

HIV Risk and Prevalence among New York City Injection Drug Users

2009 National HIV Behavioral Surveillance Study



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NHBS-IDU2 Overview

- Background and Methods
- Results
 - Sociodemographics
 - Injection & Non-Injection Drug and Alcohol Use
 - Sexual Risk Factors
 - Use of HIV Testing, Healthcare, and HIV Prevention Services
 - HIV & HCV Prevalence
- Summary and Conclusions

Background & Methods

Background

- NYC has the largest population of IDU (40,000-120,000) in U.S.
- 9% of new HIV diagnoses in 2008 in NYC were attributable to injection drug use (direct injection risk)
 - Additionally, 8% of heterosexual diagnoses in 2001-2008 were attributable to sex with an IDU partner (indirect injection risk)
- Estimated HIV incidence among IDU decreased from 3.6/100 PYAR in 1991 to 0.3/100 PYAR in 2008
 - Largely based on the success of sterile syringe access programs
- Yet many IDU continue to exhibit injection-related and sexual risks
- IDU face barriers to timely HIV testing, entry to HIV medical care entry, and treatment adherence

National HIV Behavioral Surveillance (NHBS)

- 21 cities throughout the United States
- Funded by CDC, designed collaboratively
- Ongoing, cyclical study of three risk groups: MSM, IDU, and high-risk heterosexuals
- Second IDU cycle (NHBS-IDU2) data collection in 2009
 - First IDU cycle (NHBS-IDU1) data collection in 2005
- Cross-sectional study design
- Anonymous quantitative survey, HIV & HCV tests

NHBS Study Objectives

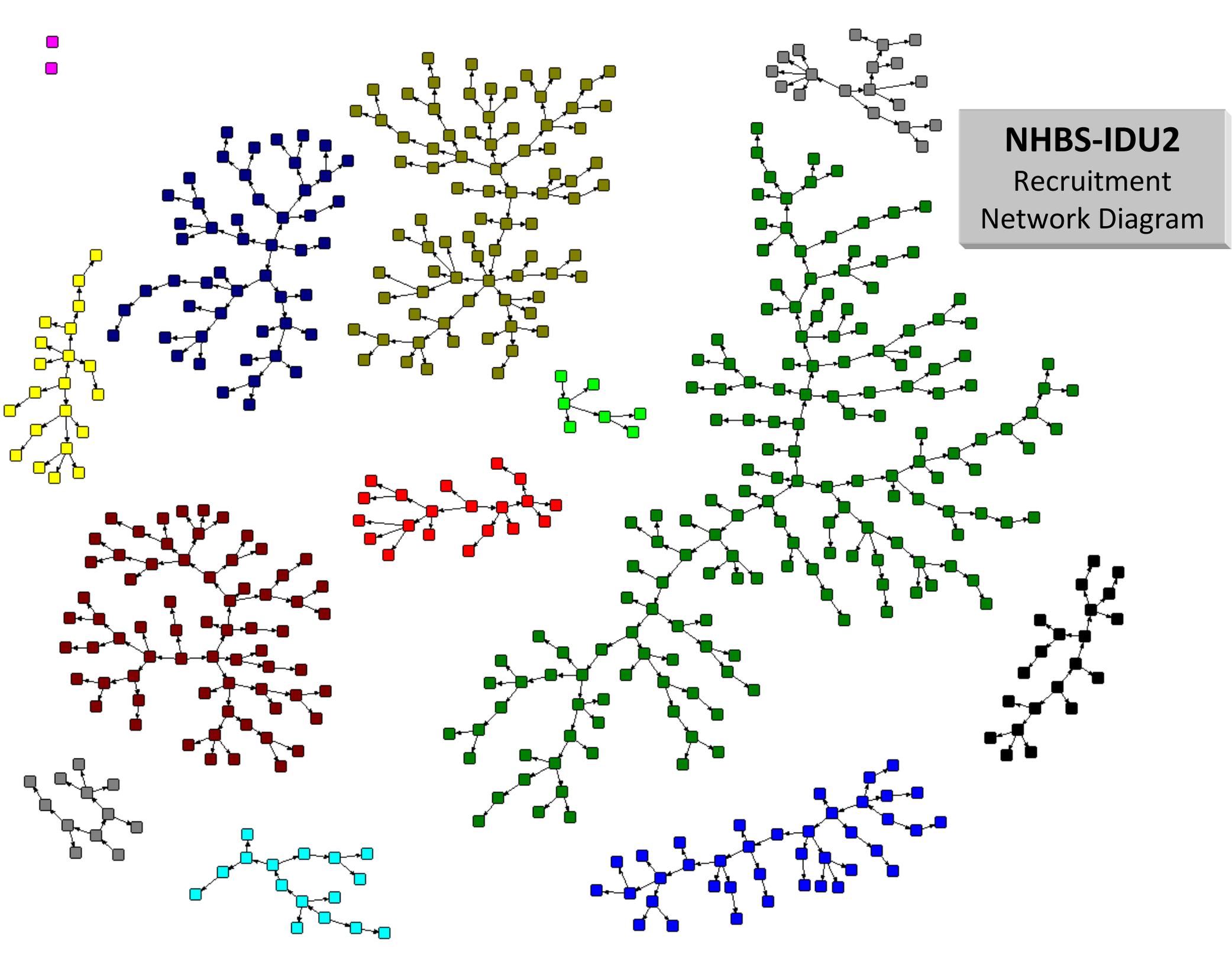
- Determine frequency and correlates of HIV risk behaviors
- Assess HIV testing history and patterns
- Assess exposure to and use of HIV prevention services
- Estimate the prevalence of HIV infection
- Understand trends in HIV risk and prevalence

NHBS-IDU2 Eligibility Criteria

- Injected drugs not prescribed for participant in past year
 - Verified through visible signs of injection (e.g., track marks) and/or knowledge of injection practices
- At least 18 years old
- Resident of NYC metropolitan statistical area
- Speaks English or Spanish

Respondent-Driven Sampling (RDS)

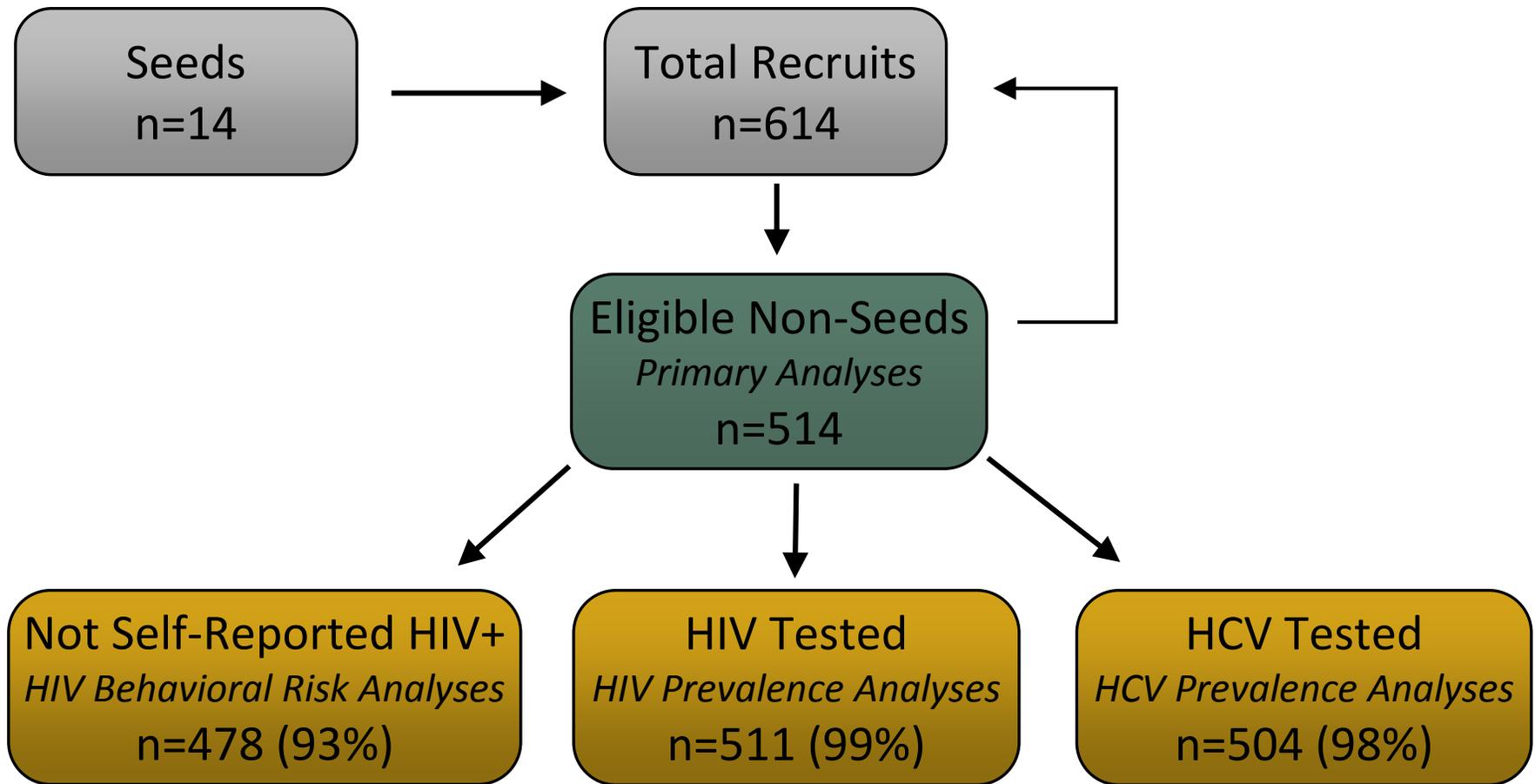
1. Study team recruit initial participants (“seeds”) through street and facility-based outreach
2. Seeds recruit up to 3 other participants they believe are eligible for the study
3. Those 3 participants each recruit up to 3 more and so on until the target sample size is met
 - Study team continually monitors recruitment chains to ensure demographic representativeness
 - Study incentives provided for the survey, blood tests, and peer recruitment
 - *See www.respondentdrivensampling.org for more information*



NHBS-IDU2 Statistical Analysis

- Weighted analysis conducted with RDS Analysis Tool (RDSAT) 5.6 and SAS 9.1
- RDS weighting may reduce recruitment biases common in chain-referral methods (homophily and large networks)
- If methodological assumptions are met, RDSAT may estimate generalizable population proportions (%'s) but not population sizes (n's).
- Self-reported HIV-positive IDU (n=36) excluded from HIV behavioral risk analyses; IDU untested for HIV (n=3) or HCV (n=10) excluded from seroprevalence analyses

