve self-assessed HIV risk and lowering barriers to access. Future interventions could capitalize on intervention points, such as substance use disorder treatment, to maximize impact in priority populations.

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DATA AVAILABILITY

Data are available upon request.

CODE AVAILABILITY

Code is available upon request.

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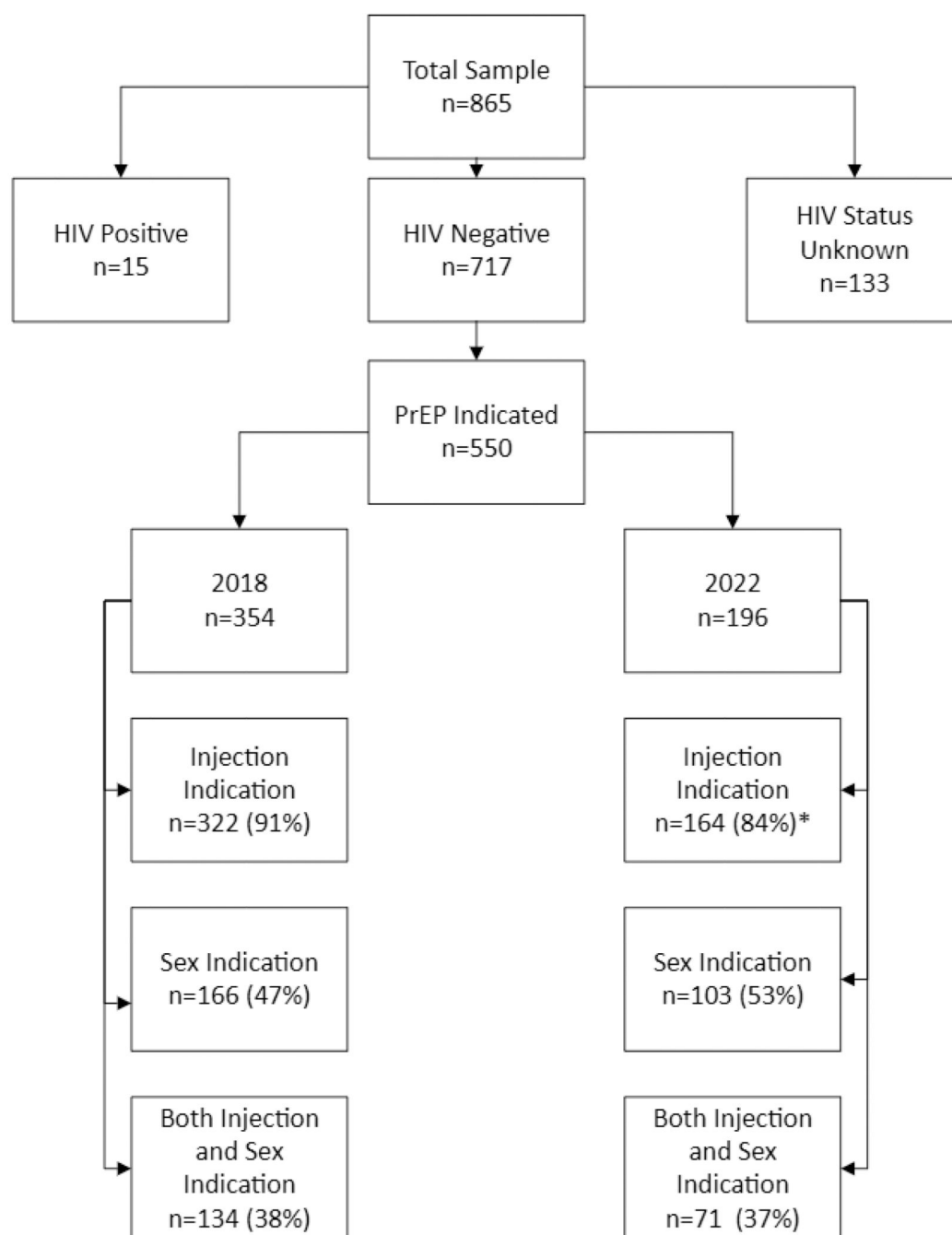


Figure 1. Participant flow and indications for PrEP among PWUD in the Portland, Oregon MSA in 2018 and 2022

* p=0.011 (Two-Sided Test)

