HIV Risk and Prevalence among People who Inject Drugs in New York City

Findings from the

2018 National HIV Behavioral Surveillance Study

NYC™
Health

Background

- New York City (NYC) has a large population of people who inject drugs (PWID).

- The number of new HIV diagnoses among people with a history of injection drug use in NYC has decreased over the course of the epidemic.
  - Largely attributed to the success of sterile syringe access programs and increased safe injection practices by NYC PWID.

- In 2018, 1% of new HIV diagnoses in NYC were among people with a history of injection drug use.

- Yet ongoing sexual and injection-related risk behaviors among PWID persist and may be influenced by the current opioid epidemic.

National HIV Behavioral Surveillance (NHBS)

- Ongoing, cyclical study of three groups at elevated risk for HIV: men who have sex with men (MSM), PWID, and heterosexually-active adults at high risk.

  - Conducted in 22 cities throughout the U.S.
  - Funded by CDC, designed collaboratively
  - Cross-sectional study design
  - Anonymous, structured interview and optional HIV testing

- Data were collected for the 5th cycle among PWID ("IDU5") during July – November 2018.

NHBS-IDU5 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

Eligibility Criteria

- At least 18 years old

- Resident of NYC metropolitan statistical area

- Has injected drugs without a prescription in the past 12 months

- Able to complete the interview in English or Spanish

- Interviewer assessment of injection track marks and knowledge of the preparation of drugs for injection

Recruitment through Respondent-Driven Sampling

1. Study team recruits small number of initial participants ("seeds") through community outreach.

   - In order to increase the proportion of young PWID, initial seeds were 18-29 years old.

2. Seeds participate in the study then recruit up to 5 peers in their social networks.

3. If eligible, those recruited peers participate and each recruits up to 5 more peers until sample size is met.

   – Recruitment chains continually monitored to ensure demographic representativeness

4. Incentives provided for completing the survey, HIV testing, HCV testing, and peer recruitment.

Recruitment Chain Diagram for NYC NHBS-IDU5 cycle
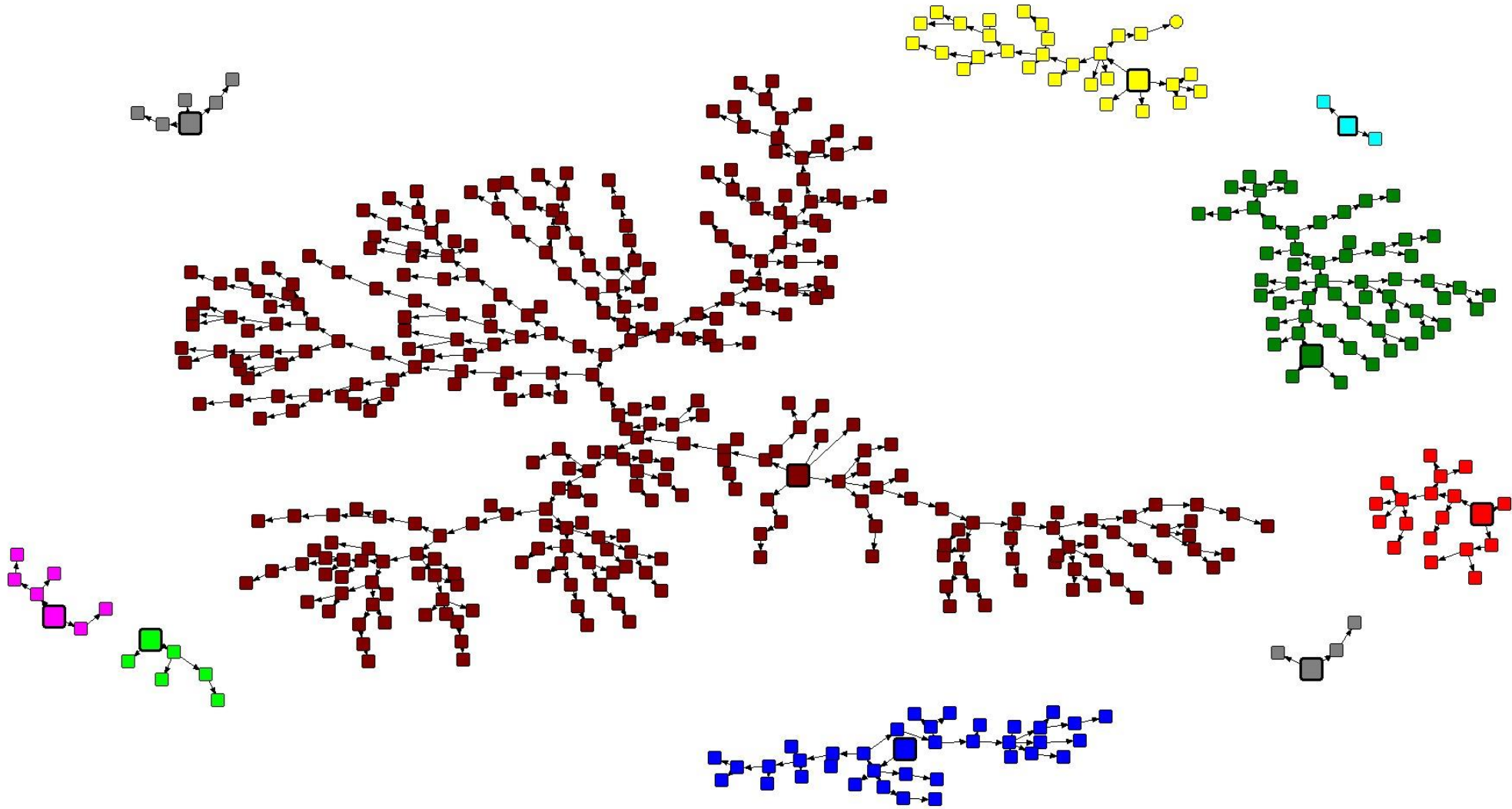
Each node represents a study participant. Linking lines show recruitment chains, initiated by 10 productive seeds (represented by larger square nodes).

Study Sample
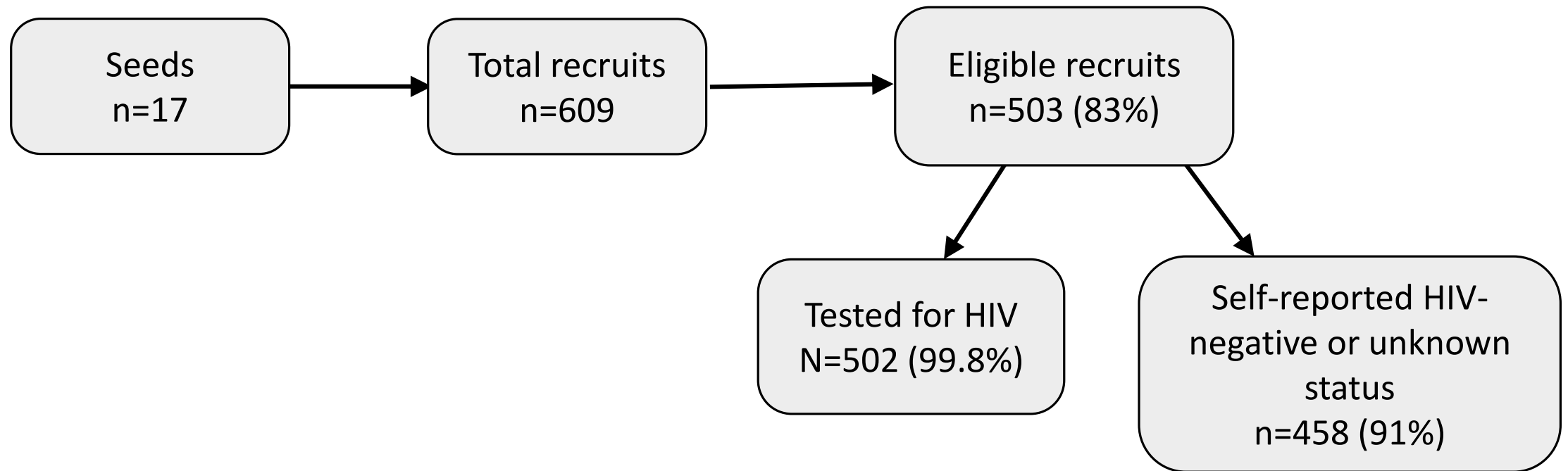
Statistical Analyses

- Weighted analyses were conducted with RDS Analyst (RDS-A); data were weighted to take into account network size.

    - Those with large network sizes have a higher probability of selection.

- An advantage of RDS is that, if methodological assumptions are met, RDS-A may estimate proportions that are generalizable to the larger population.

Statistical Analyses

- Basic descriptive frequencies of risk behaviors, and use of HIV testing and prevention services were calculated.

- Chi-square tests (categorical variables) and t-tests (continuous variables) were used to compare differences in HIV risk and the use of HIV testing and prevention services. Any statistically significant associations are denoted.

- Since seeds were not recruited randomly, they are removed from the analysis.

- Since awareness of HIV infection influences risk, self-reported HIV-positive participants (n=45) were removed from behavioral risk analyses.

- Overall prevalence of HIV infection was determined by HIV test result among those agreeing to take an HIV test (n=502).

