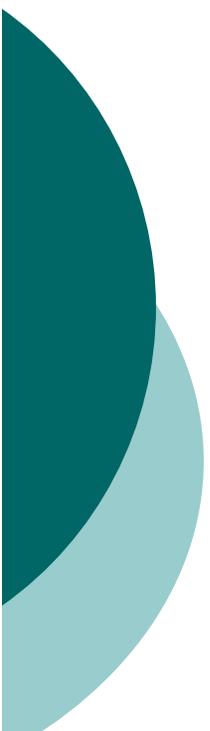


# HIV Risk and Prevalence among New York City High-Risk Heterosexuals

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Results from the 2010 National HIV Behavioral Surveillance Study



# NYC National HIV Behavioral Surveillance Team

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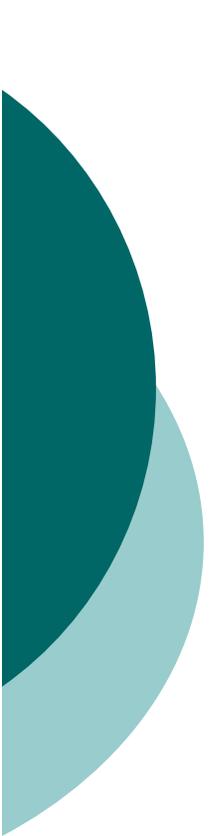
Camila Gelpi-Acosta, MA

William Rodriguez

## **John Jay College of Criminal Justice**

Travis Wendel, PhD

CDC Grant#: U62/CCU223595-03-1



# Overview

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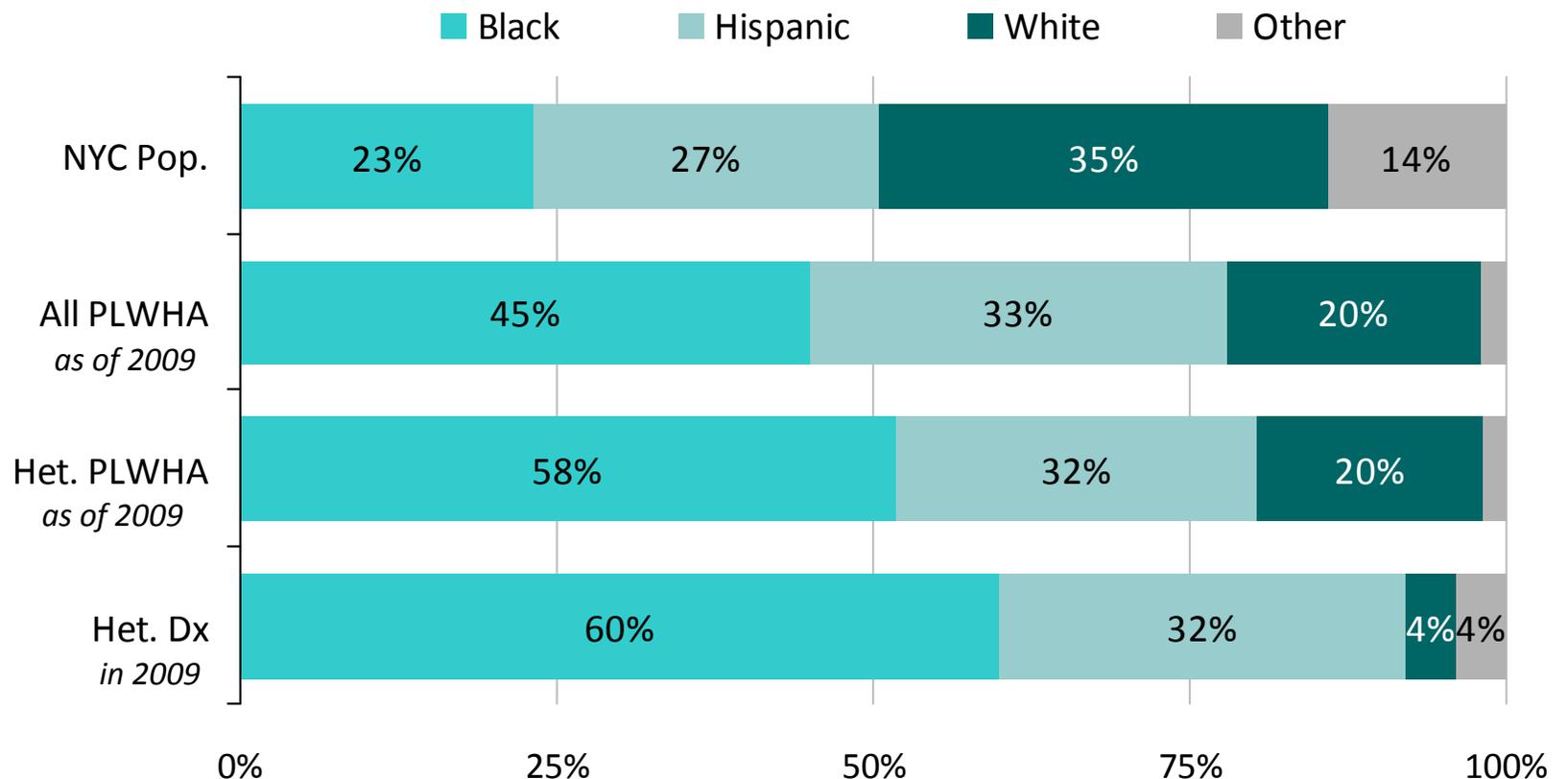
- Background
- Methods
- Results
  - Sociodemographics
  - Sexual risk
  - Drug and alcohol use
  - Exposure to HIV testing & prevention services
  - HIV prevalence and awareness of status
- Summary and conclusions