NHBS-IDU2 Sample



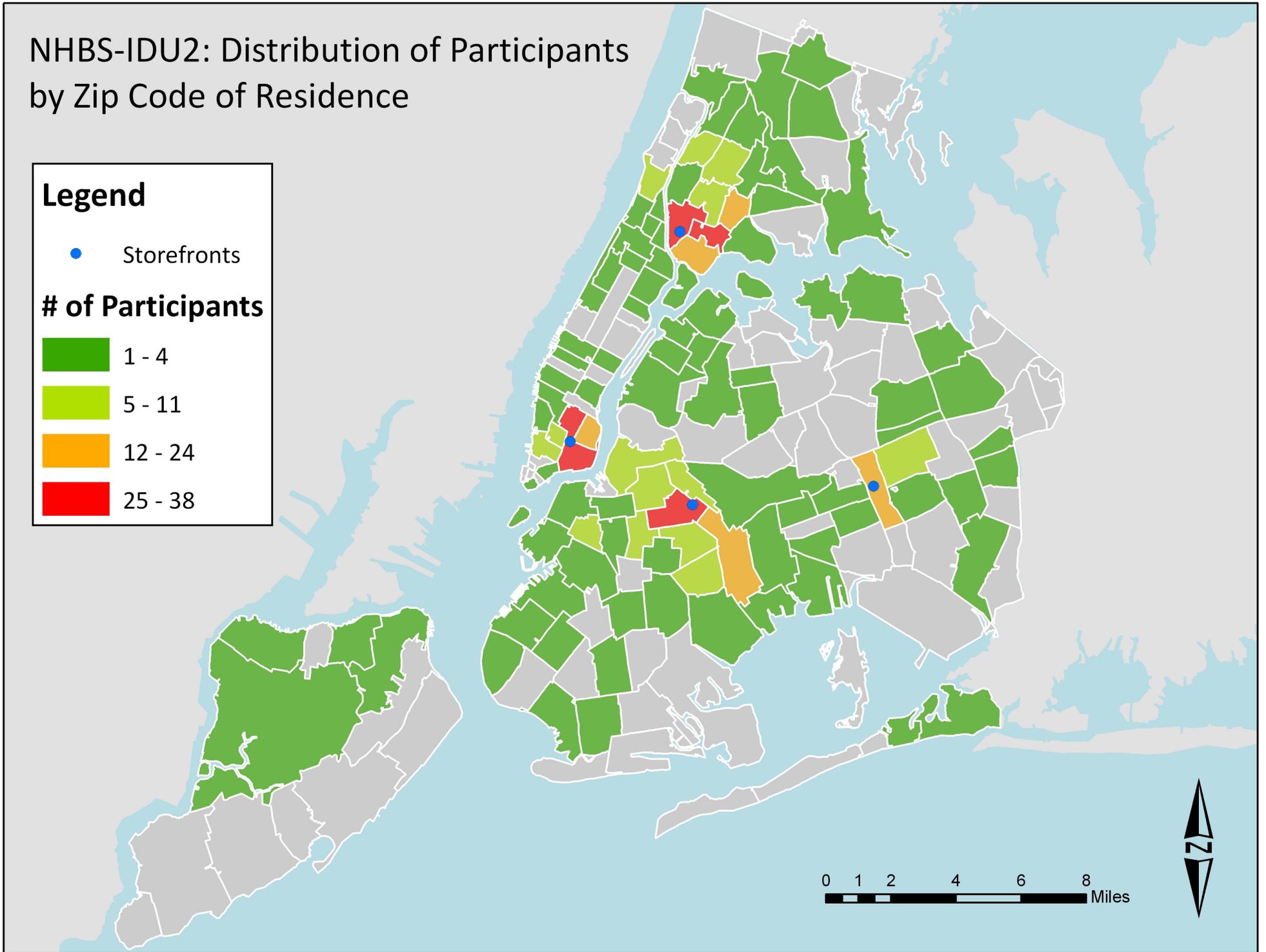
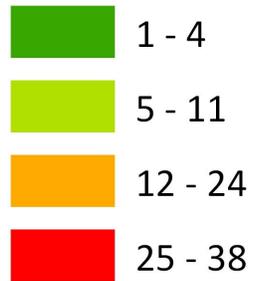
Sociodemographics

NHBS-IDU2: Distribution of Participants by Zip Code of Residence

Legend

● Storefronts

of Participants



Demographics

NYC NHBS-IDU2, 2009, n=514

Race/Ethnicity

Black	13%
Hispanic	50%
White	36%
Other	<1%

Age

18-29	11%
30-39	28%
40-49	43%
50+	18%

Gender

Male	78%
Female	22%
Transgender	<1%

Birthplace

United States	75%
Puerto Rico	21%
Foreign	4%

Demographics

NYC NHBS-IDU2, 2009, n=514

Income

<10k	64%
10k+	36%

Education

<High School	44%
H.S. Grad+	56%

Marital Status

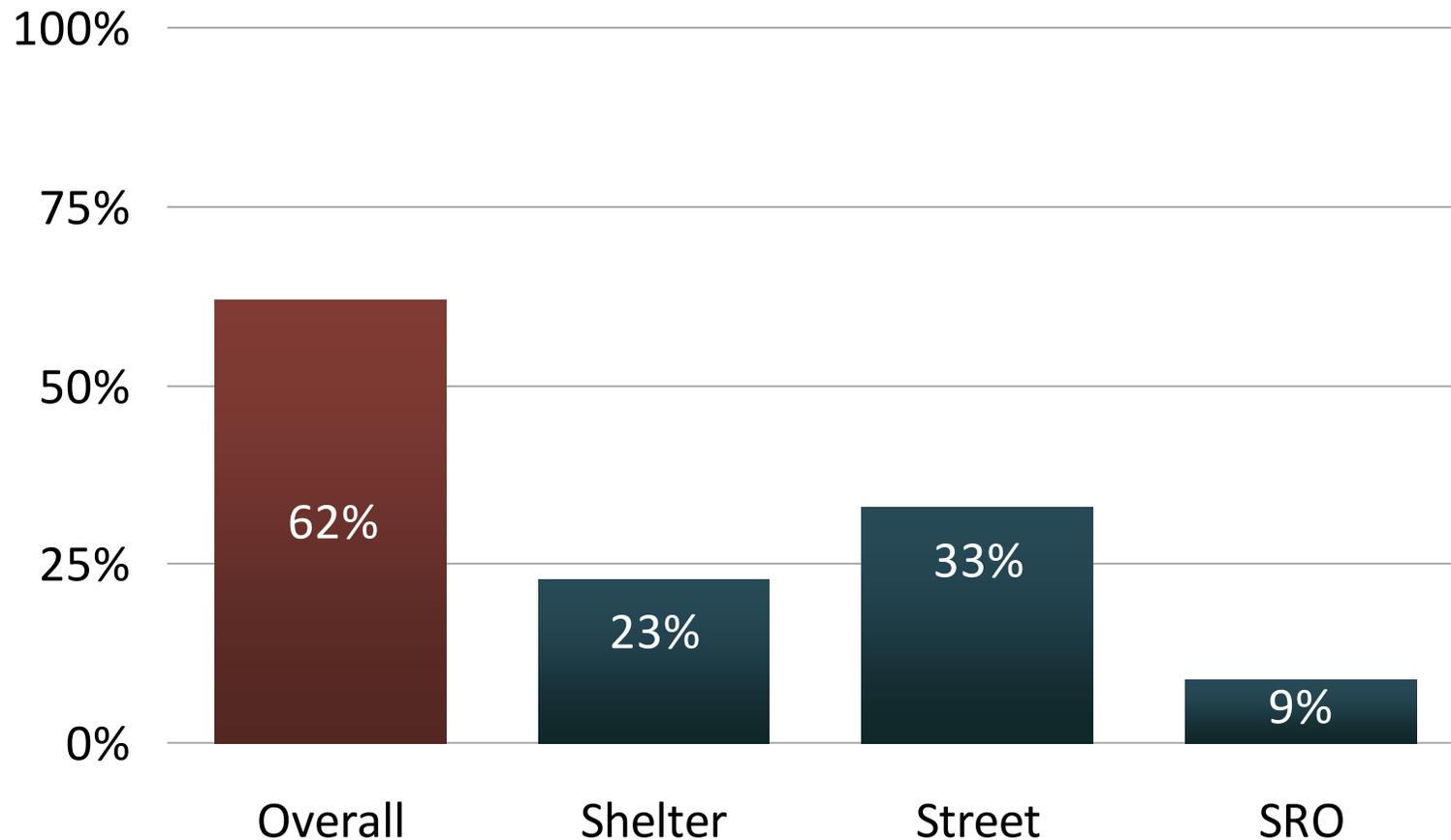
Never Married	57%
Currently Married	9%
Previously Married	34%

Sexual Identity

Heterosexual	92%
Homosexual/Bisexual	8%

Homelessness in Past Year

NYC NHBS-IDU2, 2009, n=514



62% of IDU were ever homeless in the past year, with 23% in a shelter, 33% on the street, and 9% in a single-room occupancy apartment

Criminal Justice Encounters in Past Year, by Race

NYC NHBS-IDU2, 2009, n=514

	Total	Black	Non-Black
Stopped/Frisked or Searched by Police*	52%	71%	49%
Police Confiscated Syringes, No Arrest	10%	12%	10%
Arrested	42%	44%	41%
Arrested for Carrying Syringes	4%	1%	5%
Incarcerated in Jail/Prison	33%	33%	37%

*p<0.01

Injection Drug Use

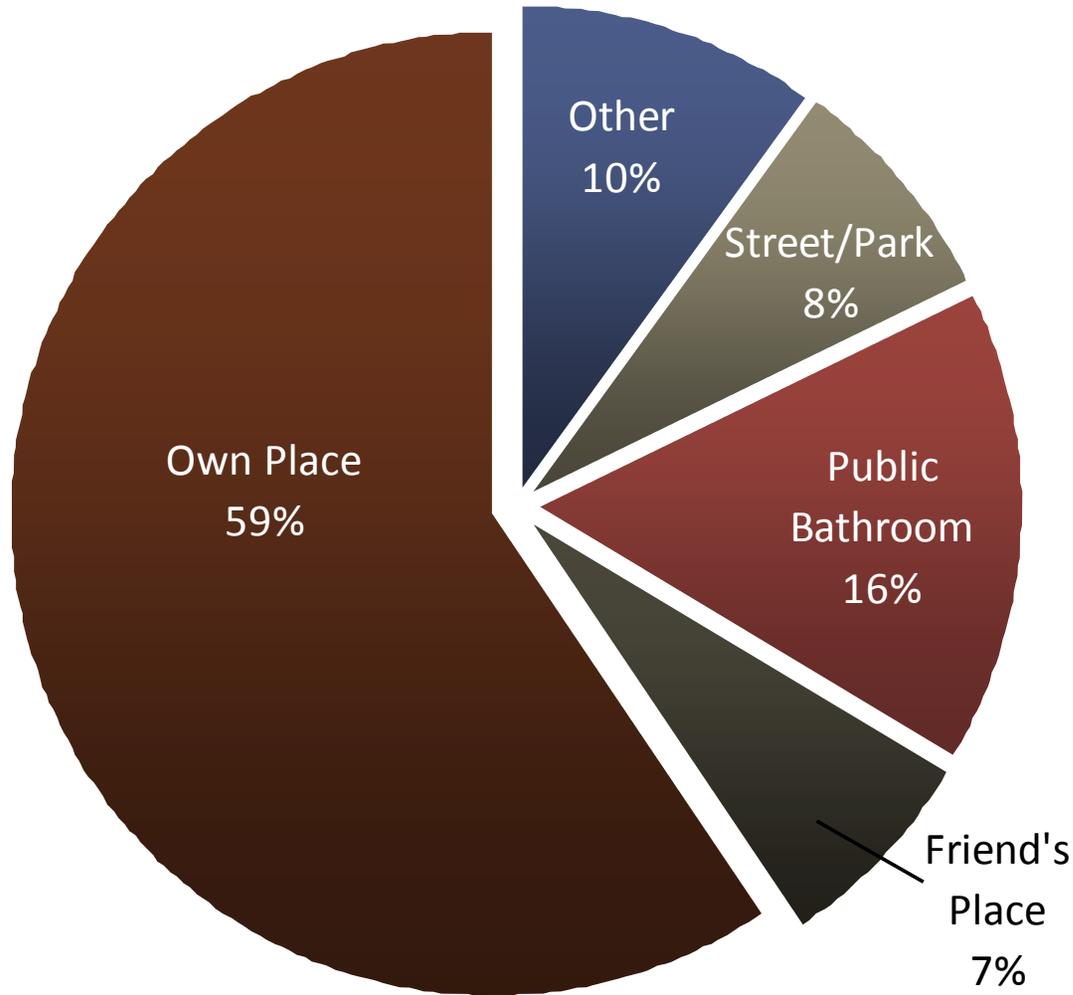
Lifetime Injection History, by Race/Ethnicity

NYC NHBS-IDU2, 2009, n=514

	Overall	Black	Hispanic	White
	Median	Median	Median	Median
Current Age	41	48	40	39
Age at First Injection	19	21	19	18
Years Since First Injection	17	25	18	15