Demographics

NYC NHBS-IDU5, 2018, n=503

Race/Ethnicity

Hispanic/Latino	61%
Black	25%
White	12%
Other	1%

Self-Identified Gender

Male	73%
Female	25%
Transgender	1%

Age

18-29	9%
30-39	22%
40-49	37%
50+	33%

Birthplace

Continental US	68%
Puerto Rico	25%
Outside US	7%

Demographics

NYC NHBS-IDU5, 2018, n=503

Income

Less than $10k/year	64%
$10k or more/year	36%

Borough of Residence

Bronx	56%
Brooklyn	19%
Manhattan	17%
Queens	8%
Staten Island	0%

Education

<High School	41%
≥High School	59%

Homelessness

Homeless in past 12m	54%
Not homeless in past 12m	46%

Injection Drug Use

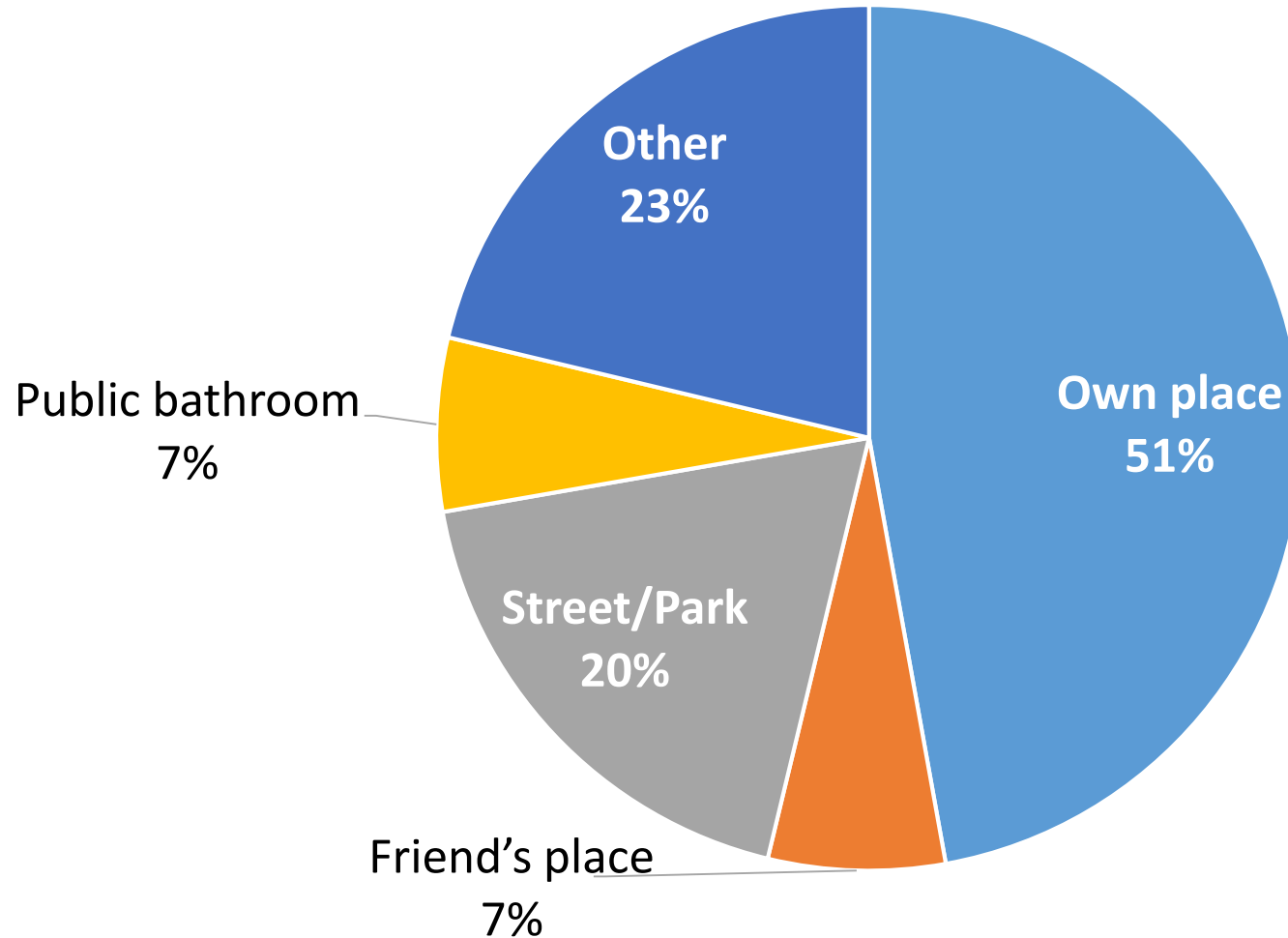# Lifetime Injection History, by Race/Ethnicity

NYC NHBS-IDU5, 2018, n=500*
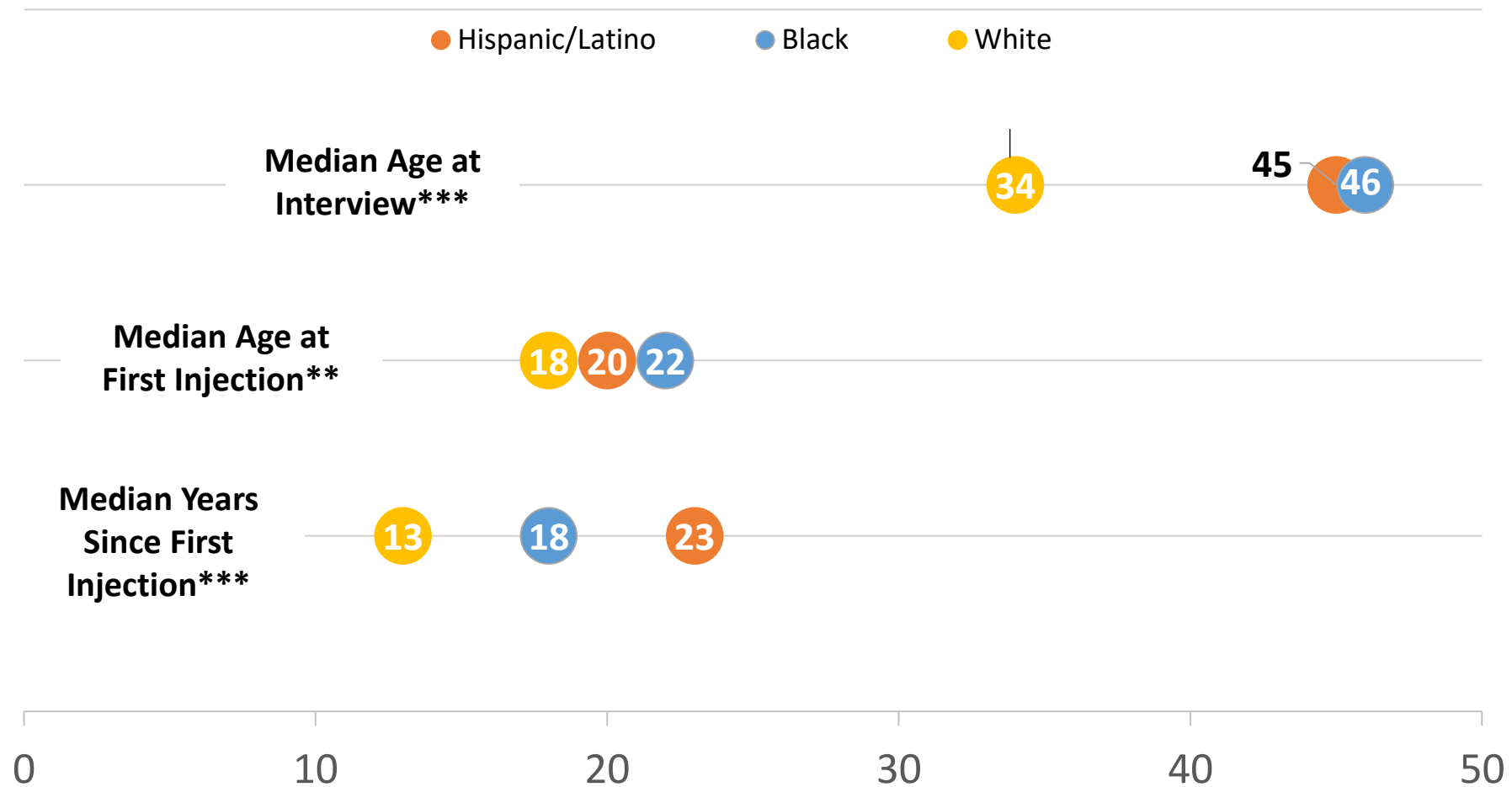
*Excludes those of 'Other' Race/Ethnicity (n=3); **p = 0.004; ***p < 0.001.
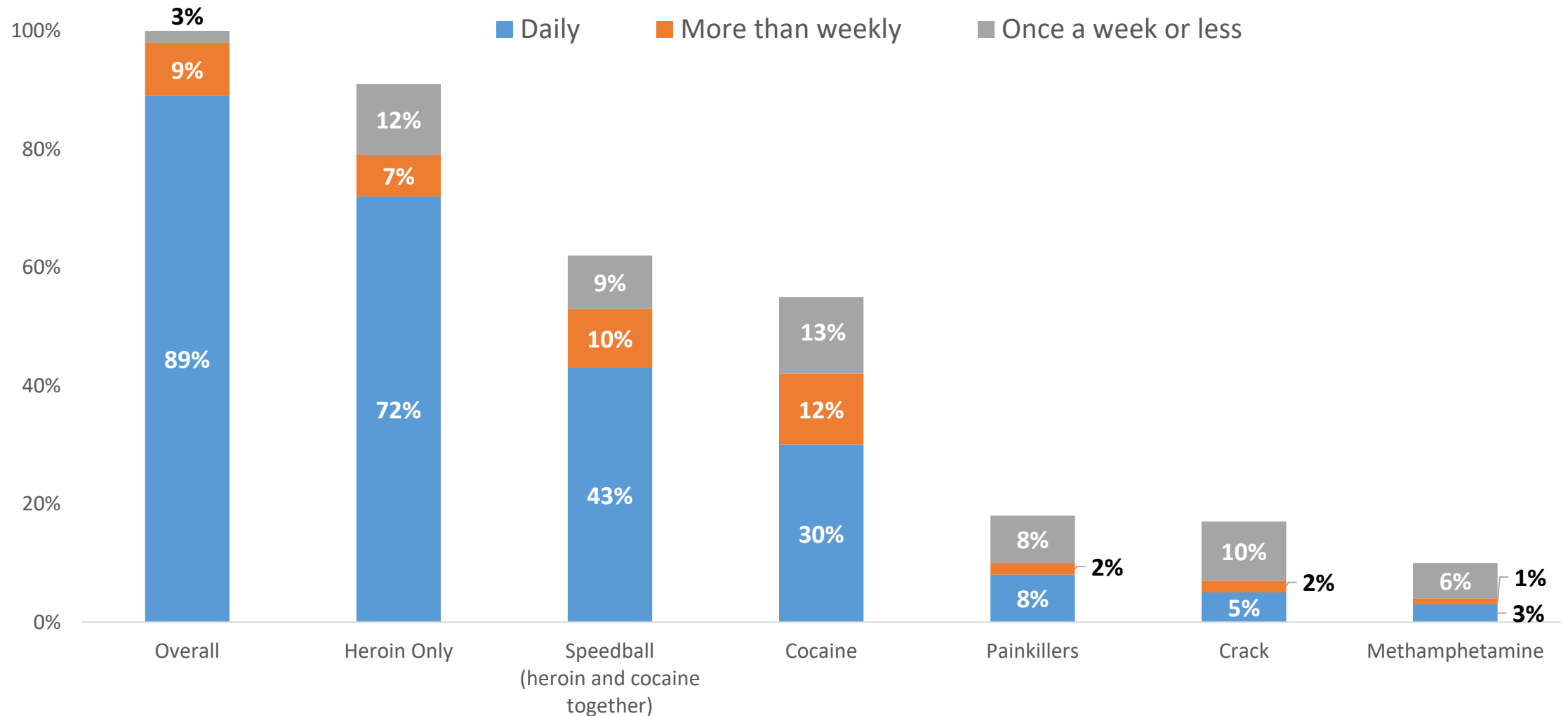
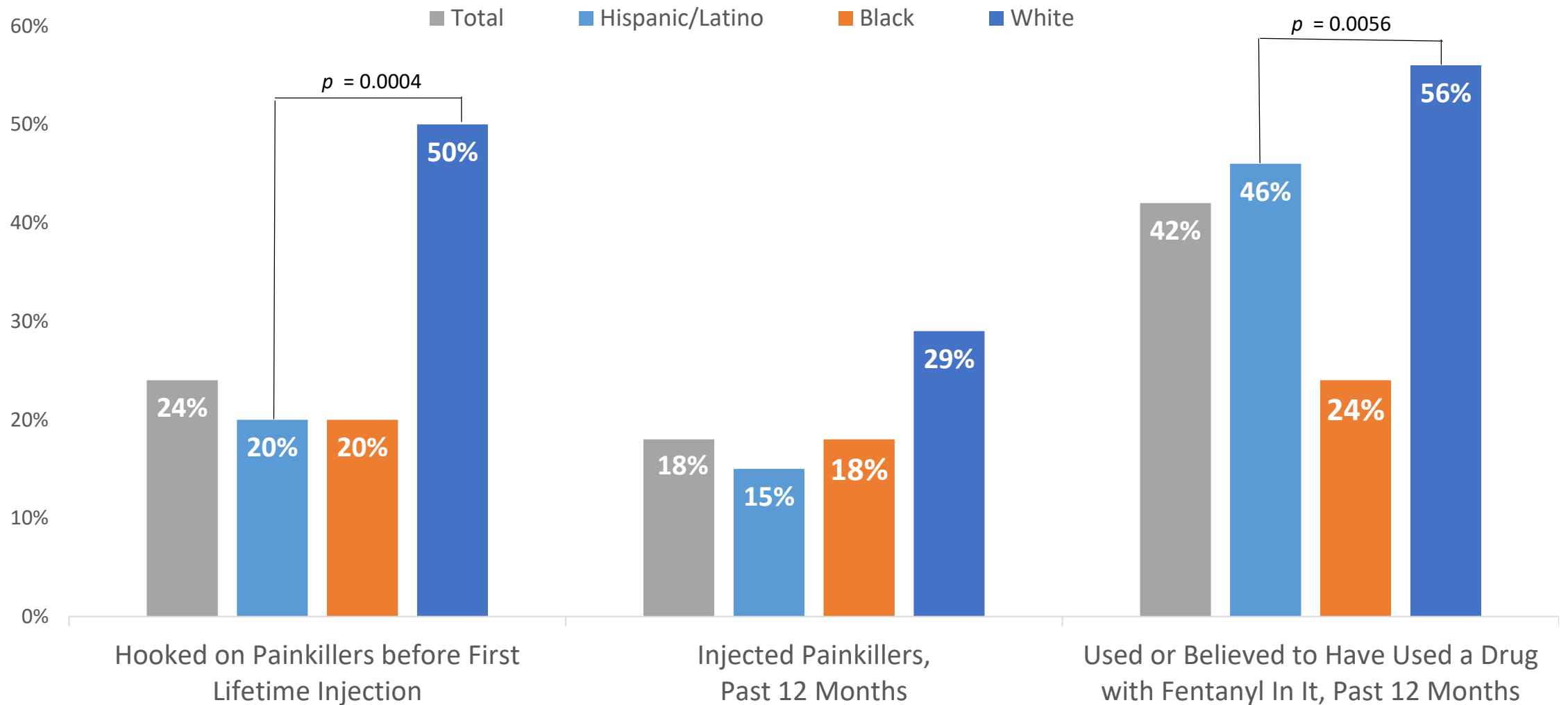# Most Common Injection Location, Past 12 Months