# Background

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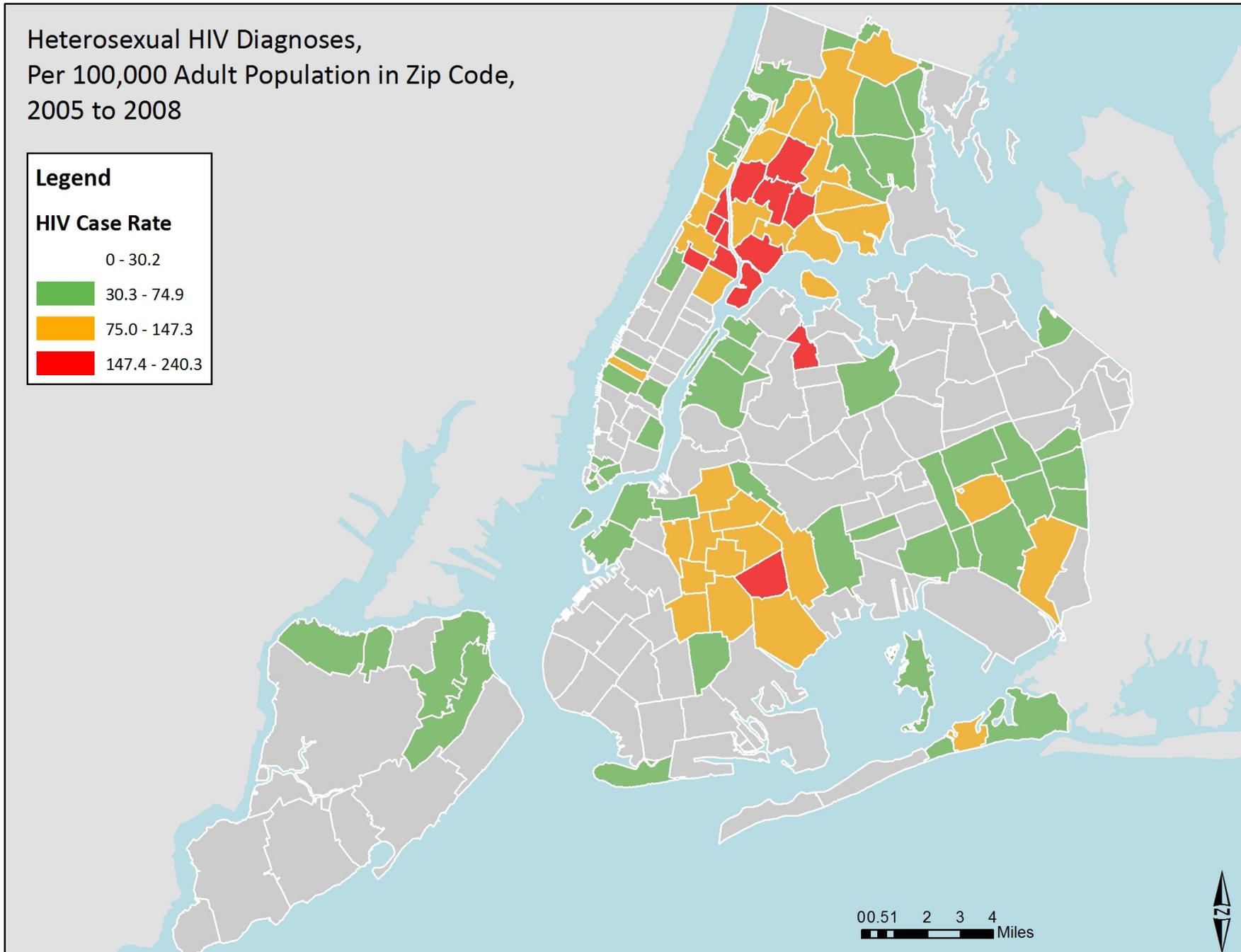
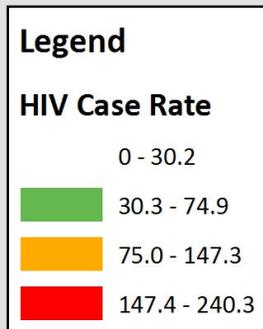
- HIV case surveillance
  - 823 new heterosexual diagnoses in 2009  
*22% of all diagnoses and 32% of diagnoses with known risk*
  - 20,718 heterosexual PLWHA as of 2009  
*19% of all PLWHA and 26% of PLWHA with known risk*
- Heterosexual case categorization is complicated by need for known partner risks
  - Heterosexual HIV epidemic is partially driven by sexual partnerships with high-risk partners (e.g., MSM & IDU)
  - Partner risks are often unknown