Most Common Injection Location

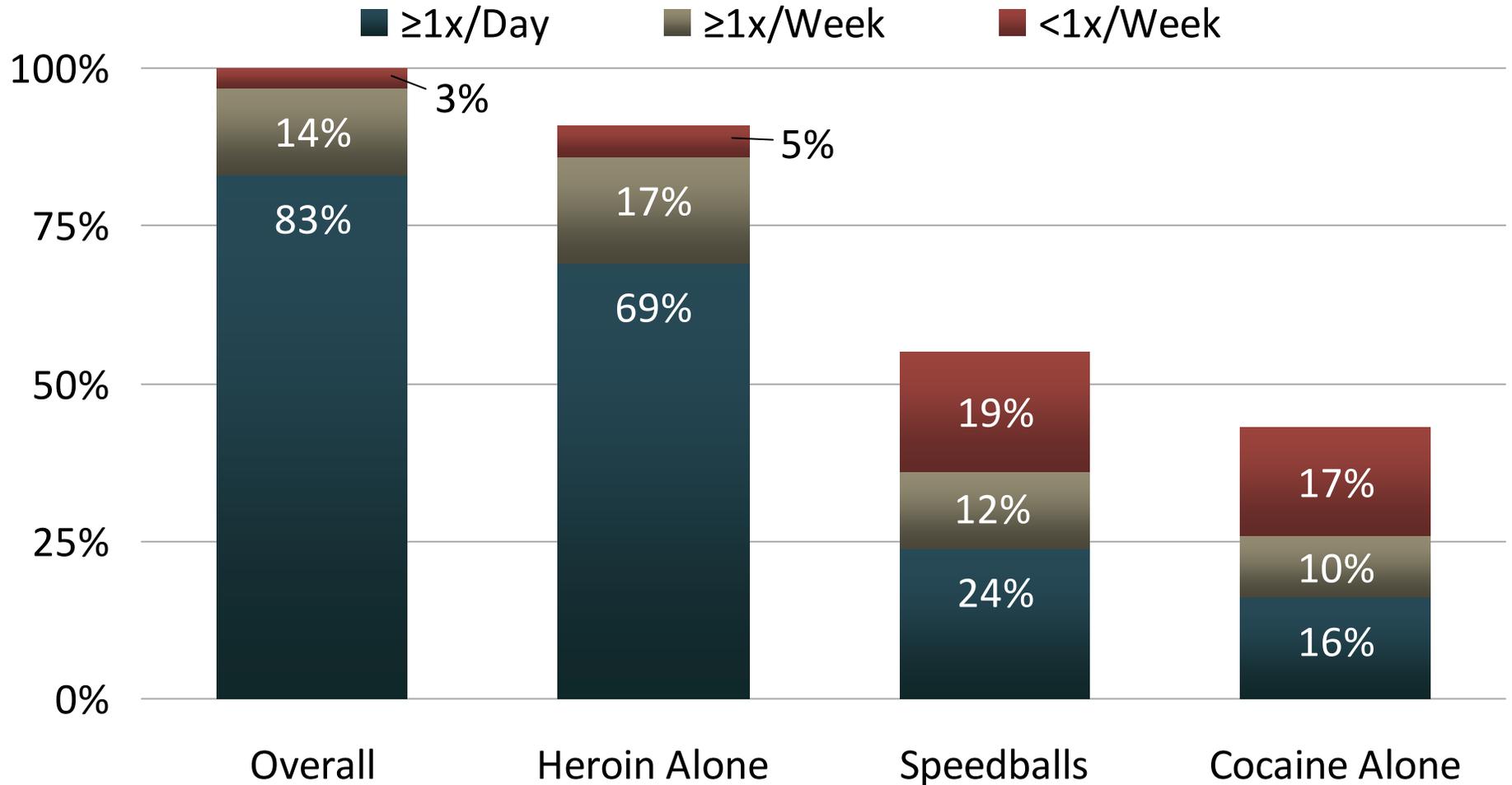
NYC NHBS-IDU2, 2009, n=514



30% most commonly injected in a public or semipublic location

Drugs Injected in Past Year

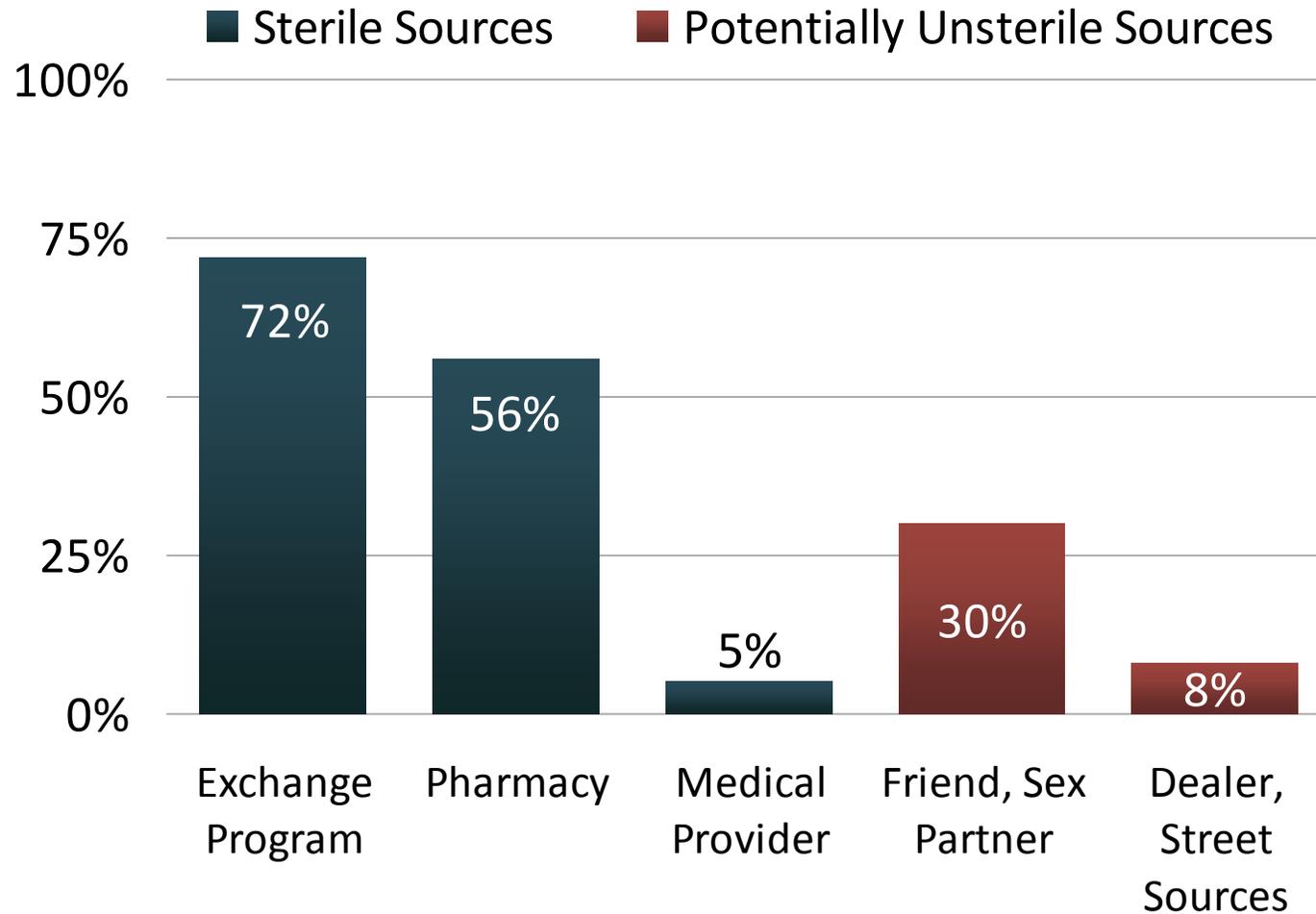
NYC NHBS-IDU2, 2009, n=514



Injection of other drugs was uncommon

Syringe Sources in Past Year

NYC NHBS-IDU2, 2009, n=514

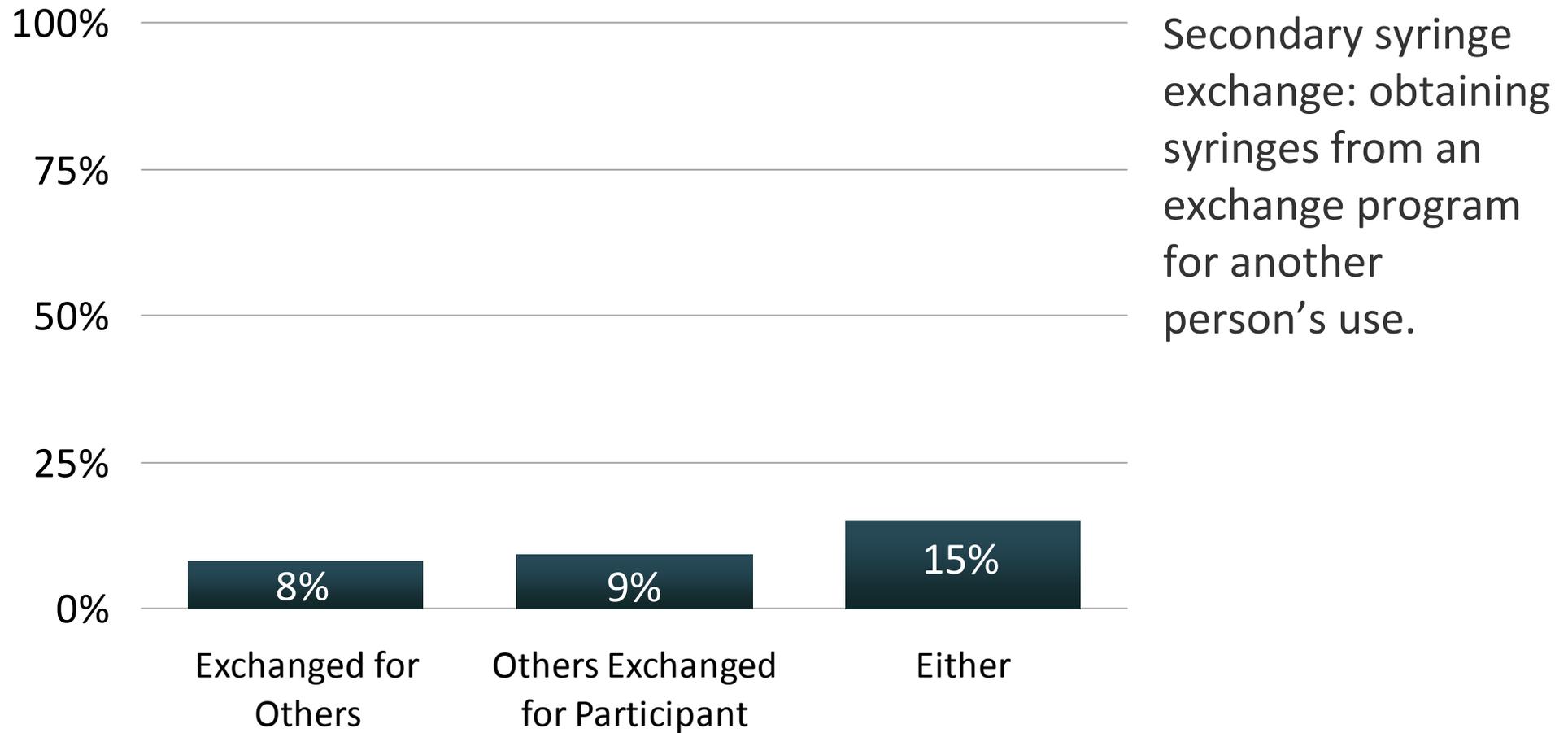


68% of IDU obtained syringes *only* from sterile sources.

6% obtained syringes *only* from potentially unsterile sources.