NYC NHBS-IDU5, 2018, n=503

Frequency of Drugs Injected, Past 12 Months

NYC NHBS-IDU5, 2018, n=503

Legend: Daily (blue), More than weekly (orange), Once a week or less (grey)

Overall: Daily 89%, More than weekly 9%, Once a week or less 3%
Heroin Only: Daily 72%, More than weekly 7%, Once a week or less 12%
Speedball (heroin and cocaine together): Daily 43%, More than weekly 10%, Once a week or less 9%
Cocaine: Daily 30%, More than weekly 12%, Once a week or less 13%
Painkillers: Daily 8%, More than weekly 2%, Once a week or less 8%
Crack: Daily 5%, More than weekly 2%, Once a week or less 10%
Methamphetamine: Daily 3%, More than weekly 1%, Once a week or less 6%

Nonmedical Prescription Opioid Use, by Race/Ethnicity

NYC NHBS-IDU5, 2018, n=500*

Legend: ■ Total ■ Hispanic/Latino ■ Black ■ White

Hooked on Painkillers before First Lifetime Injection
- Total: 24%
- Hispanic/Latino: 20%
- Black: 20%
- White: 50%
- *p* = 0.0004

Injected Painkillers, Past 12 Months
- Total: 18%
- Hispanic/Latino: 15%
- Black: 18%
- White: 29%

Used or Believed to Have Used a Drug with Fentanyl In It, Past 12 Months
- Total: 42%
- Hispanic/Latino: 46%
- Black: 24%
- White: 56%
- *p* = 0.0056

*Excludes those of 'Other' Race/Ethnicity (n=3).

Sterile Syringe Sources, Past 12 Months*

NYC NHBS-IDU5, 2018, n=503
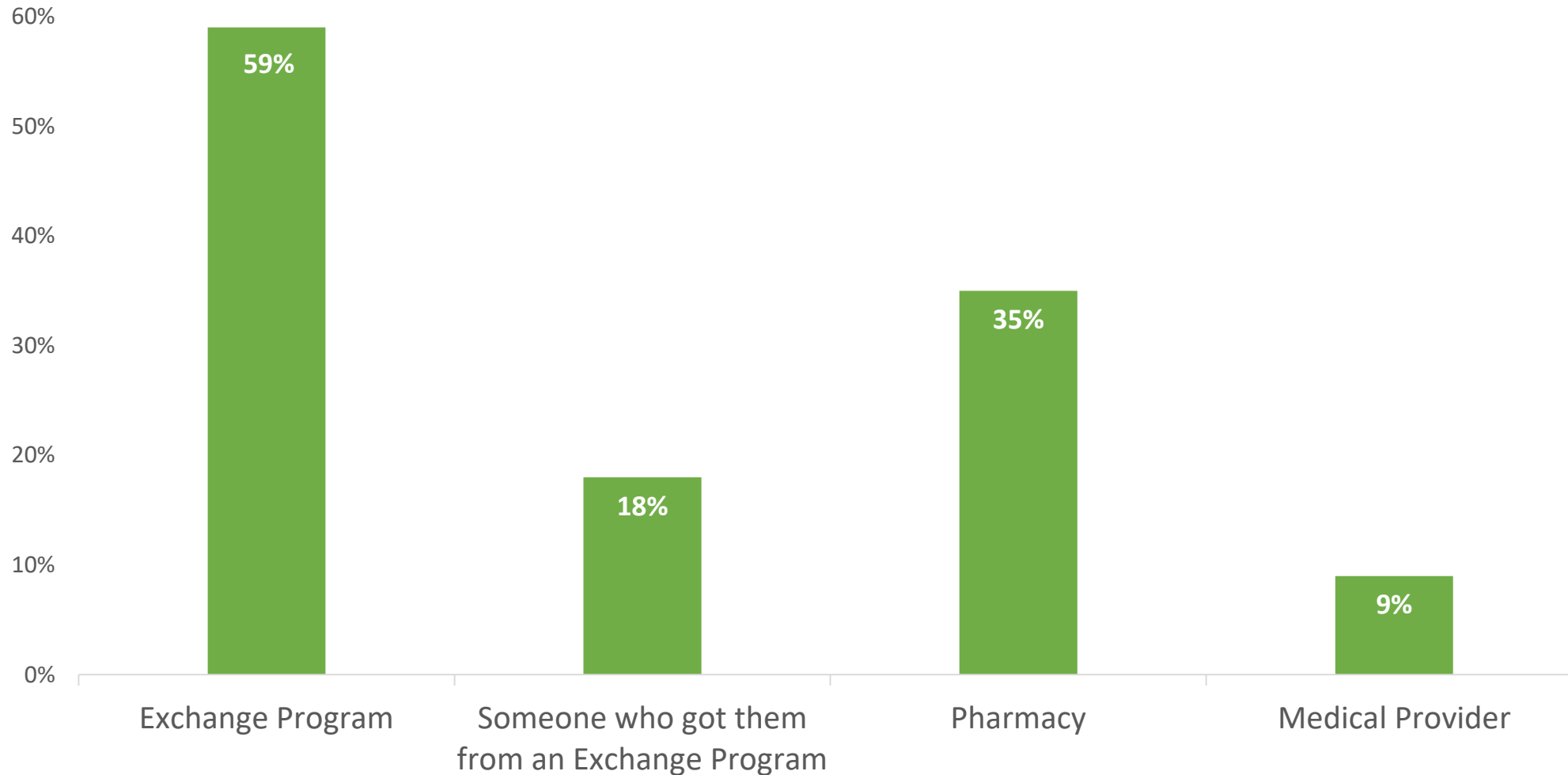
*Respondents could choose more than one response.