# Racial Disparities in Heterosexual HIV

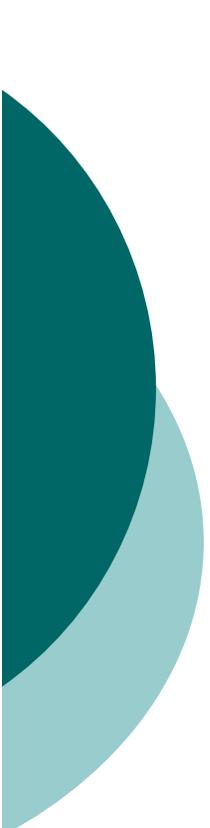


Compared to the overall NYC population, heterosexual PLWHA are disproportionately black, and new heterosexual diagnoses occur even more disproportionately among this group

Heterosexual HIV Diagnoses,  
Per 100,000 Adult Population in Zip Code,  
2005 to 2008



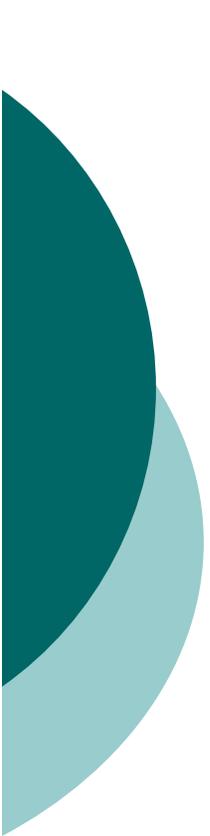
Heterosexual HIV diagnoses also disproportionately occurred in three areas: Harlem, South Bronx, and Central Brooklyn



# National HIV Behavioral Surveillance (NHBS)

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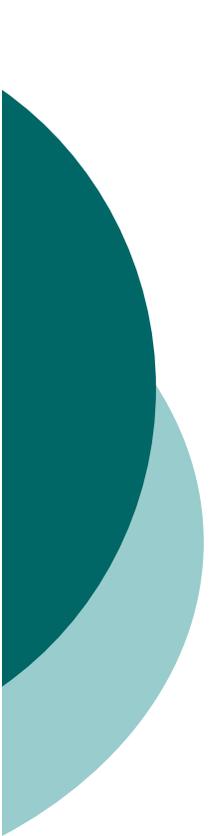
- Ongoing, cyclical study of three HIV risk groups: MSM, IDU, and high-risk heterosexuals (HET)
  - Conducted in 21 cities through the U.S.
  - Funded by CDC, designed collaboratively
  - Cross-sectional study design
  - Anonymous, structured interview and serologic HIV testing
- Current results are from second HET cycle (NHBS-HET2)



# NHBS Study Objectives

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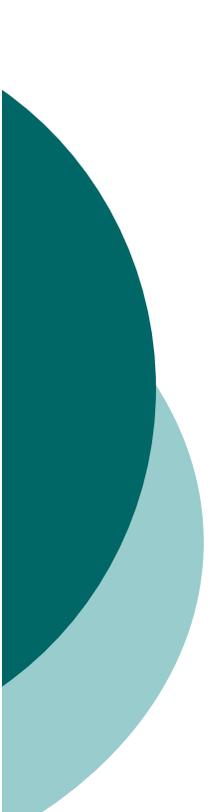
- Determine frequency and correlates of HIV risk behaviors
- Assess HIV testing history and patterns
- Assess exposure to and use of HIV prevention services
- Estimate the prevalence of HIV infection
- Understand trends in HIV risk and prevalence



# NHBS-HET2 Eligibility Criteria

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- Vaginal or anal sex with an opposite-sex partner in the past year
- Man or woman between 18 and 60 years old
- Resident of New York City
- Speaks English or Spanish