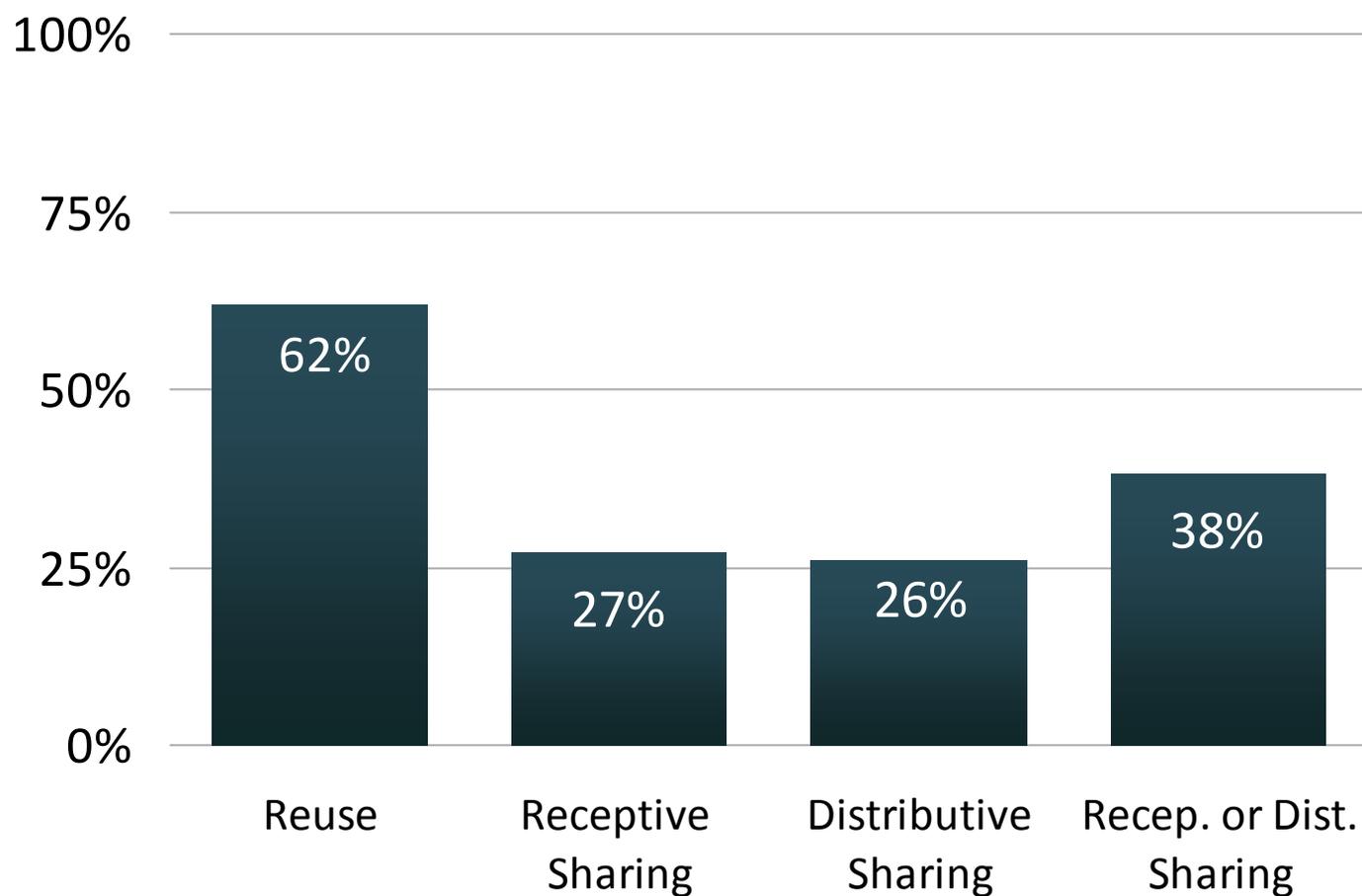
Secondary Syringe Exchange in Past Month

NYC NHBS-IDU2, 2009, n=514



Syringe Reuse and Sharing in Past Year

NYC NHBS-IDU2, 2009, n=478 (HIV-/Unk. IDU)

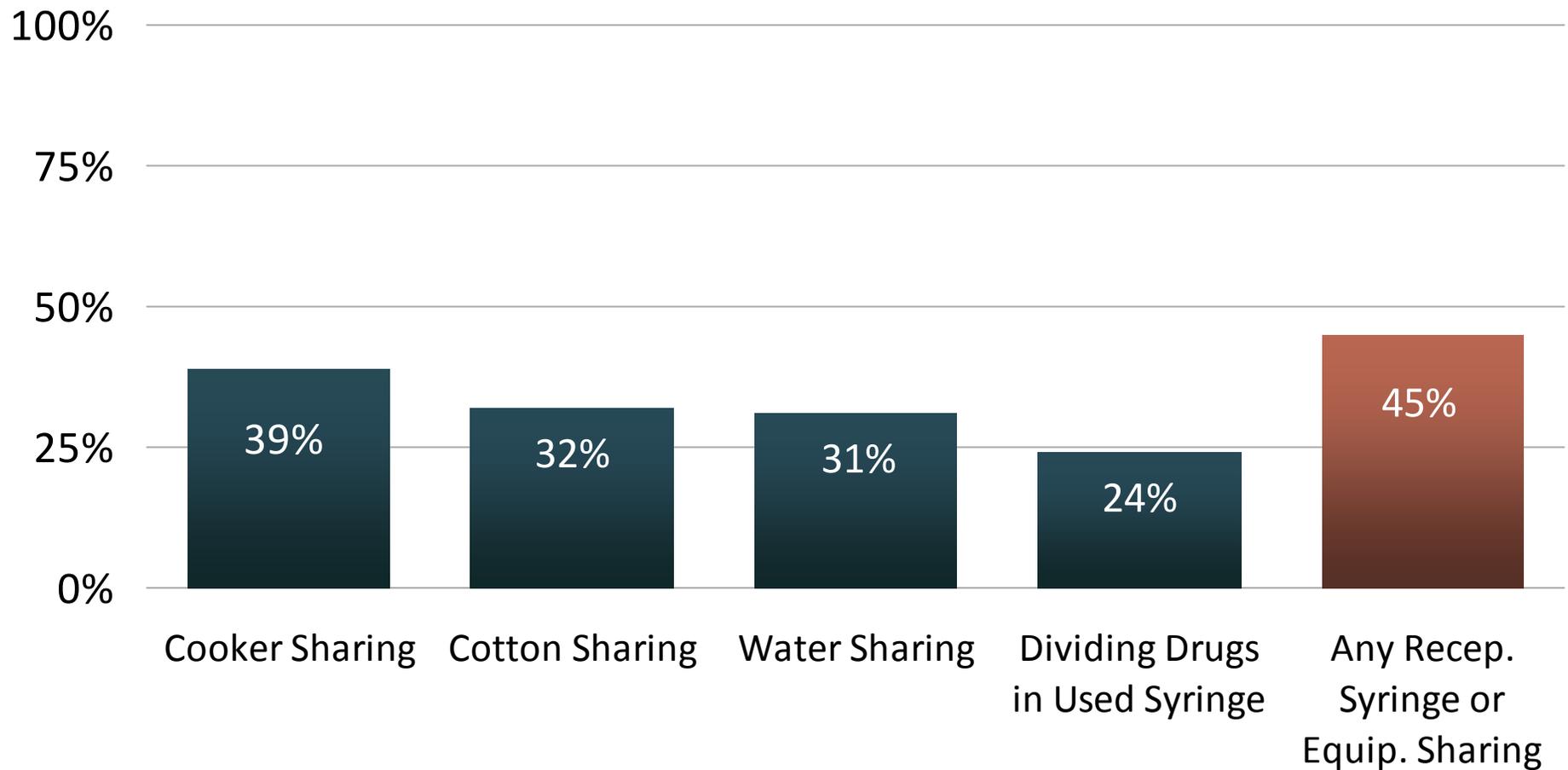


IDU who shared receptively had a mean 3.3 and a median 2 partners who gave them used syringes.

IDU who shared distributively had a mean 4.6 and a median 2 partners to whom participants gave their used syringes.

Other Equipment Sharing in Past Year

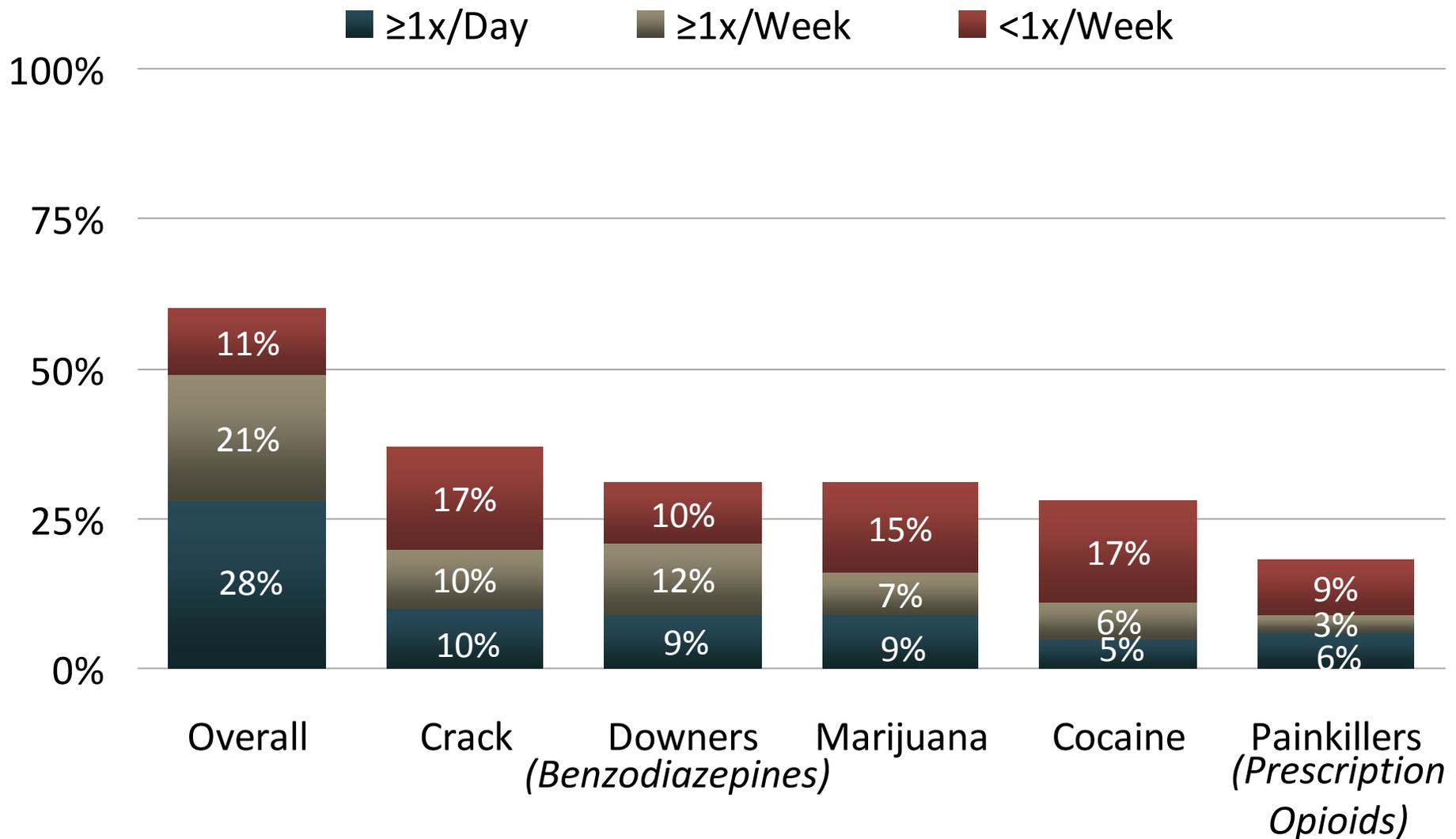
NYC NHBS-IDU2, 2009, n=478 (HIV-/Unk. IDU)