Syringe Reuse and Sharing by Self-Reported HIV Status, Past 12 Months

NYC NHBS-IDU5, 2018, n=503
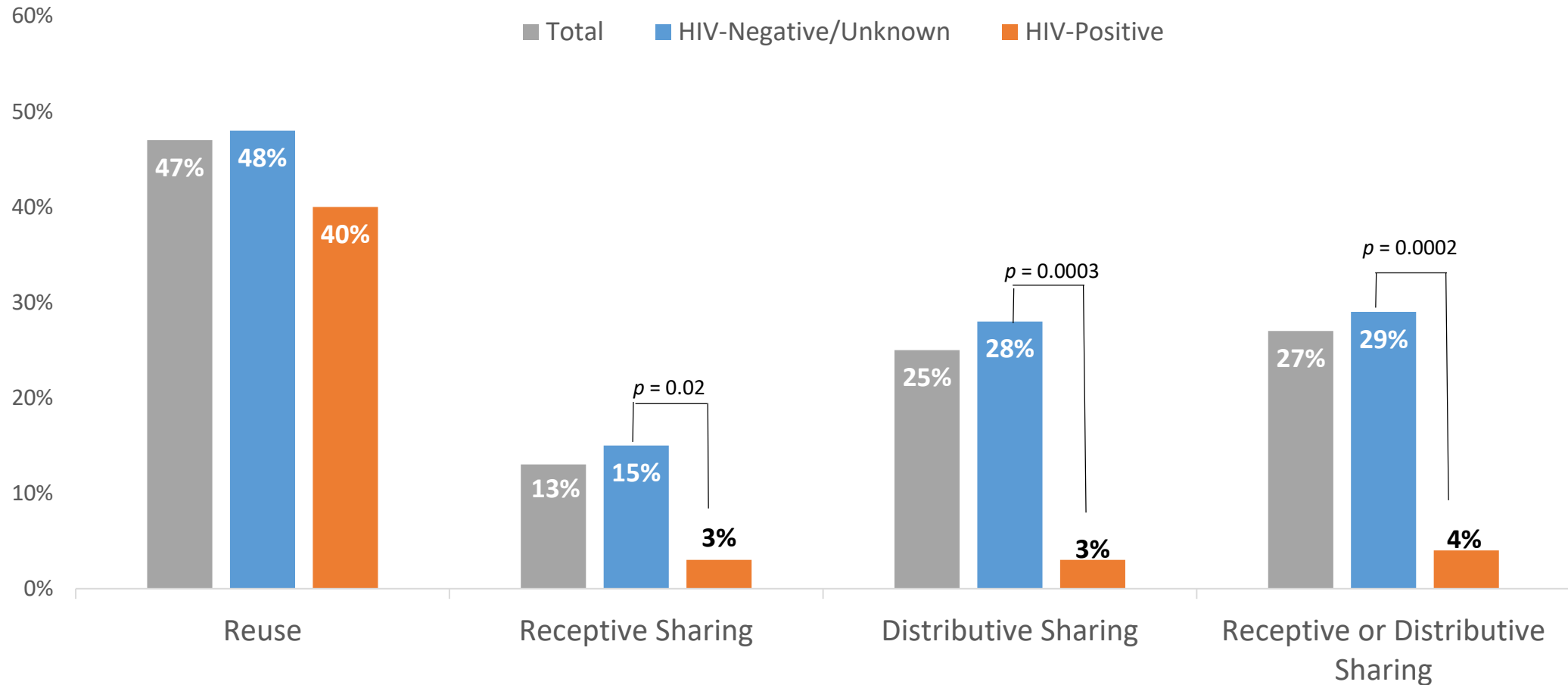
Syringe reuse: not using a new, sterile needle when injecting.
Receptive sharing: using a needle after someone else injected with it.
Distributive sharing: giving a needle to someone else after using it to inject with.
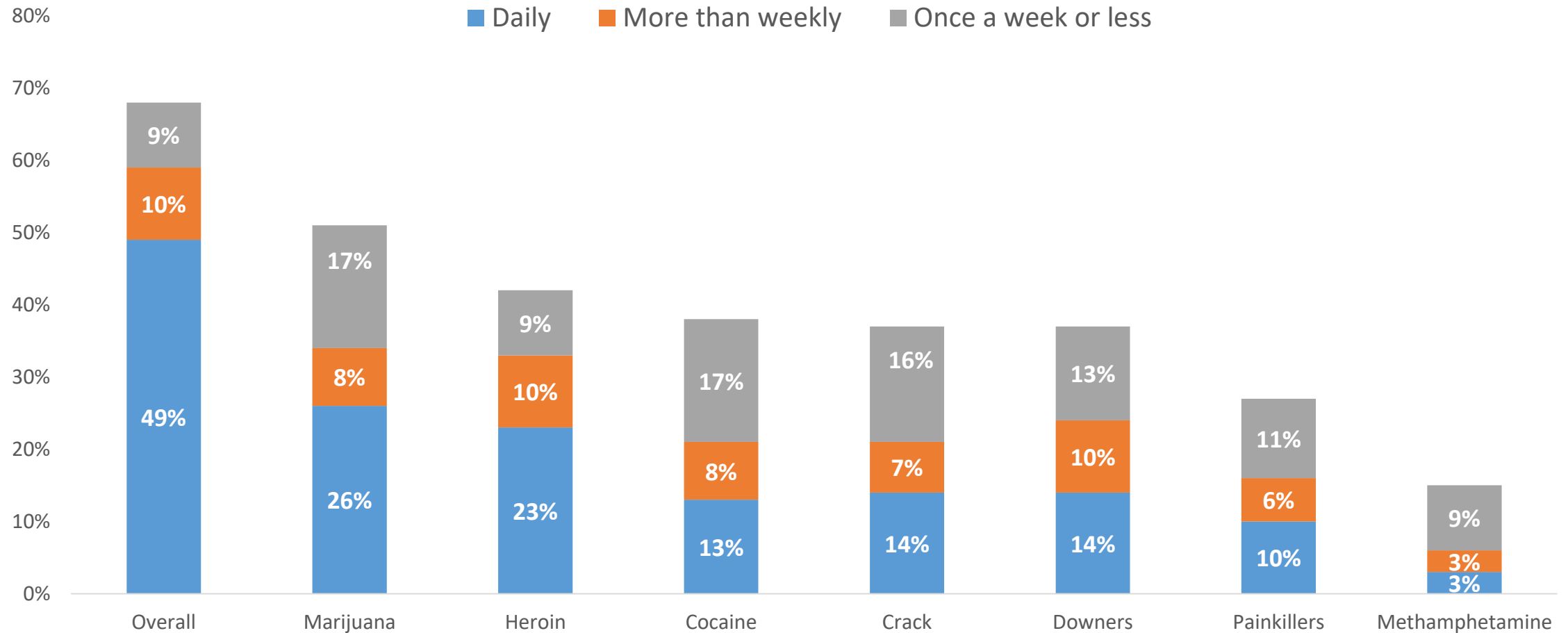
Other Equipment Sharing by Self-Reported HIV Status, Past 12 Months