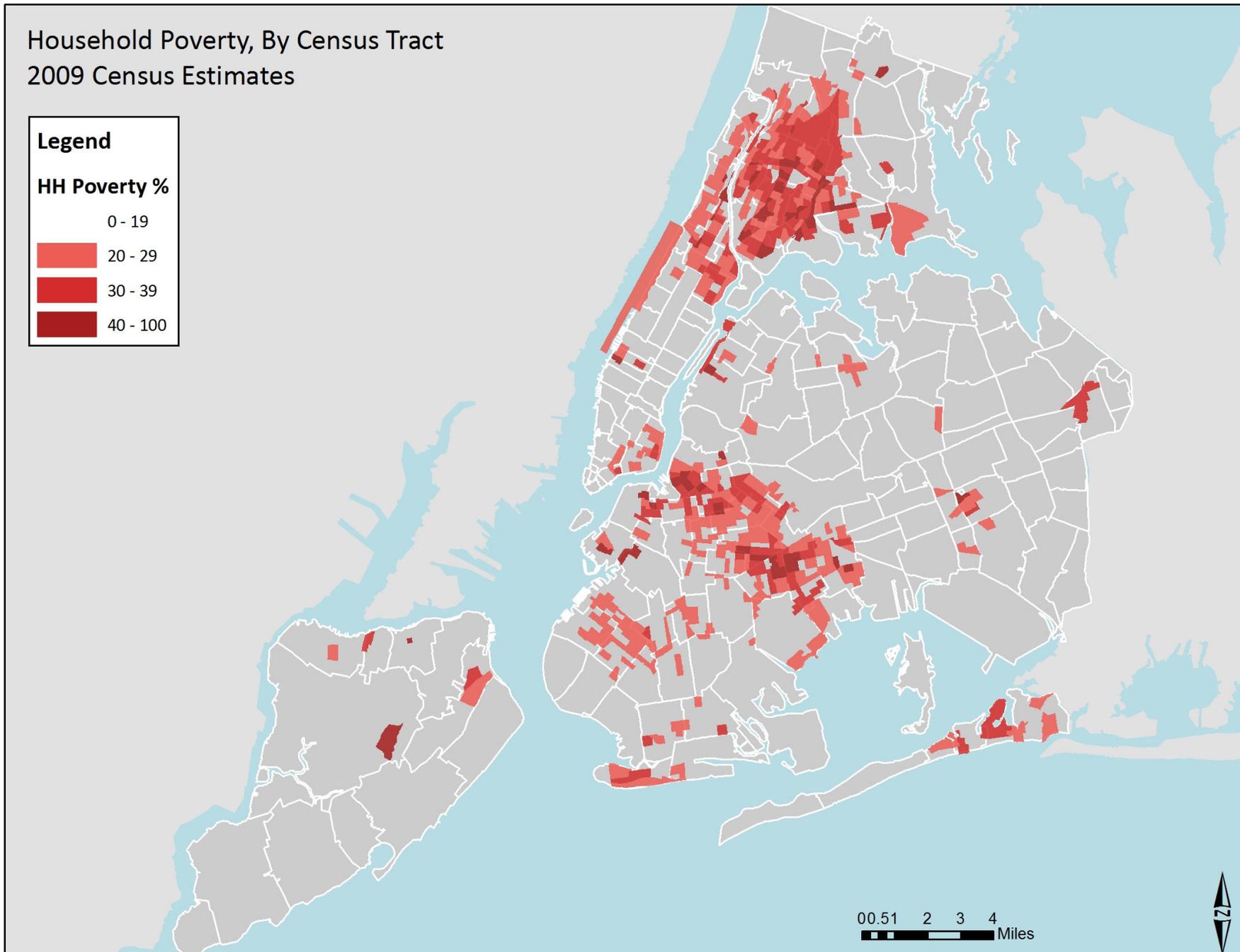
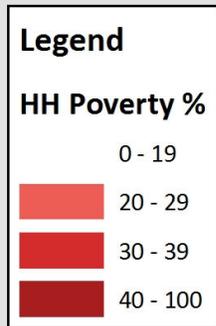