Noninjection Drug & Alcohol Use

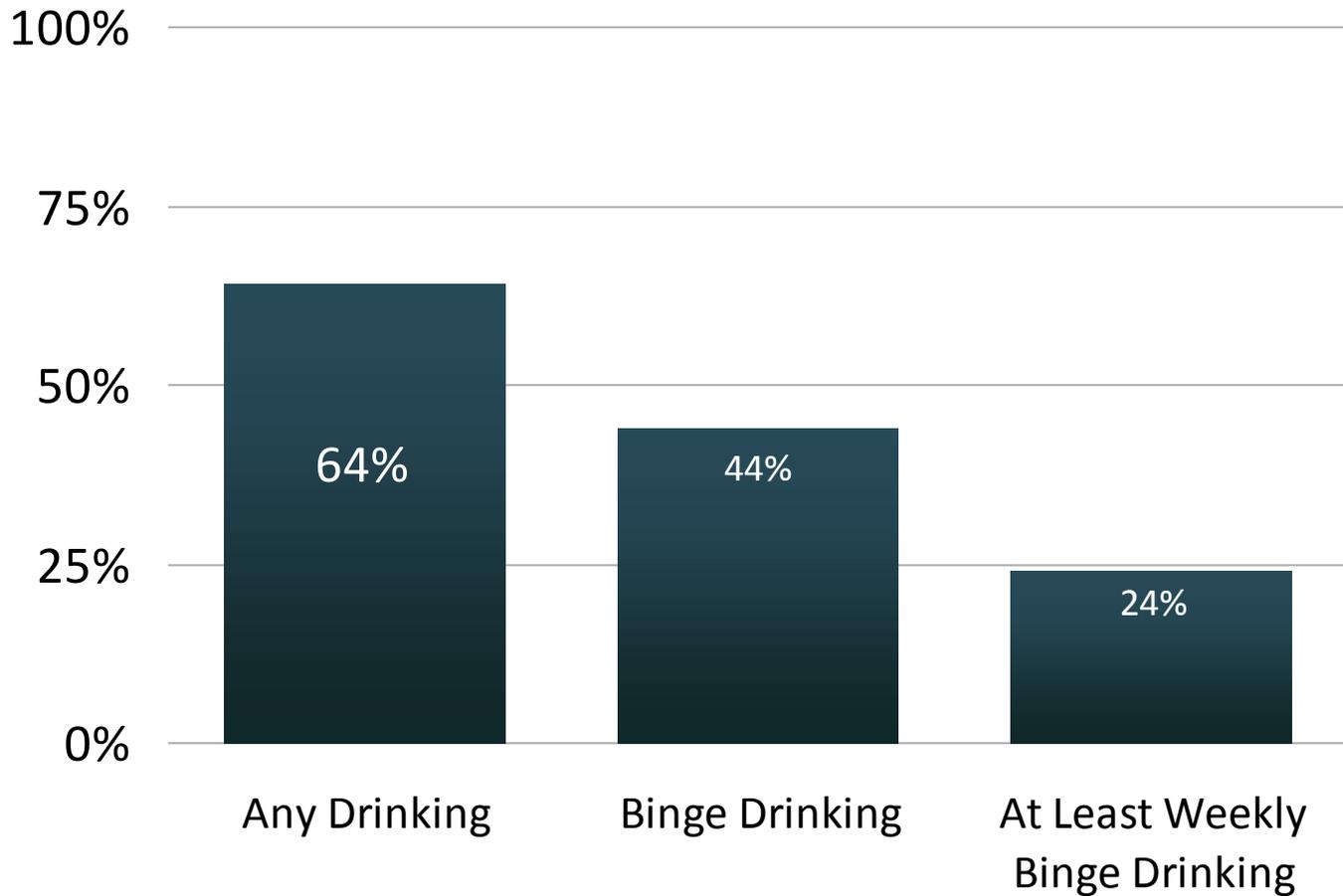
Noninjection Drugs Used in Past Year

NYC NHBS-IDU2, 2009, n=514



Alcohol Use in Past Year

NYC NHBS-IDU2, 2009, n=514

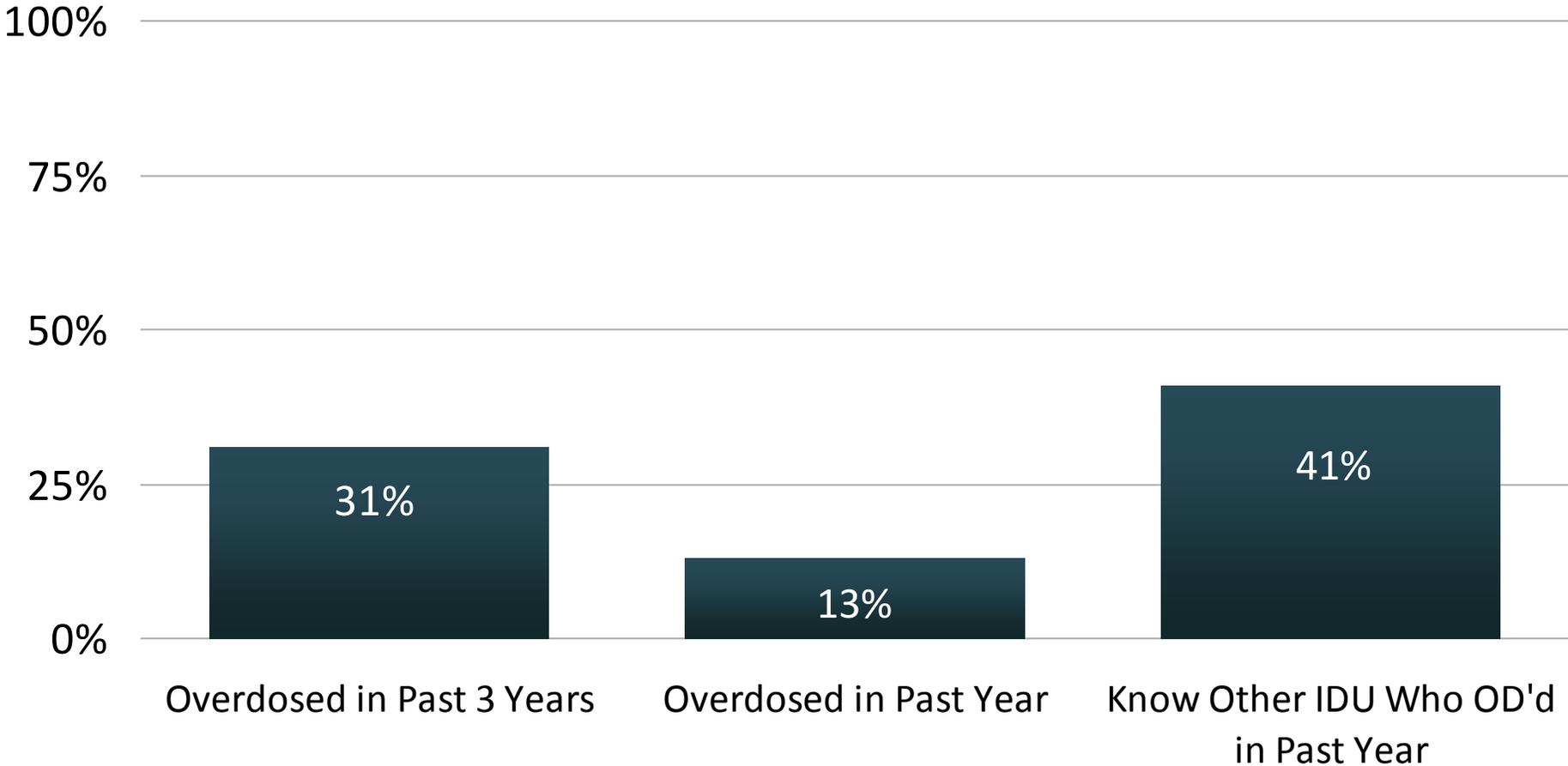


Binge drinking is consuming at least 5 drinks for men or 4 drinks for women in “one sitting”

Overdose

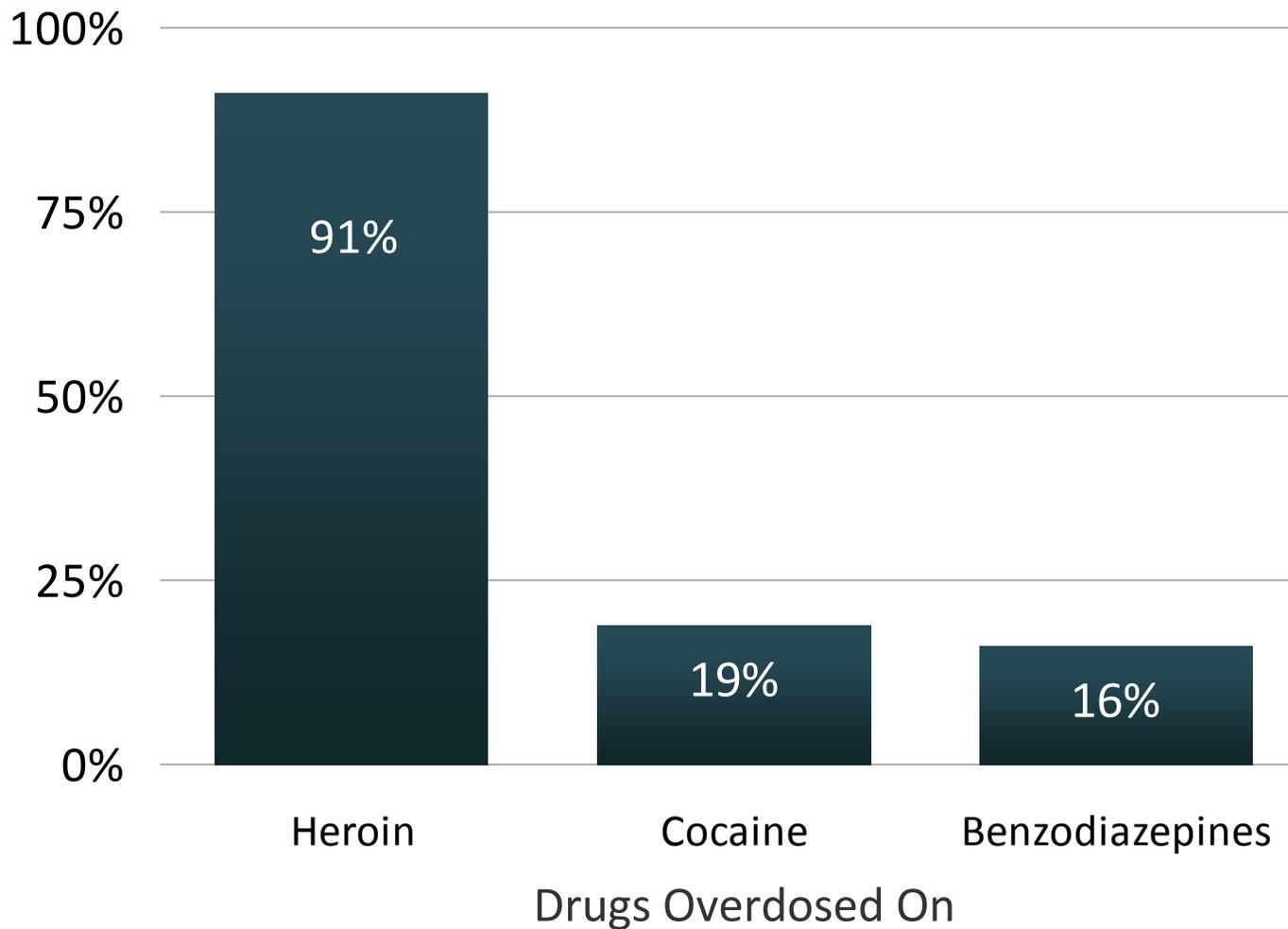
Recent Drug Overdose

NYC NHBS-IDU2, 2009, n=514



Characteristics of Last Overdose

NYC NHBS-IDU2, 2009, n=168 (Overdosed in Past 3 Years)