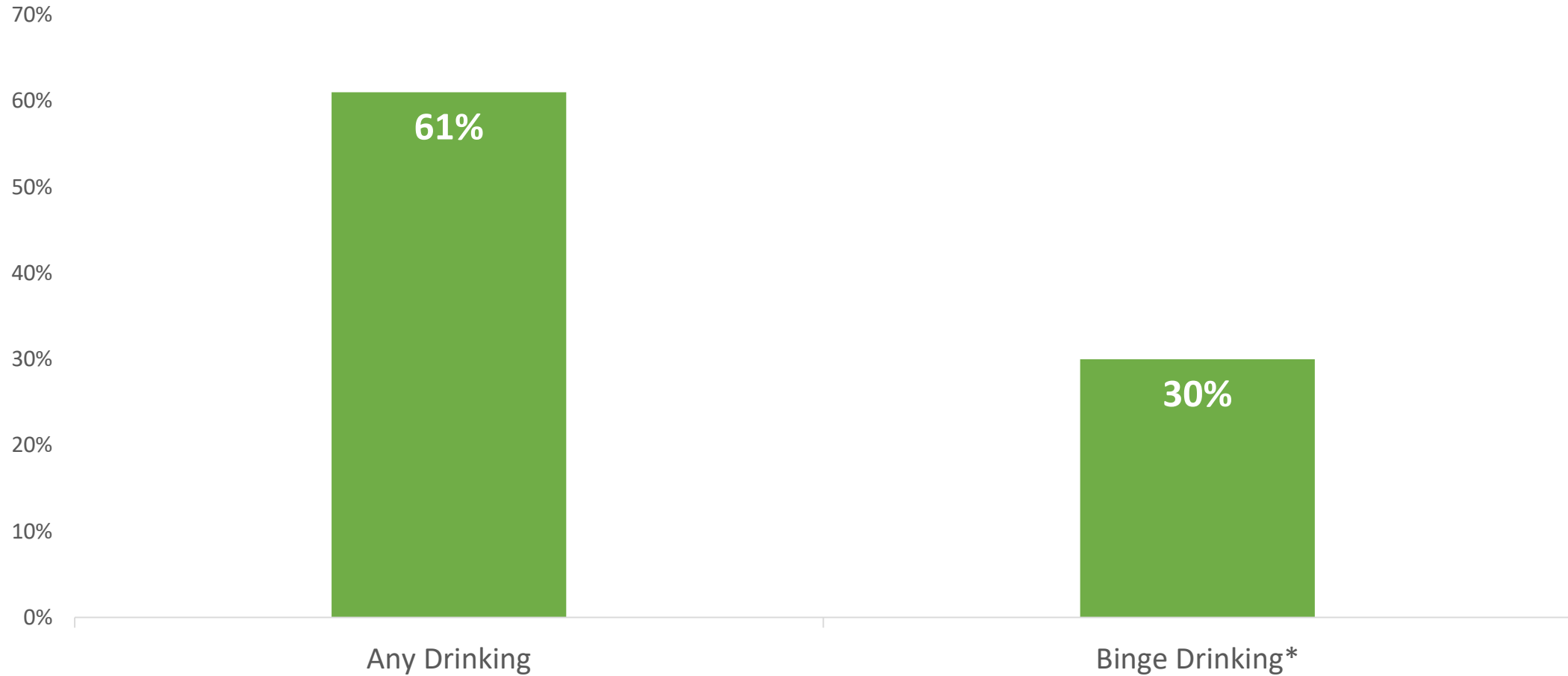NYC NHBS-IDU5, 2018, n=503
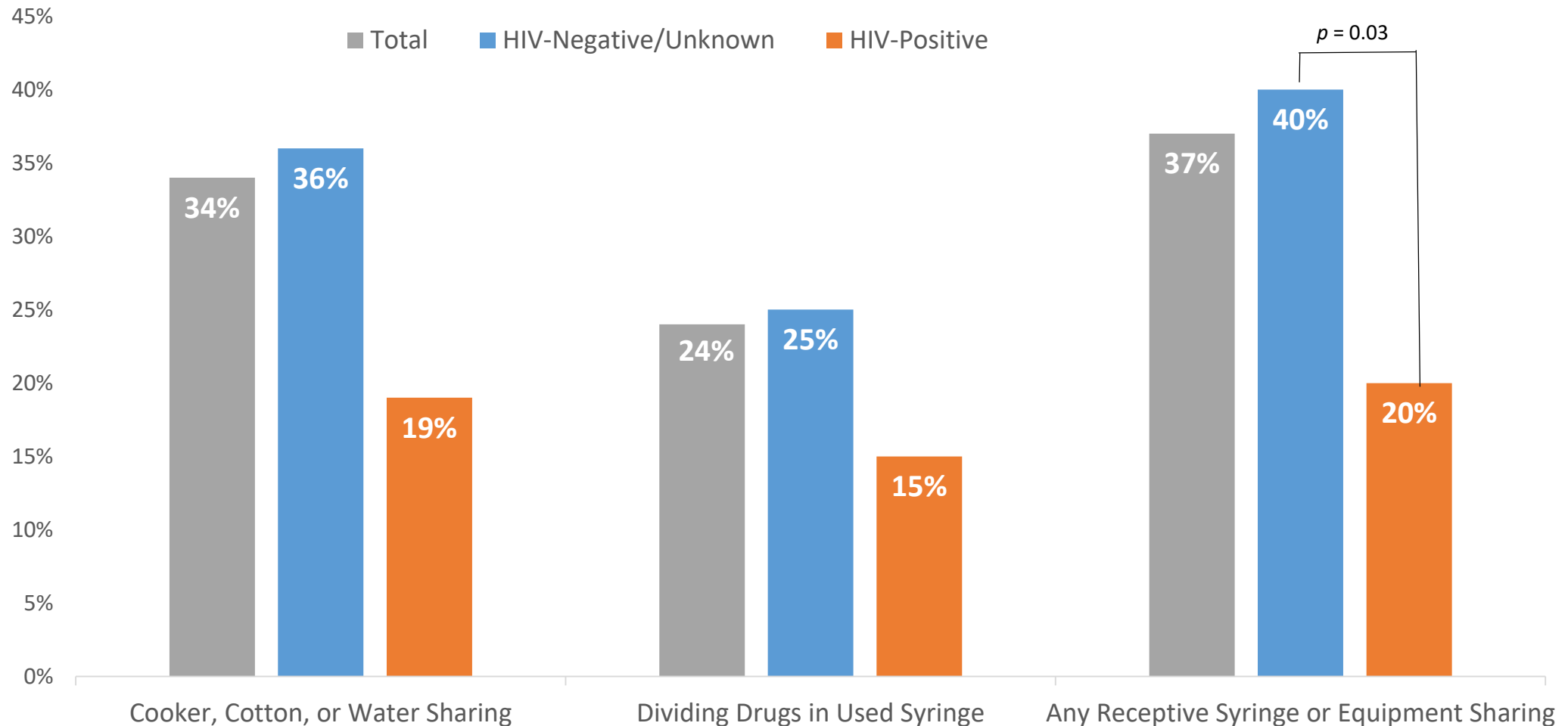
Non-Injection Drug & Alcohol Use

Frequency of Non-Injection Drugs Used, Past 12 Months

NYC NHBS-IDU5, 2018, n=503

Alcohol Use, Past 30 Days
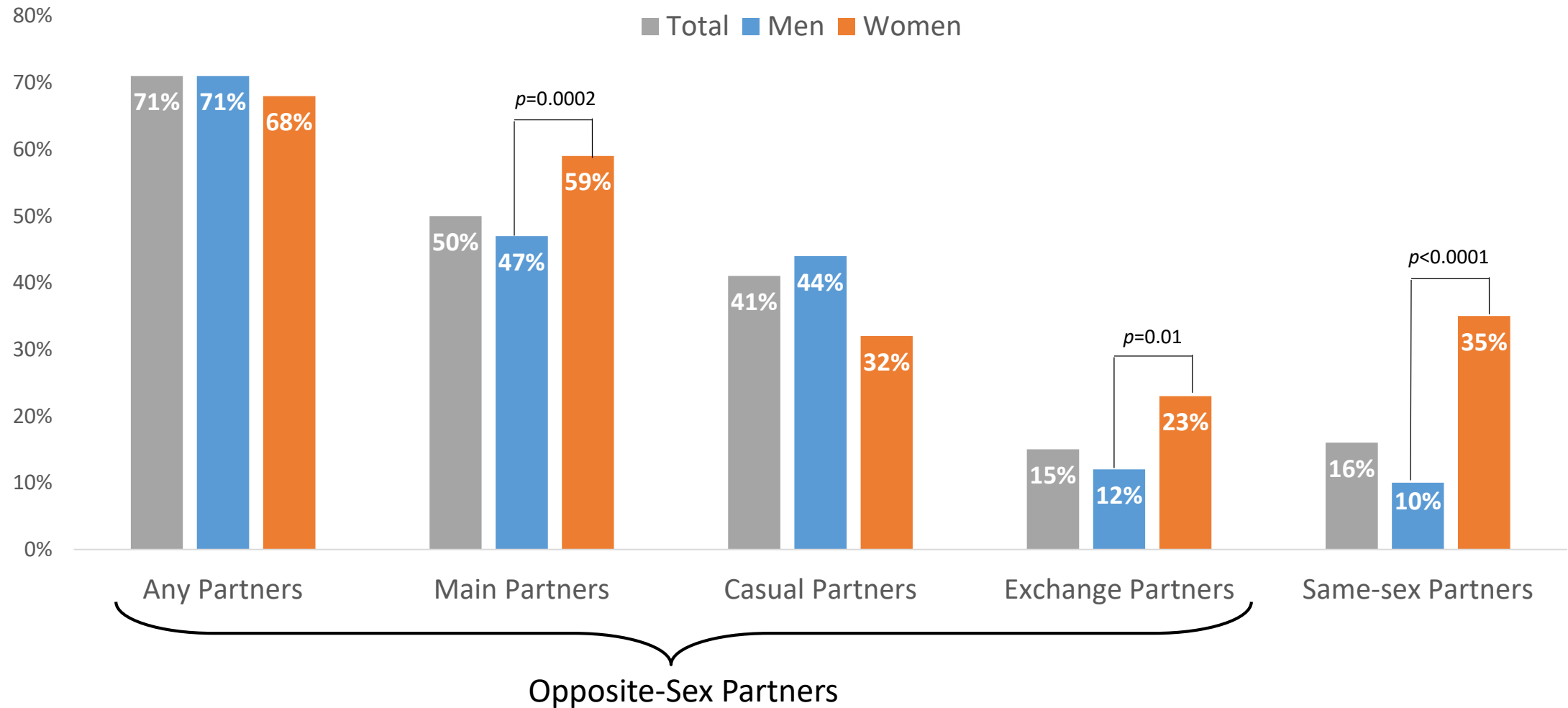
NYC NHBS-IDU5, 2018, n=503