# Respondent-Driven Sampling

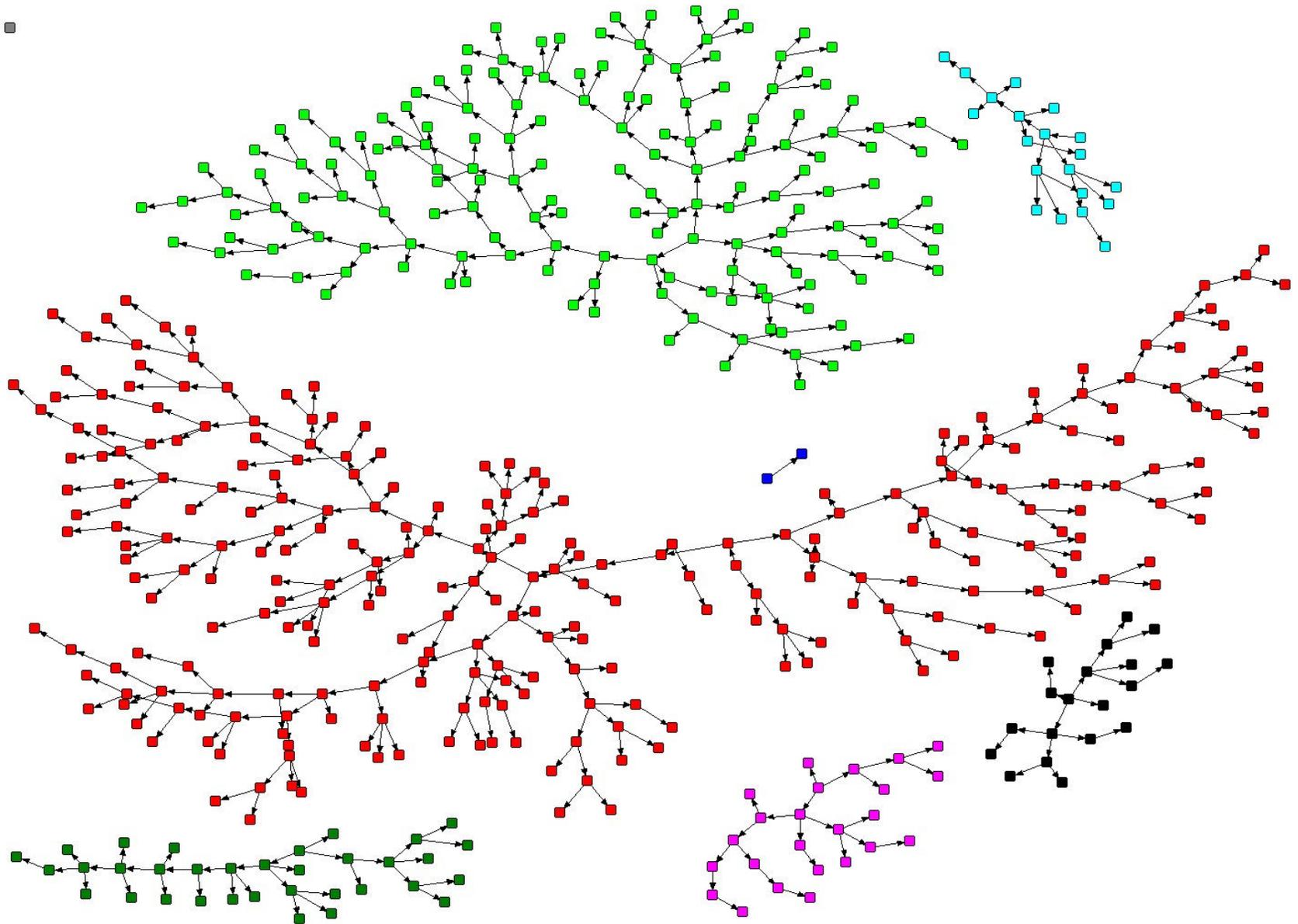
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1. Study team recruits small number of initial participants (“seeds”) through community outreach
2. Seeds participate in the study then recruit up to three peers in their social networks
3. Those three peers participate and each recruit up to three more peers
  - Recruitment chains continually monitored to ensure demographic representativeness
  - Incentives provided for participating in study and peer recruitment

## Household Poverty, By Census Tract 2009 Census Estimates



To focus recruitment in geographic areas of interest, seeds must have resided in census tracts with at least 20% household poverty (in red)



Each circle represents a study participant. Linking lines show recruitment chains, initiated by 7 productive seeds (represented by colors). To focus recruitment in high-risk heterosexual social networks, current IDU and high income/education participants are not allowed to recruit