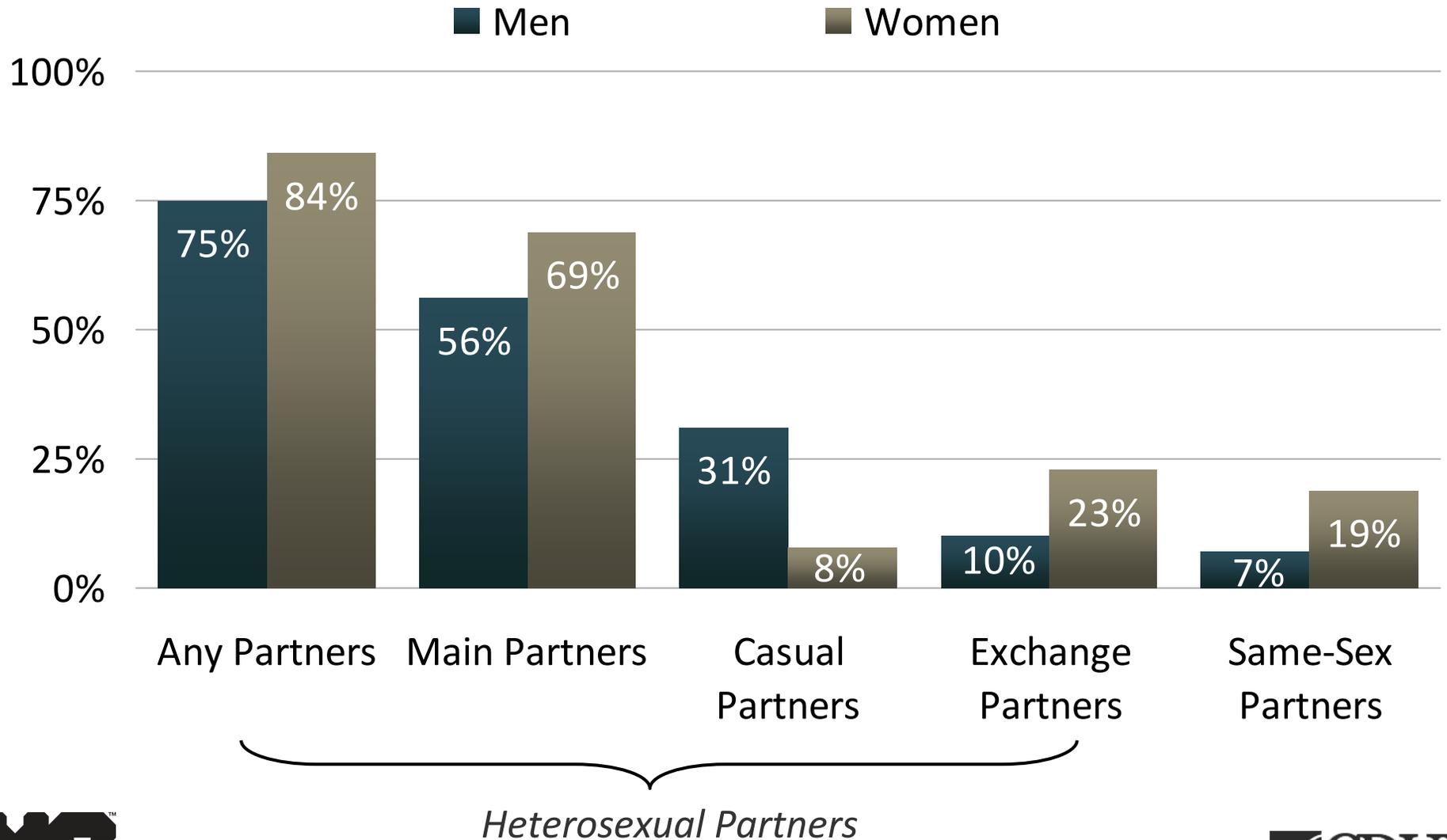


81% of IDU overdosed by injecting drugs only, 5% by using alcohol or noninjection drugs only, 14% by a combination of injecting and using alcohol and noninjection drugs.

Sexual Activity

Past Year Sexual Partnerships

NYC NHBS-IDU2, 2009, n=478 (HIV-/Unk. IDU)



Past Year Heterosexual Partnerships, by Gender

NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)

	Total		Men		Women	
	Mean	Median	Mean	Median	Mean	Median
Main	0.9	1	0.9	1	1.0	1
Casual	1.4	0	1.6	0	0.8	0
Exchange	3.4	0	0.5	0	13.6	0
All Types	5.8	2	3.1	2	15.4	1

Past Year Heterosexual Risks, by Gender

NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)

	Total	Men	Women	
	%	%	%	p
Unprotected Vaginal Sex (UVS)	86.5	86.0	88.0	0.63
Unprotected Anal Sex (UAS)	37.3	39.0	31.9	0.24
UVS or UAS	87.5	86.6	90.3	0.36
UVS or UAS w/ Casual or Exchange Partner	30.5	34.3	18.3	<0.01
≥ 3 Total Partners	28.0	26.9	31.6	0.40

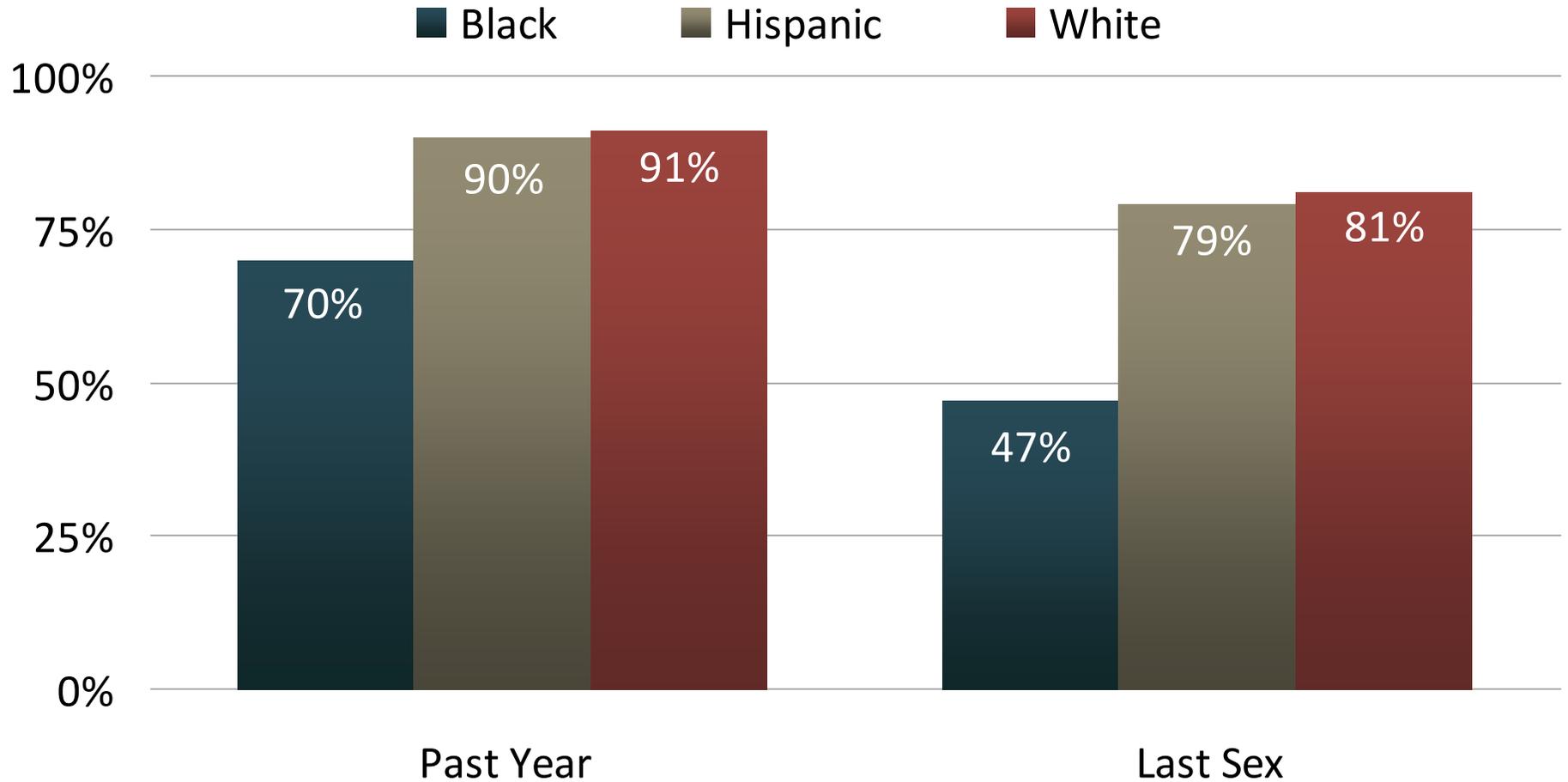
Past Year Heterosexual Risks, by Age

NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)

	Total	18-29	30-39	40+	
	%	%	%		p
Unprotected Vaginal Sex (UVS)	86.5	89.7	87.5	85.1	0.65
Unprotected Anal Sex (UAS)	37.3	44.4	50.1	28.1	<0.01
UVS or UAS	87.5	89.7	90.7	85.1	0.31
UVS or UAS w/ Casual or Exchange Partner	30.5	42.2	37.4	23.7	<0.01
≥ 3 Total Partners	28.0	45.6	33.8	20.3	<0.01

Unprotected Sex in Past Year and Last Sex, by Race

NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)