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

Sexual Activity
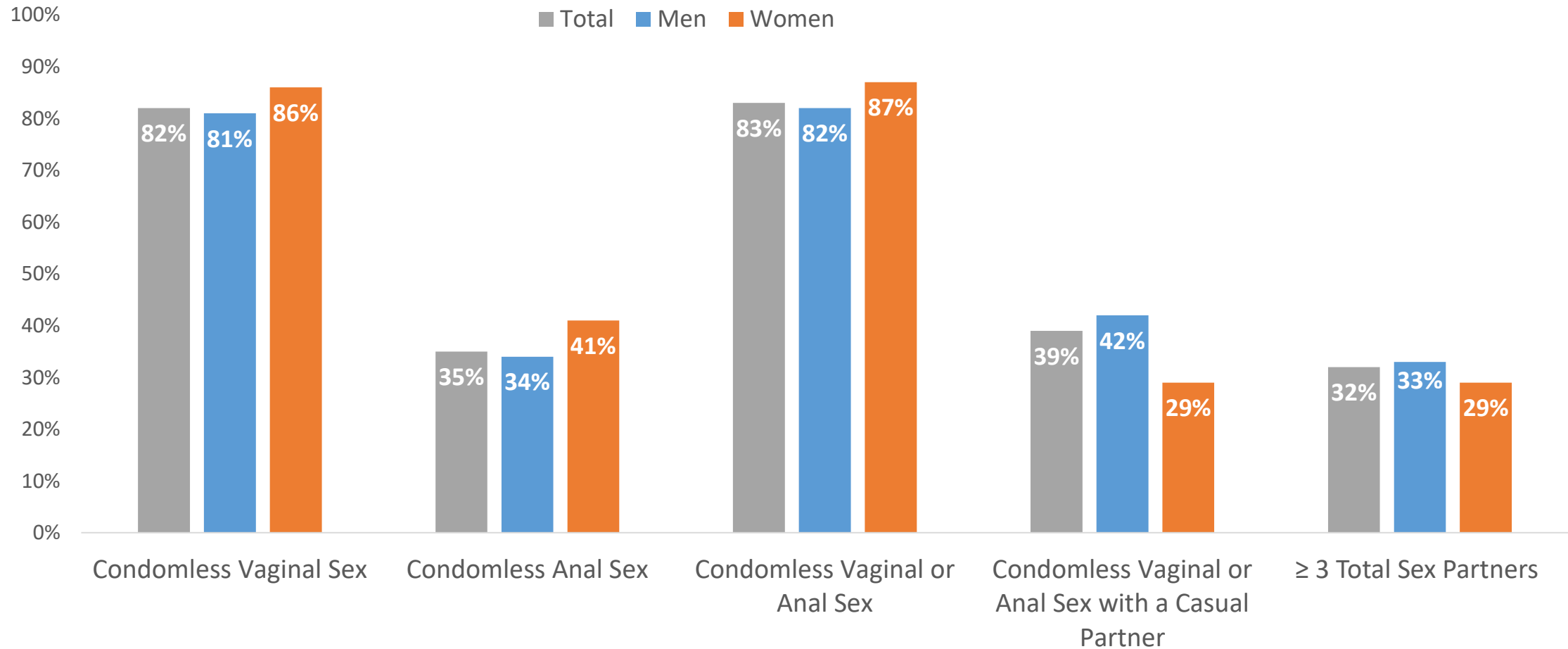
Sexual Partnerships by Participant Gender, Past 12 Months

NYC NHBS-IDU5, 2018, n=451 (HIV-/Unknown Status)*

Opposite-Sex Partners

*Sexual behavior questions were not asked among those who identified as transgender (n=9).

# Risk Behaviors with Opposite-Sex Partners by Participant Gender, Past 12 Months
NYC NHBS-IDU5, 2018, n=345 (HIV-/Unknown Status with Opposite-Sex Partners)*

Legend: Total, Men, Women

Category	Total	Men	Women
Condomless Vaginal Sex	82%	81%	86%
Condomless Anal Sex	35%	34%	41%
Condomless Vaginal or Anal Sex	83%	82%	87%
Condomless Vaginal or Anal Sex with a Casual Partner	39%	42%	29%
≥ 3 Total Sex Partners	32%	33%	29%

*Sexual behavior questions were not asked among those who identified as transgender (n=9).

Characteristics of Last Opposite-Sex Partner, by Participant Gender

NYC NHBS-IDU5, 2018, n=345 (HIV-/Unknown Status with Opposite-Sex Partners)*
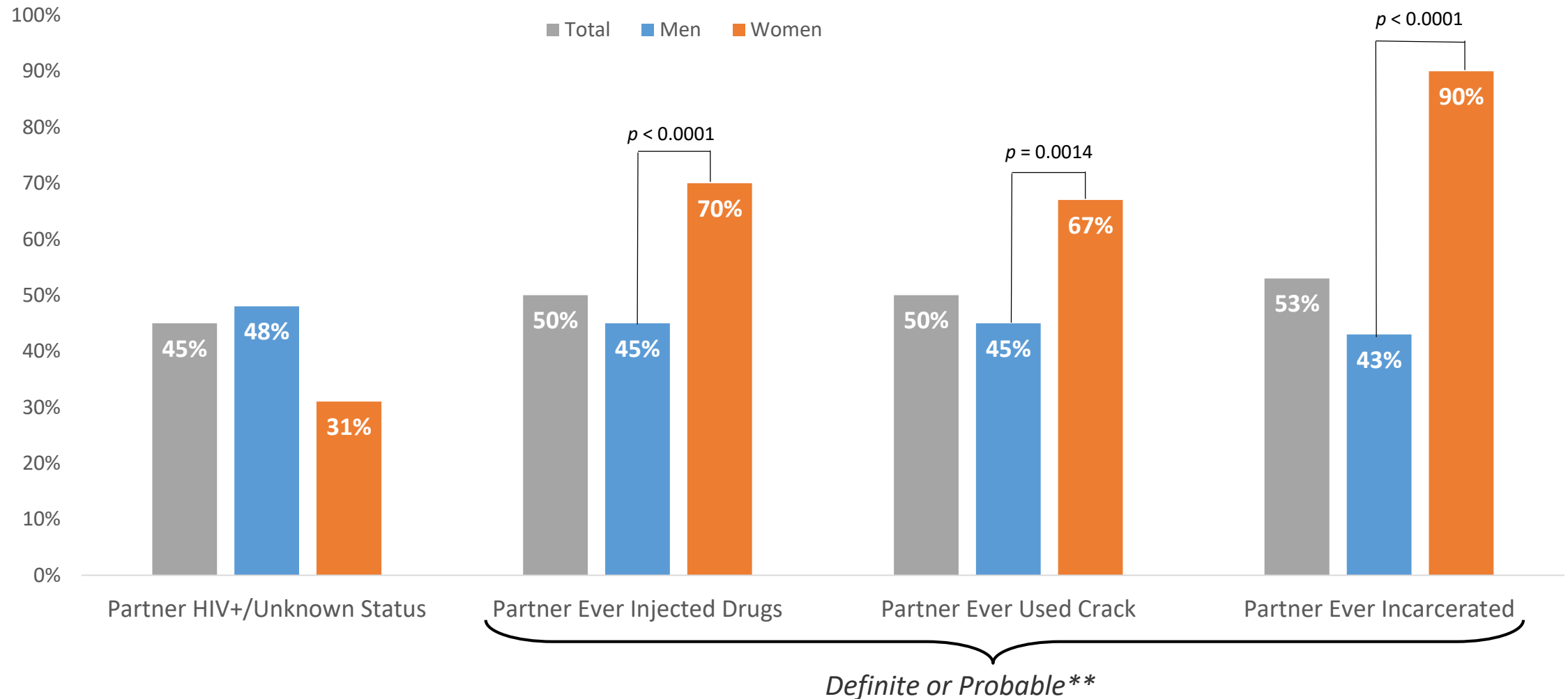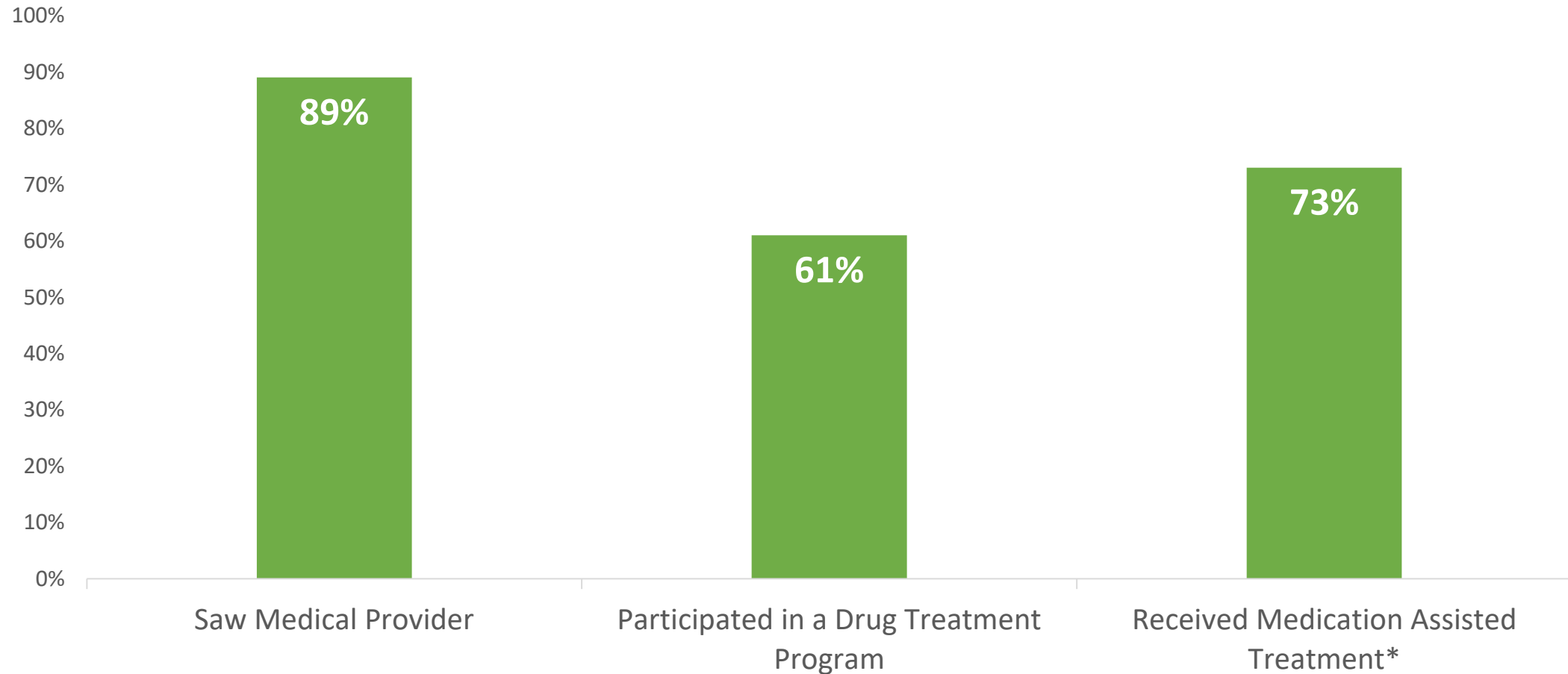

*Sexual behavior questions were not asked among those who identified as transgender (n=9).
 **Participant was asked whether last partner definitely did, probably did, probably did not, or definitely did not have the characteristic.