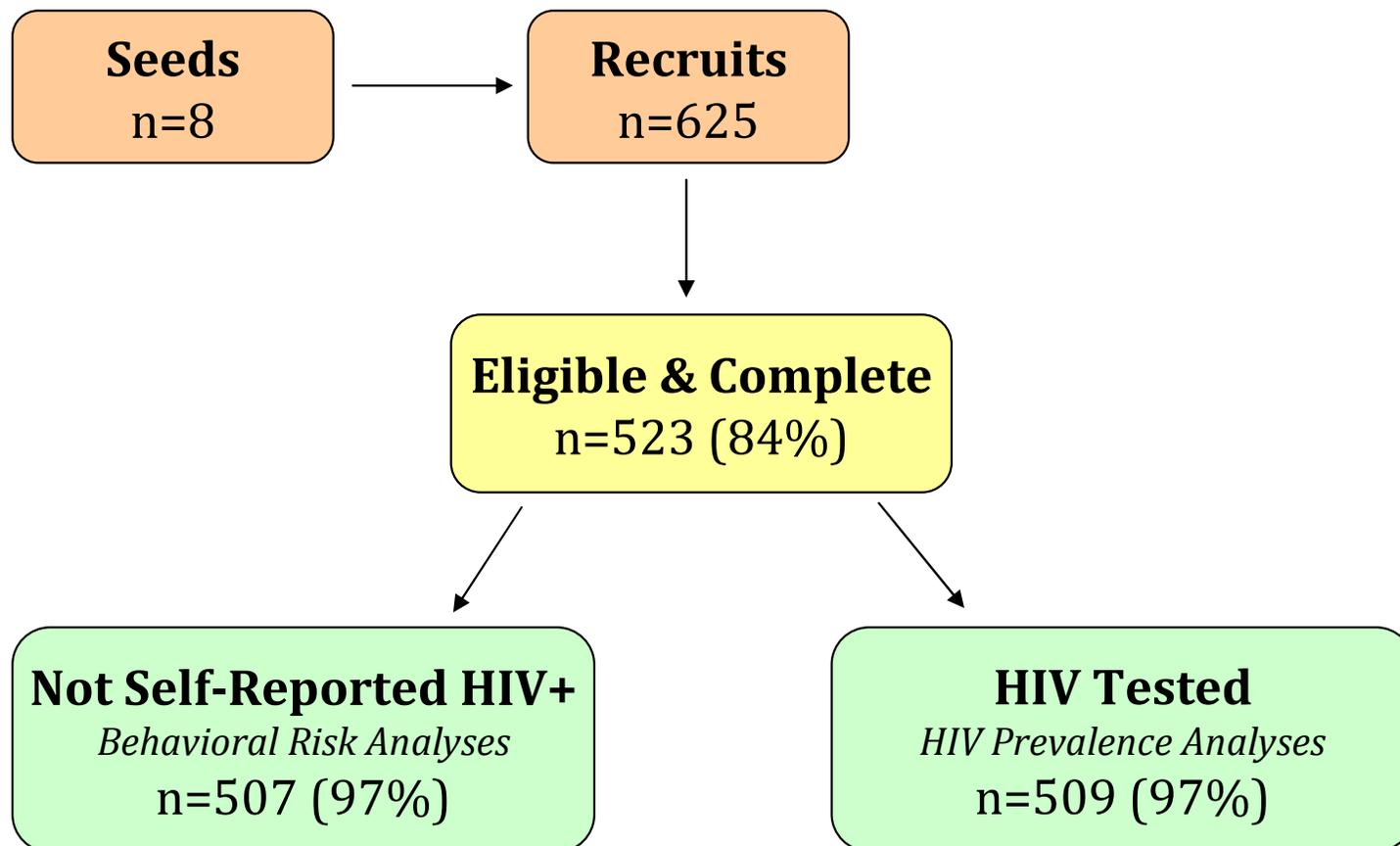
# Statistical Analysis

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- Weighted analysis conducted with RDS Analysis Tool 6.0, SAS 9.2, and R 2.13
- RDS weighting may mitigate recruitment bias associated with peer-recruitment
  - Overrepresentation of groups with large networks and in-group recruitment preference
- Weighted parameter proportion estimates (e.g., % female) are available, but not parameter sizes
- Self-reported HIV+ HET (n=16) removed from behavioral risk analyses; HET untested for HIV (n=14) excluded from seroprevalence analyses