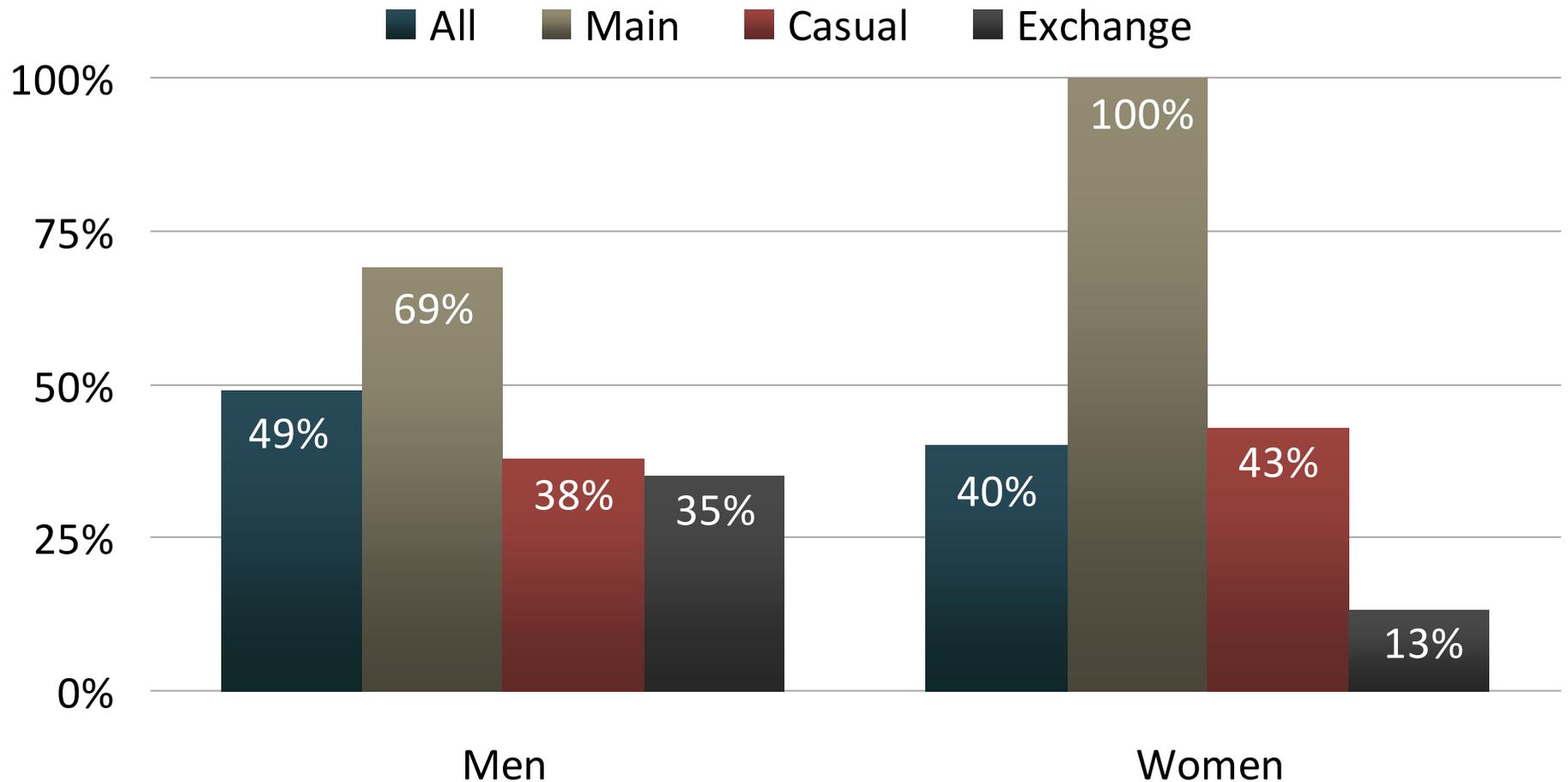


Both differences $p < 0.01$

Other race removed because of small sample size

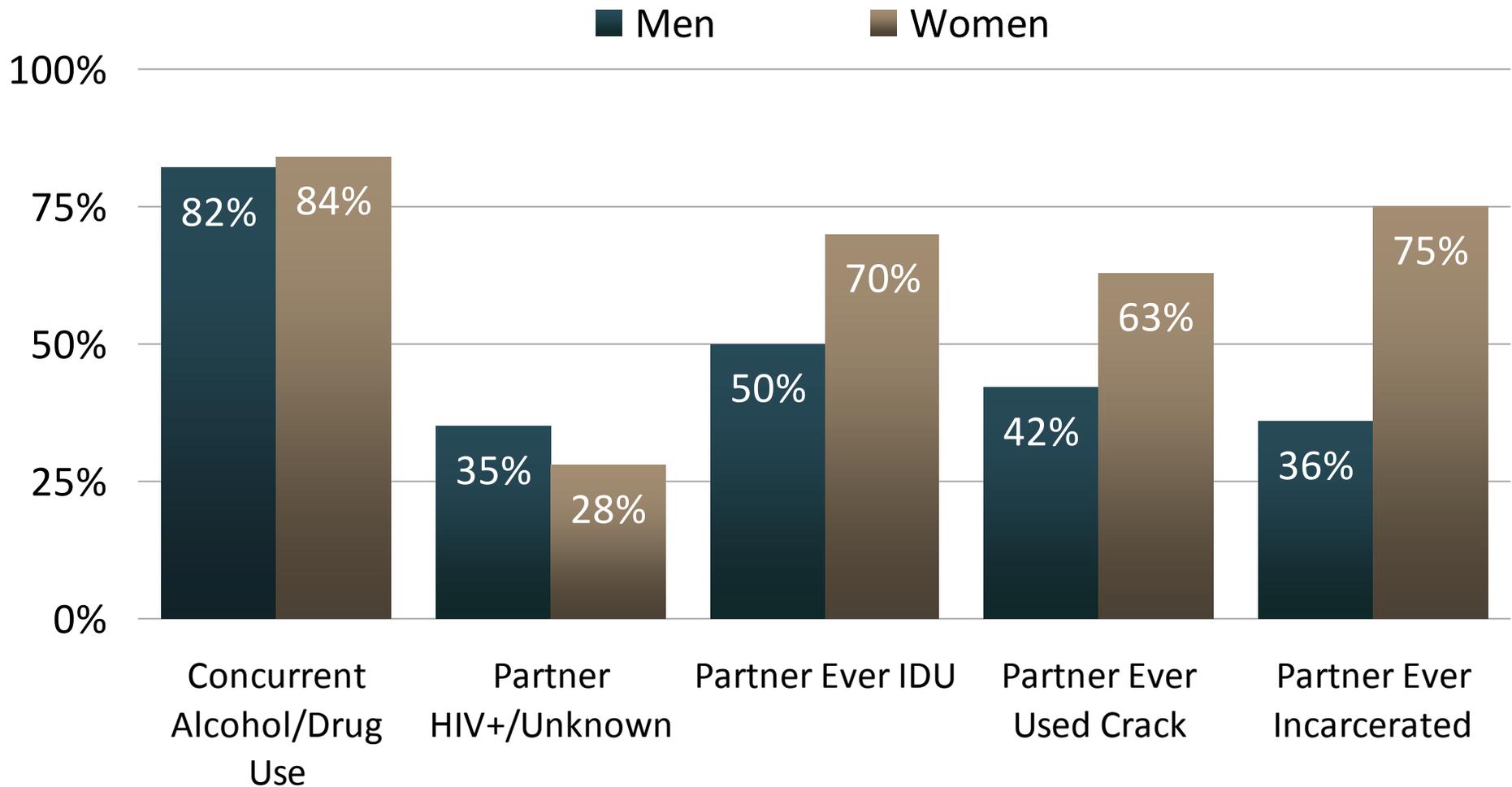
Discussed HIV with All New Partners, by Partner Type

NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)



Risk Characteristics of Last Heterosexual Act, by Gender

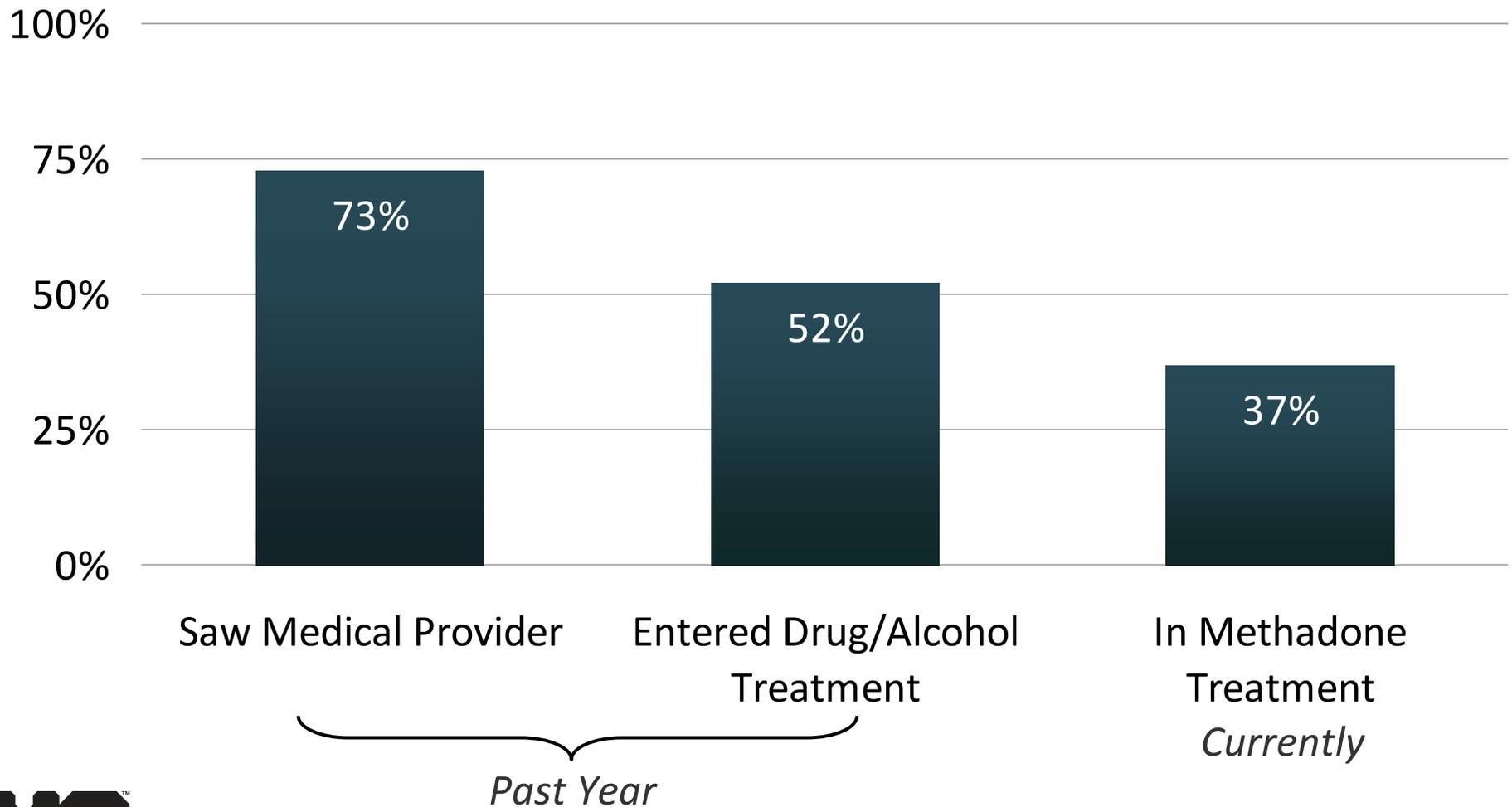
NYC NHBS-IDU2, 2009, n=395 (HIV-/Unk. IDU with Heterosexual Partners)



HIV Testing and Other Healthcare

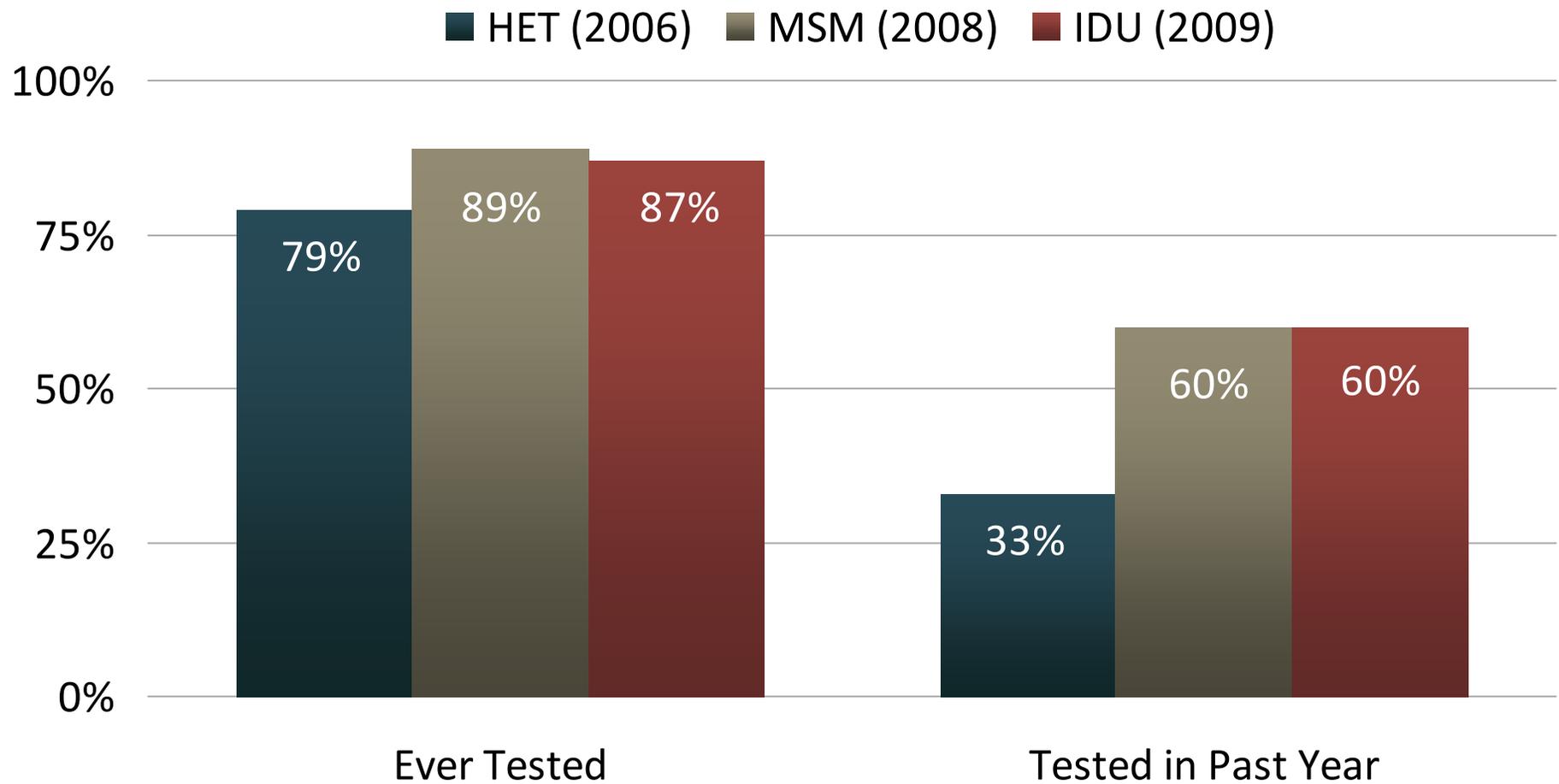
Healthcare and Drug Treatment Encounters