HIV Testing and Other Healthcare

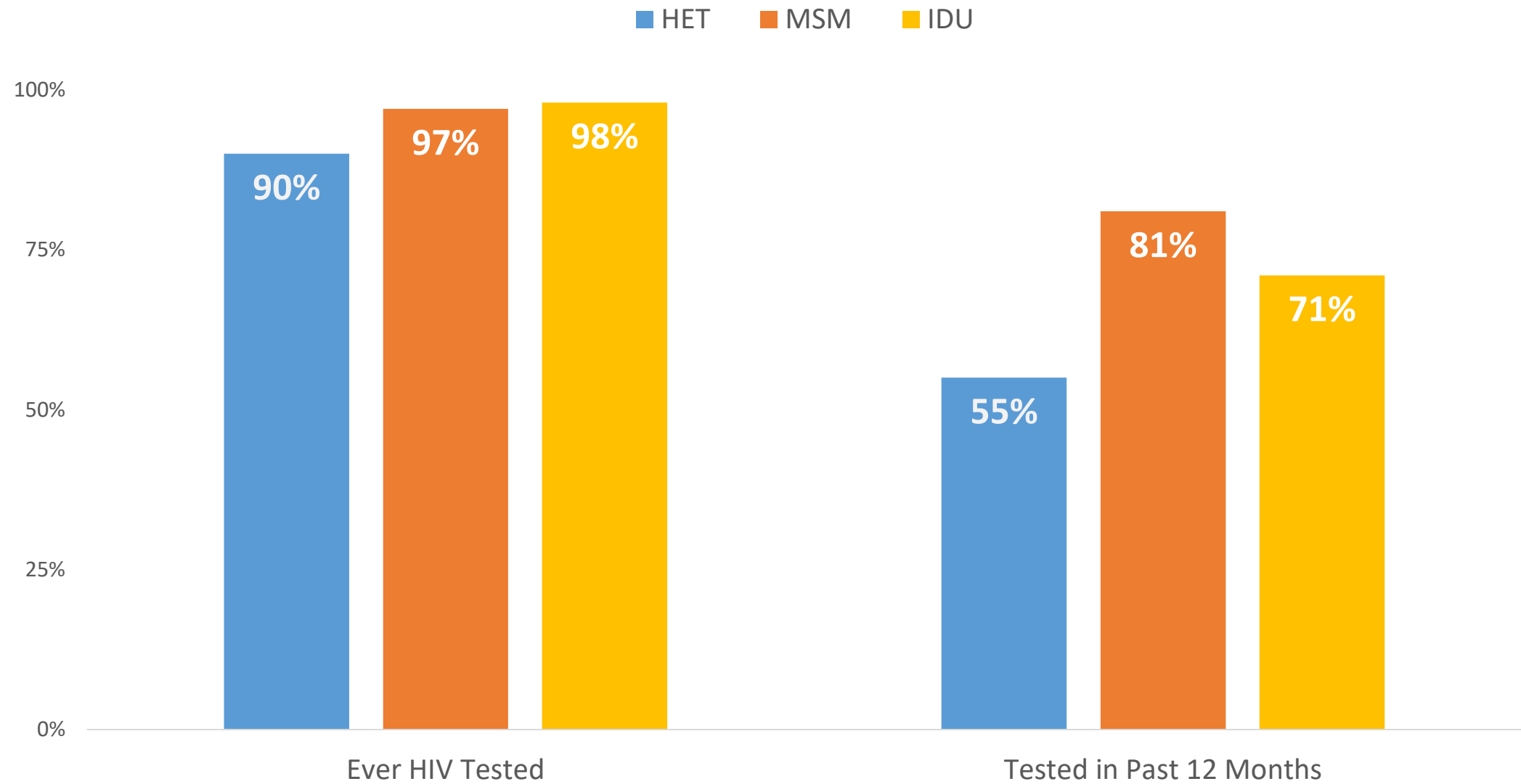# Healthcare and Drug Treatment, Past 12 Months

NYC NHBS-IDU5, 2018, n=503

*Includes medicines like methadone, buprenorphine, Suboxone or Subutex, among those who reported opioid use in the past 12 months (n=498).

HIV Testing History among PWID Compared to Other NHBS Populations
NYC NHBS-HET (2016)*, MSM (2017), and IDU (2018) (HIV-/Unknown status across all cycles)

*In 2016, the NYC NHBS-HET4 cycle was conducted among women who exchange sex for money or drugs.

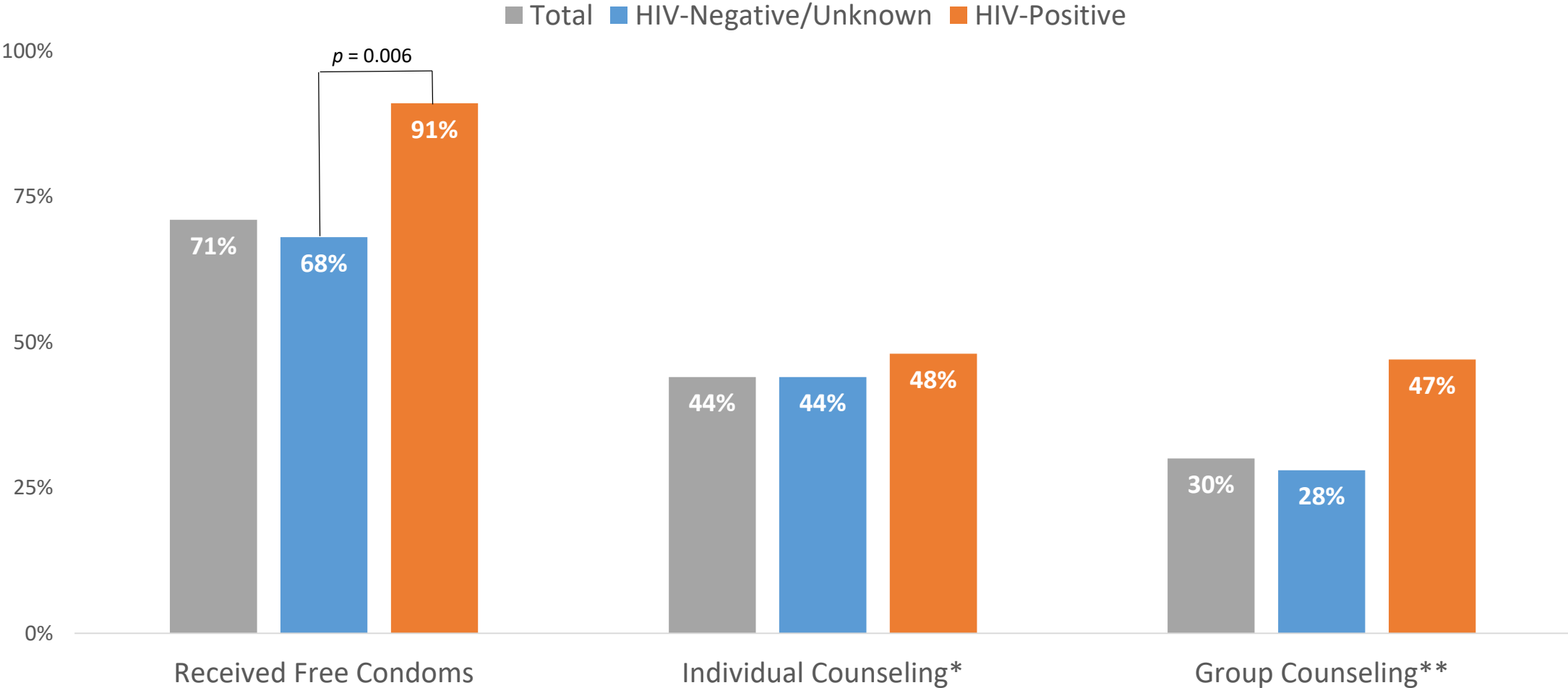HIV Testing History among PWID in the Past Three NHBS-IDU Cycles
NYC NHBS-IDU3 (2012), IDU4 (2015), and IDU5 (2018) (HIV-/Unknown status across all cycles)
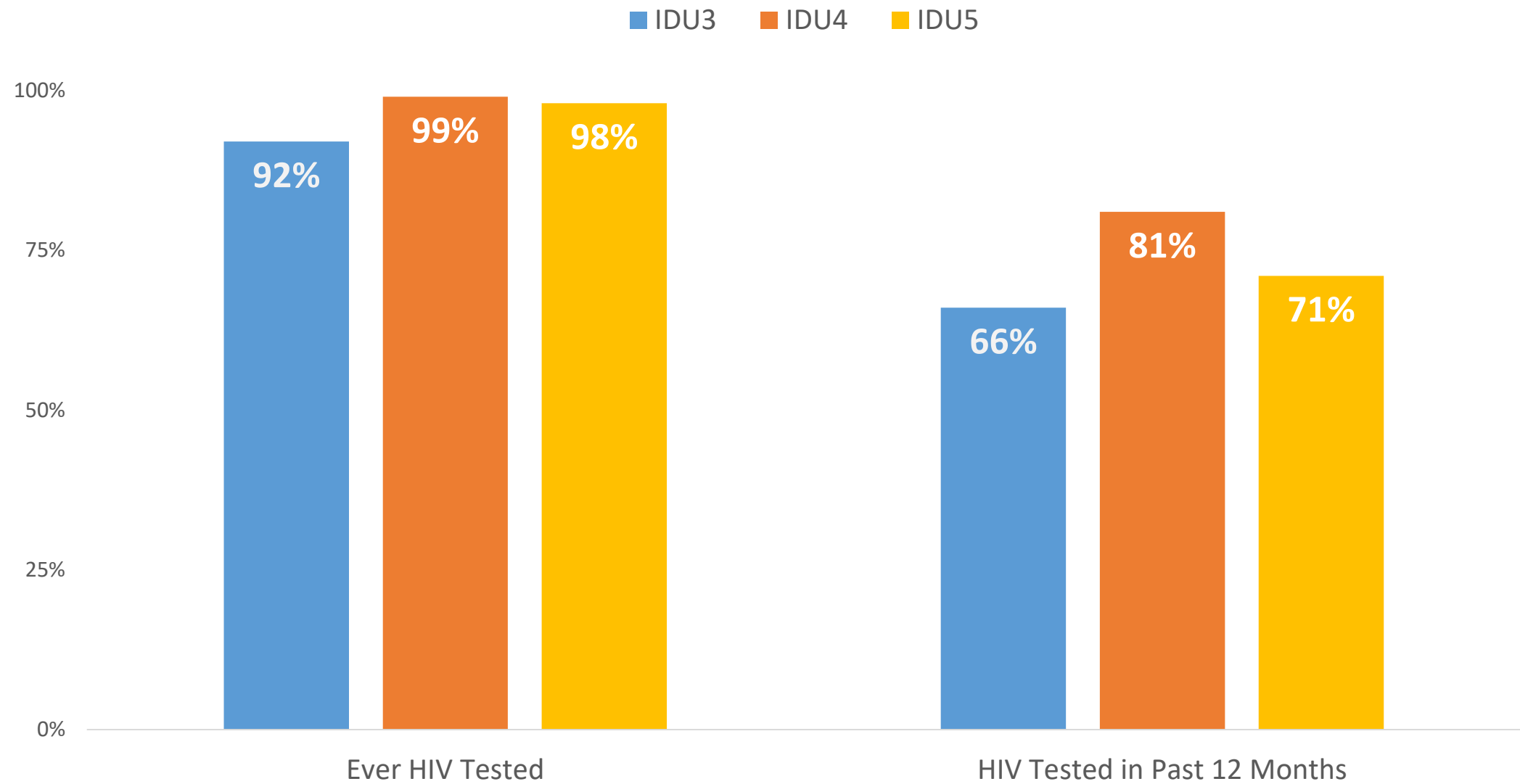
HIV Prevention Services