# NHBS-HET2 Sample Diagram

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# Demographics

*NYC NHBS-HET2, 2010, n=523*

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## **Gender**

Male	56.1%
Female	43.9%

## **Race/Ethnicity**

Black	76.2%
Hispanic	22.4%
White	0.8%
Other	0.6%

## **Age**

18-29	40.7%
30-39	12.9%
40-49	25.1%
50+	21.3%

## **Birthplace**

United States	95.0%
Puerto Rico	1.2%
Foreign	3.8%

# Demographics

NYC NHBS-HET2, 2010, n=523

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## Homeless\*

Ever	44.3%
Currently	27.5%

## Income\*

< \$10k/year	60.8%
≥ \$10k/year	39.2%

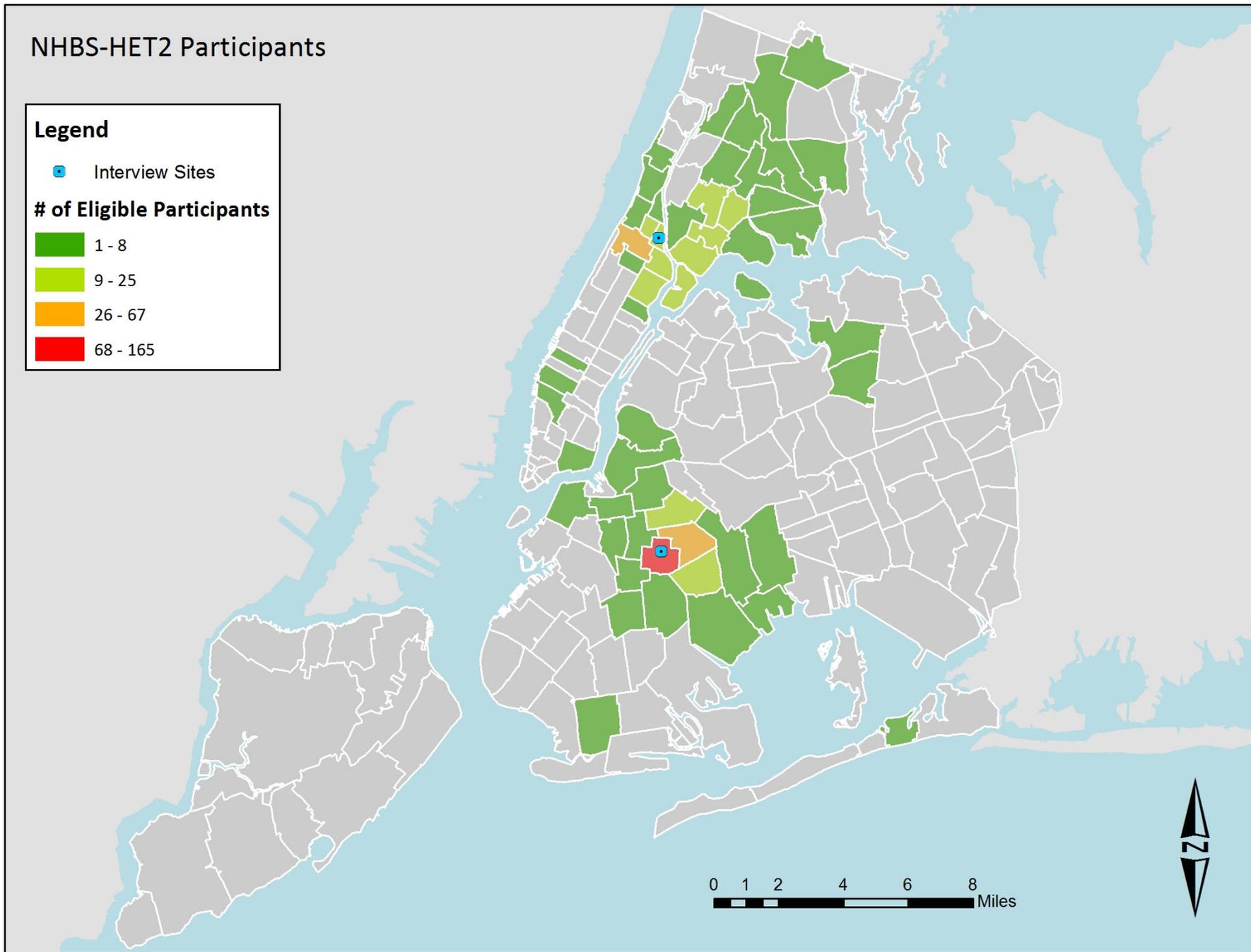