NYC NHBS-IDU2, 2009, n=514



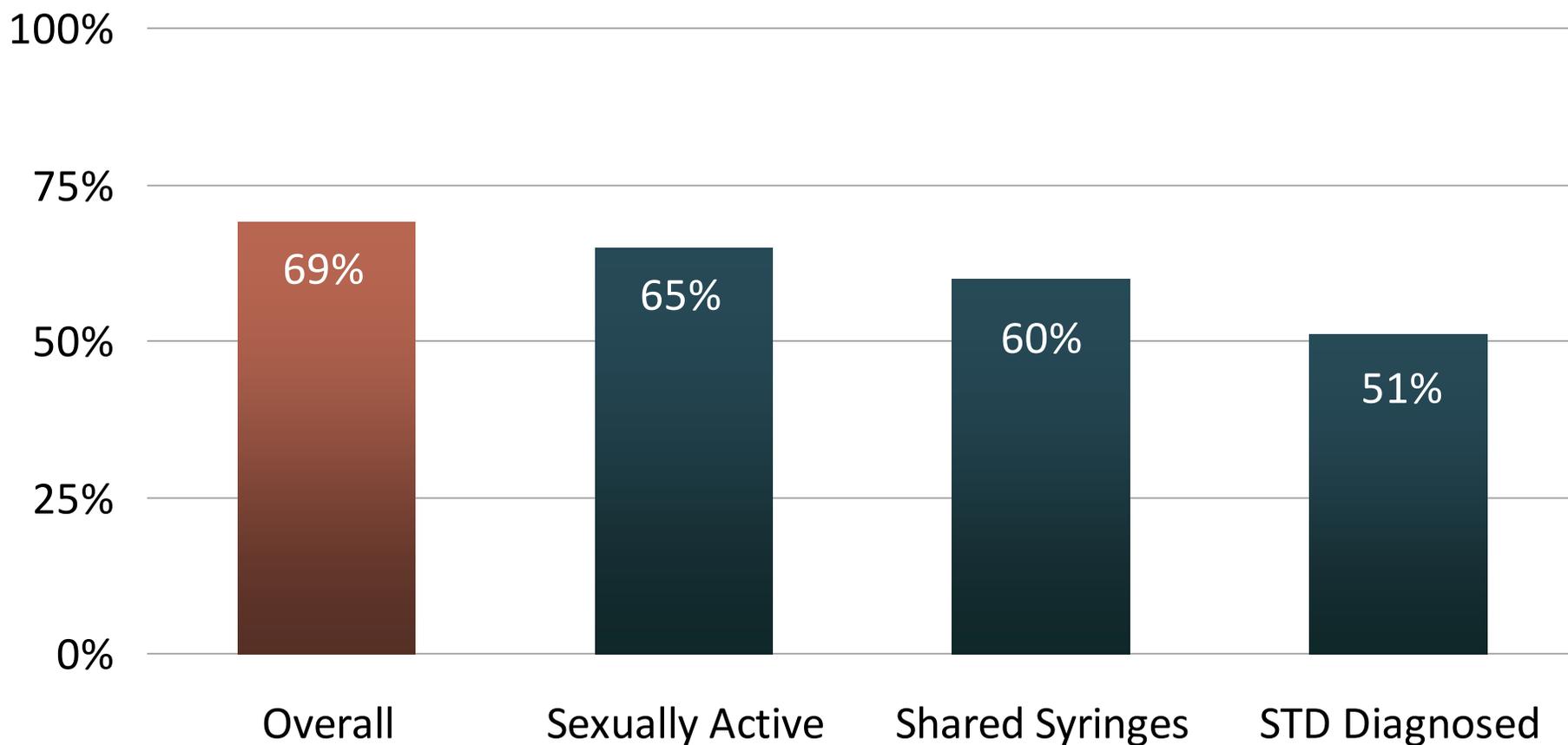
HIV Testing History by Risk Group

NYC NHBS (HET, MSM, and IDU), 2006-9



Offered HIV Test by Medical Provider in Past Year

NYC NHBS-IDU2, 2009, n=345 (HIV-/Unk. IDU Who Visited a Medical Provider)

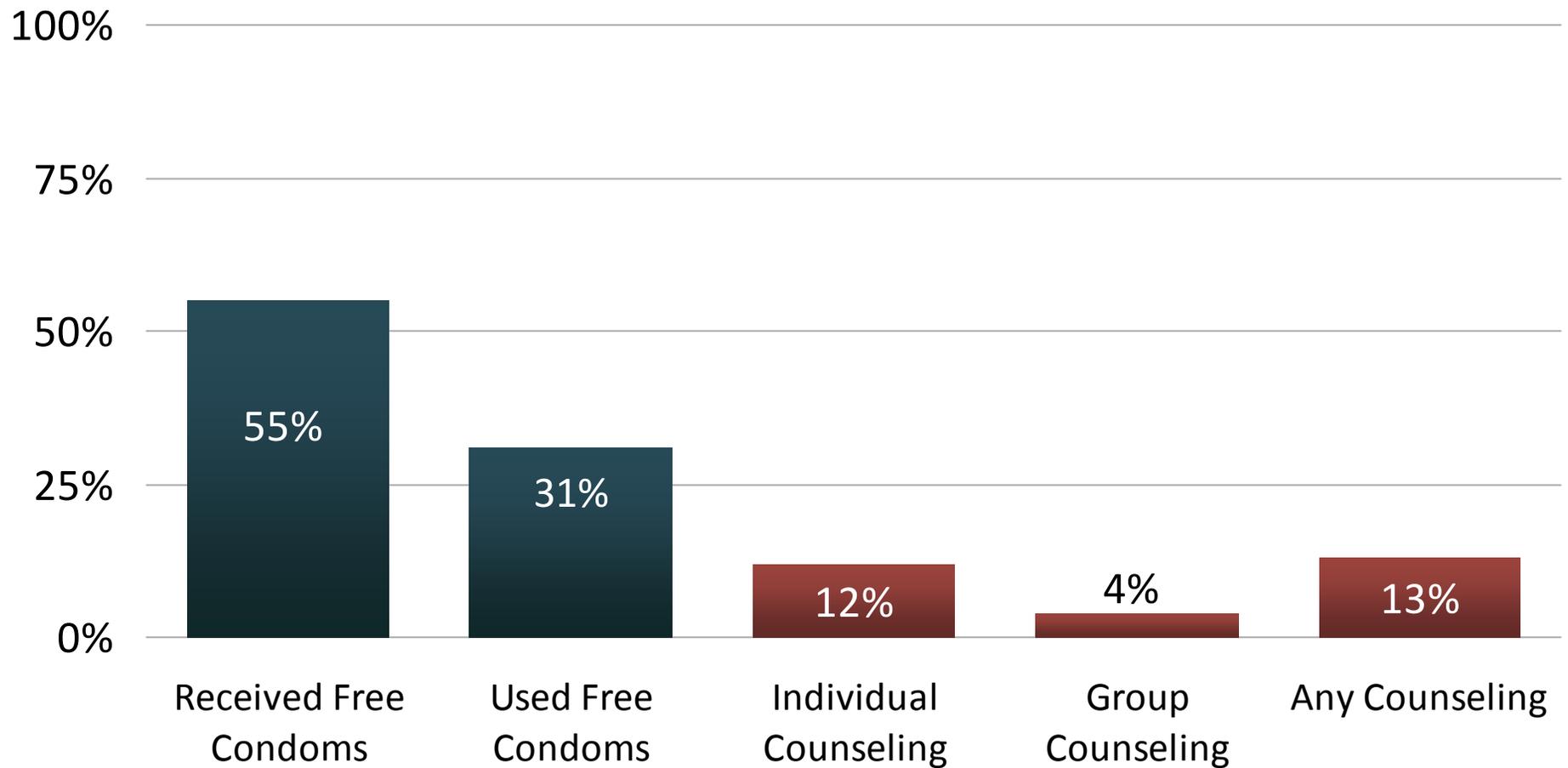


Offered Test by Past Year Risk Factors

HIV Prevention Activities

HIV Prevention Activities Encounters in Past Year

NYC NHBS-IDU2, 2009, n=514



HIV & HCV Prevalence

HIV Prevalence

NYC NHBS-IDU2, 2009, n=511 (Tested in Study)

	HIV-Positive	95% CI
Overall	15.9%	10.2 – 21.6%
By Race*		
Black	12.1%	2.1% – 22.2%
Hispanic	20.9%	16.2% – 25.7%
White	10.0%	5.5% – 14.5%
By Gender*		
Male	14.2%	10.7% – 17.6%
Female	21.7%	14.0% – 29.4%
By Age		
18-29	4.2%	0.0% – 8.7%
30-39	15.4%	9.7 – 21.2
40+	18.1%	13.5 – 22.7

* Other race and transgender IDU excluded due to small sample size

HCV Prevalence

NYC NHBS-IDU2, 2009, n=504 (Tested in Study)

	HCV-Positive	95% CI
Overall	71.4%	64.3 – 78.4%
By Race*		
Black	70.9%	56.9% – 84.8%
Hispanic	78.2%	73.4% – 83.1%
White	61.5%	54.1% – 68.9%
By Gender*		
Male	71.8%	67.3% – 76.3%
Female	70.7%	62.1% – 79.3%
By Age		
18-29	59.9%	49.2% – 70.7%
30-39	66.8%	59.3% – 74.3%
40+	75.4%	70.2% – 80.6%

* Other race and transgender IDU excluded due to small sample size

Conclusions

Summary

- Many IDU face structural risk factors that may increase HIV infection risk: poverty, homelessness, and arrest/incarceration
- Exchange programs and pharmacies were most common sources for syringes
- Sharing of syringes and other injection equipment persists
- Nearly all IDU injected daily; alcohol and noninjection drug use was common but less frequent
- Around 75% of IDU were sexually active, and many of those IDU exhibit high levels of sexual risk
- Most IDU recently HIV tested and received free condoms, but few engaged in other HIV prevention activities
- High levels of in HIV infection were found, with notable disparities by gender and race/ethnicity

Limitations

- RDS-based estimates may not be generalizable to population of New York City IDU if methodological assumptions are not met
- All data except HIV and HCV serostatus were collected by self-report, and may be biased by recall error or social desirability and self-selection

Conclusions

- The ability of the RDS methodology to penetrate into hidden IDU populations not connected to HIV prevention and drug treatment services may be one reason for the high observed levels of HIV and HCV infection
- Further research is needed to determine the causes of the disparities in HIV infection among female and Hispanic IDU
- Continuing injection-related and sexual risk behaviors despite widespread encounters with exchange programs, pharmacies, medical providers, and other prevention outlets is a major concern
- Future analyses of geographic and demographic differences in prevention activity encounters, risk behaviors, and disease outcomes will allow for improved targeting of prevention services

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