Use of HIV Prevention Services by Self-Reported HIV Status, Past 12 Months
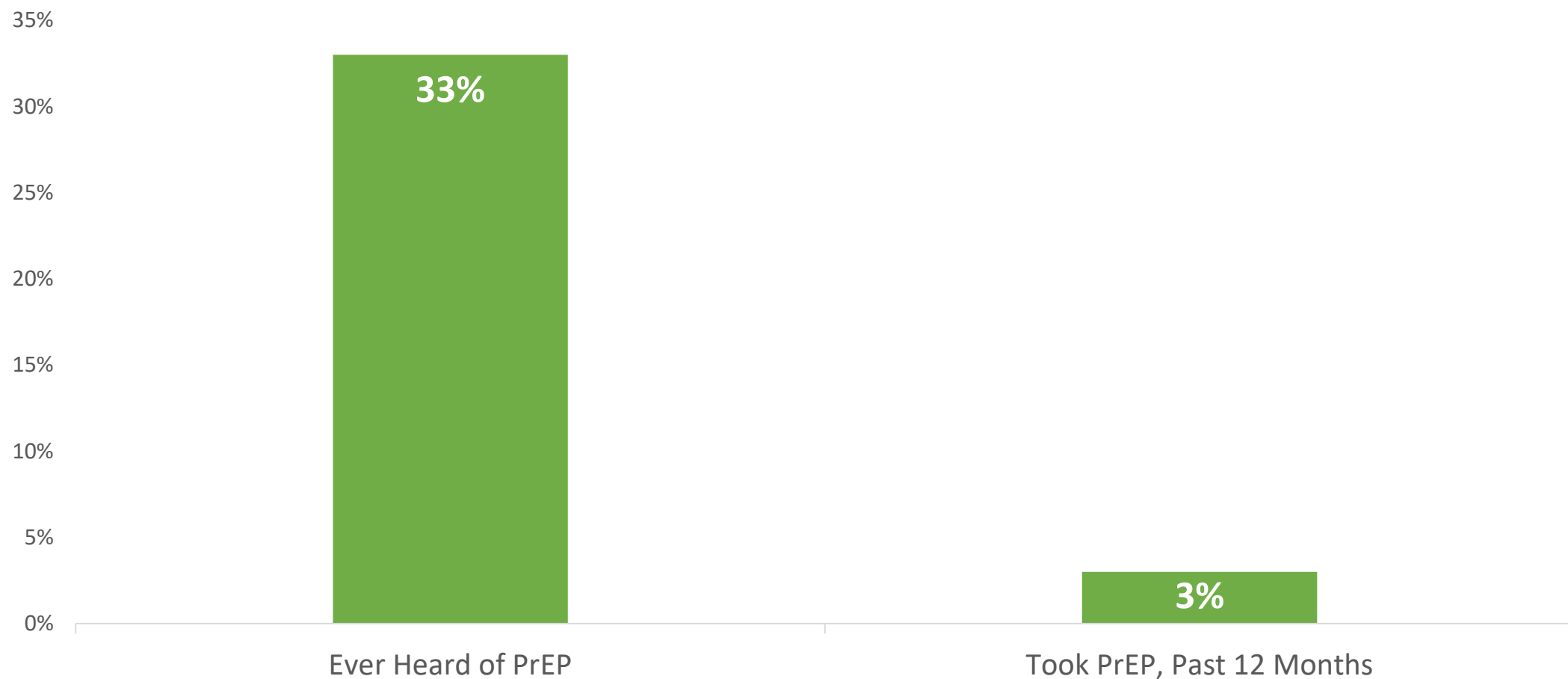NYC NHBS-IDU5, 2018, n=503

*Defined as a one-on-one conversation with an outreach worker, counselor, or prevention program worker about ways to prevent HIV. Does not include counseling as part of an HIV test.

**Defined as any organized session with a small group of people to discuss ways to prevent HIV. Does not include discussions with a group of friends.

Pre-Exposure Prophylaxis (PrEP) Awareness and Use

NYC NHBS-IDU5, 2018, n=458 (HIV-/Unknown Status)

HIV Prevalence

HIV Prevalence

NYC NHBS-IDU5, 2018, n=502(Tested for HIV)

	Confirmed HIV-Positive Test Result	95% CI
Overall	13.6%	6.0% - 21.1%
Self-Identified Gender		
Male	10.4%	2.8% - 18.0%
Female	20.2%	1.0% - 39.5%
Transgender	61.7%	24.2% 99.3%
Race/Ethnicity		
Hispanic/Latino	8.0%	4.5% - 11.6%
Black	30.0%	5.3% - 54.6%
White	8.2%	0% - 19.0%
Other	0%	0%-0%
Age		
18-29	0%	0% - 0%
30-39	7.4%	0.8% - 14.0%
40-49	17.3%	3.1% - 31.4%
≥50	17.3%	1.8% - 32.7%

Conclusions

Summary

- These data provide some evidence that the opioid epidemic may be changing the drug use landscape in NYC. Although heroin remains the most common drug injected, almost a quarter of the sample reporting being 'hooked' on painkillers before first injection. About 40% reported using or believing to use a drug with fentanyl in it in the past 12 months.

- Despite relatively high sterile syringe access, the population reported engaging in injection-related risk behaviors, with more than one quarter (27%) reporting syringe sharing.

- Sexual behaviors continue to pose a risk to PWID with 83% reporting condomless sex in the last year.

Summary (Cont'd)

- Despite successful HIV prevention efforts to decrease HIV transmission among PWID in NYC, HIV prevalence remains higher that that of the general population, with evidence of racial/ethnic disparities in HIV burden.

- Awareness and use of PrEP were low in this population, possibly reflecting disparities in PrEP education and coverage for PWID compared to other populations at risk for HIV. PrEP may be an HIV prevention option for PWID with continuing injection and sexual risk behaviors.

Strengths

- Large dataset with data on multiple HIV risk factors
- National, standardized survey and protocol
- RDS can reach "hidden" populations of PWID who may not access treatment programs and other institutionalized settings
- Local questions were developed to explore issues relevant specifically to PWID living in NYC
- HIV status was confirmed via testing

Limitations

- RDS-based estimates may not be generalizable to the NYC population of PWID if certain methodological assumptions are not met

- RDS can only recruit those who are socially networked to other PWID

- Survey data were collected by self-report and may be biased by recall error or social desirability

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