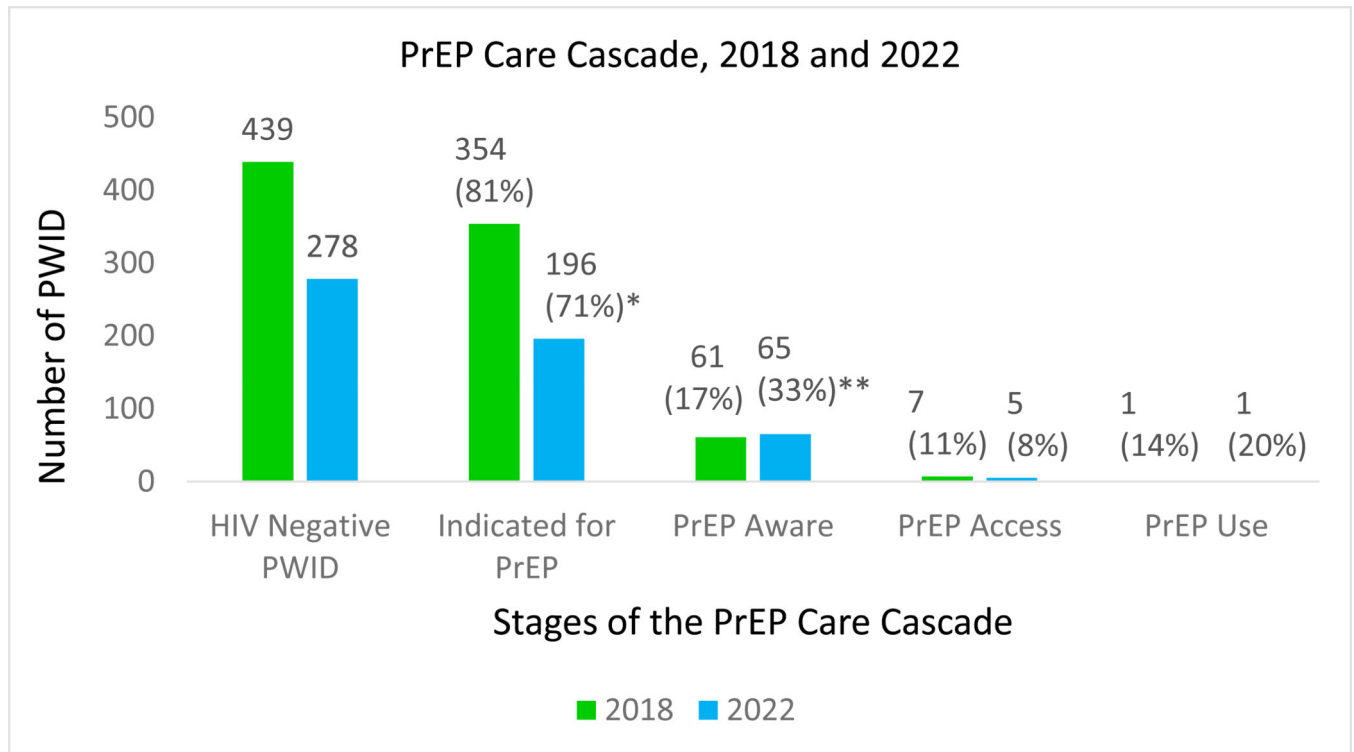


Figure 2. PrEP Care Cascade among people not living with HIV at risk for HIV in the Portland, Oregon MSA, 2018 and 2022.

* $p=0.002$

** $p < .001$ (Two-Sided Test) Percentages refer to the proportion of PWID at a certain stage (i.e.: PrEP Aware), compared to the preceding stage (i.e.: Indicated for PrEP).

Table 1.

Characteristics of people not living with HIV indicated for PrEP in the Portland, Oregon MSA in 2018 and 2022.

Characteristic	2018 n=354		2022 n=196		χ^2	P value
	n	%	n	%		
Mean age (years)	37.2		42.3		-5.34 ^a	<0.001
Gender						
Male	224	63.3	122	62.2		
Female	127	35.9	72	36.7	0.09	0.96
Transgender	3	0.8	2	1.0		
Sexual Identity						
Heterosexual	281	79.6	164	83.7		
Gay or Lesbian	9	2.5	5	2.6	1.53	0.465
Bisexual	63	17.8	27	13.8		
Race/Ethnicity						
White	255	72.0	145	74.7		
Black	12	3.4	14	7.2	8.93	0.063
Hispanic	28	7.9	11	5.7		
Multiple	51	14.4	17	8.8		
Other	8	2.3	7	3.6		
Education <High School	58	16.4	27	13.8	0.66	0.418
Currently Homeless	218	76.8	116	79.5	0.40	0.526
Currently Insured	296	84.5	180	92.8	7.32	0.007
Usual Source of Care	294	83.1	159	81.1	0.32	0.570
Methamphetamine Use in last 12 months	317	89.5	188	95.9	6.82	0.009
Syringe Exchange Use in last 12 months	300	86.7	159	81.1	1.89	0.169
Drug Treatment Utilization in last 12 months	204	57.6	70	35.7	24.23	<0.001
MOUD Use in last 12 months	209	63.0	87	49.7	8.26	0.004
Reported Gonorrhea or Syphilis in last 12 months	20	5.6	14	7.1	0.49	0.486
Transactional Sex in last 12 months	39	11.0	48	24.5	17.2	<0.001

Comparisons made by χ^2 unless indicated by

^a which indicates students t-test. MOUD: Medications for Opioid Use Disorder

Table 2.

Adjusted prevalence ratio of PrEP awareness associated with year, among people who inject drugs indicated for PrEP (N = 550)*

Year	aPR	95% CI
2018	REF	-
2022	1.24	1.14–1.36

* Adjusted for age, gender, sexual orientation, race/ethnicity, education, insurance status, usual source of care, methamphetamine use, transactional sex, previous drug treatment, and previous use of medication for opioid use disorder.

Table 3.

Adjusted prevalence ratio of PrEP awareness associated with characteristics of people who inject drugs indicated for PrEP in 2022 (N = 196)

Characteristic	aPR	95% CI
Age		
<30	REF	
30–39	0.92	0.39–2.16
40–49	1.03	0.44–2.40
50+	0.51	0.18–1.42
Gender		
Male	REF	-
Female	1.14	0.75–1.72
Transgender	1.14	0.38–3.42
Sexual Identity		
Heterosexual	REF	
Gay or Lesbian	2.15	1.18–3.94
Bisexual	1.42	0.75–2.67
Race/Ethnicity		
White	REF	
Black	1.36	0.59–3.15
Hispanic	2.18	1.21–3.90
Multiple	1.28	0.69–2.36
Other	0.01	0.01–0.01
Currently Insured	1.69	0.49–5.89
Methamphetamine Use in last 12 months	0.84	0.57–1.23
Self-reported Drug Treatment in last 12 months	1.79	1.20–2.69
Self-reported Transactional Sex in last 12 months	0.78	0.46–1.31

Adjusted for age, gender, sexual orientation, race/ethnicity, education, insurance status, previous drug treatment, methamphetamine use, and transactional sex.