## Criminal Justice\*

Arrested	28.2%
Incarcerated	25.2%

## Education

< H.S. Grad	44.4%
≥ H.S. Grad	55.6%

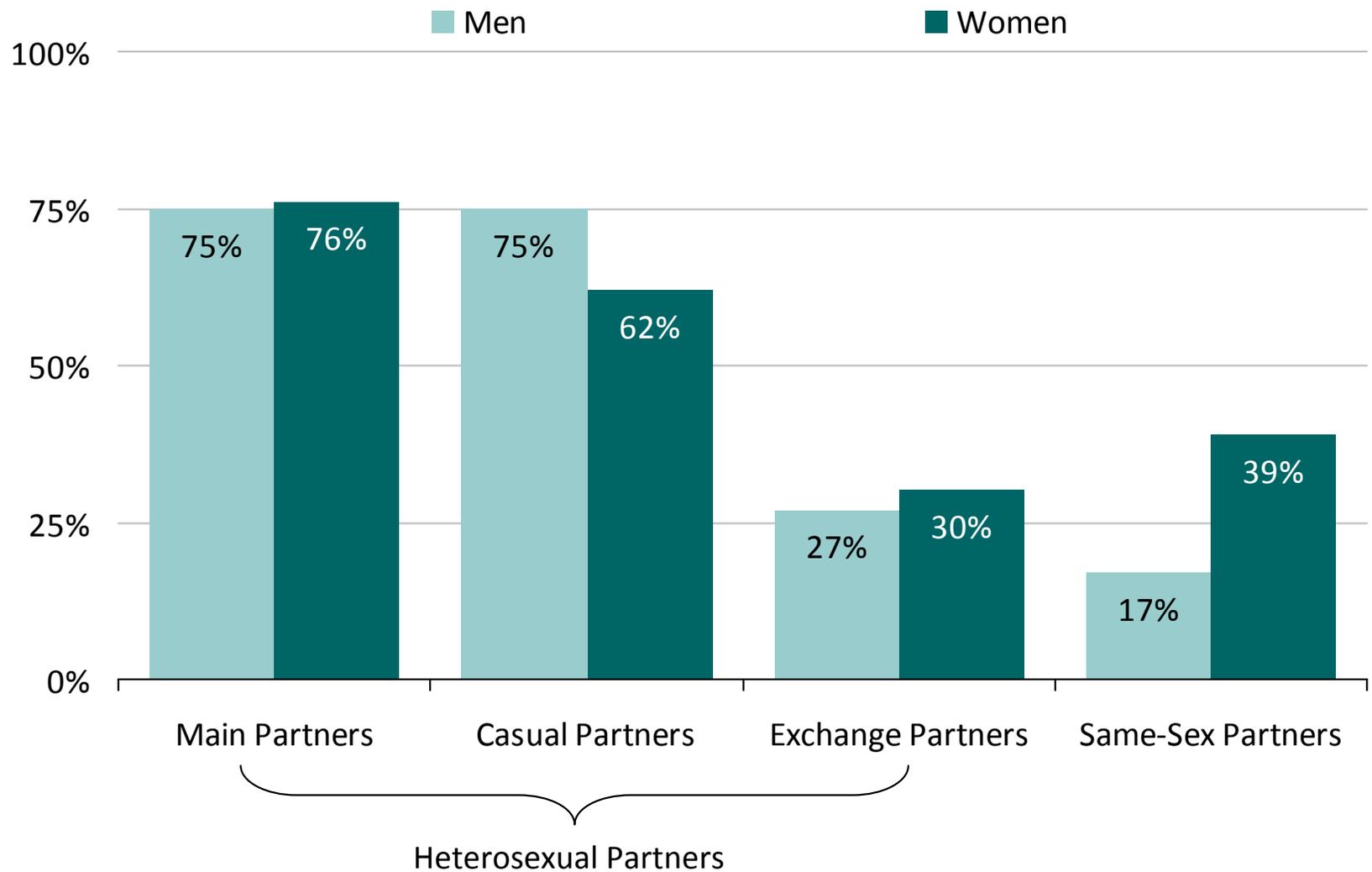
\* In the past year



Number of study participants by zip code of residence and location of interview sites in Harlem and Crown Heights are shown

# Past Year Sexual Partnerships

NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)



# Number of Past-Year Heterosexual Partners

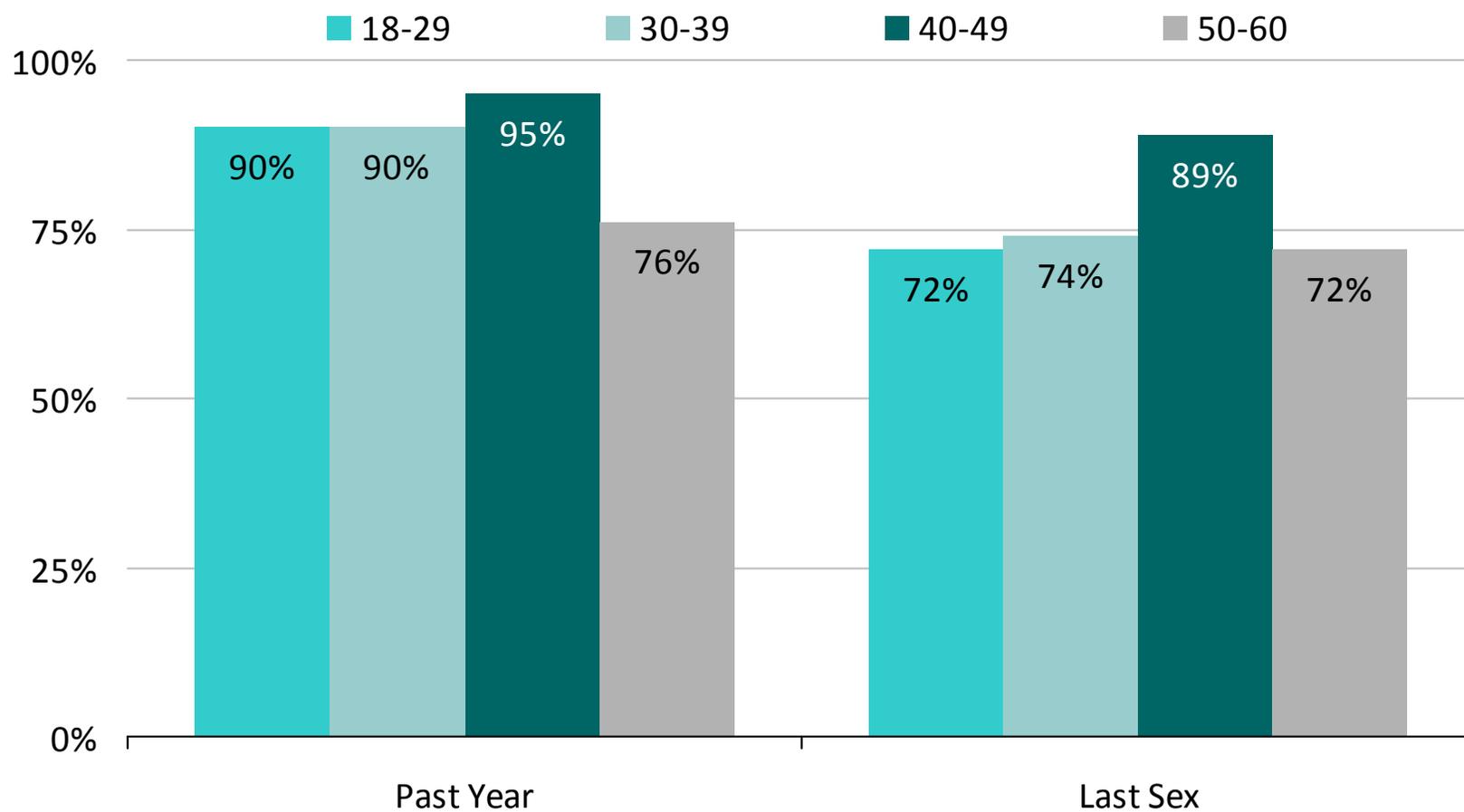
*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*

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	<b>Median</b>	<b>Mean</b>	<b>95% CI</b>
<b>Main</b>	1	1.2	1.1-1.3
<b>Casual</b>	1	3.4	2.7-4.0
<b>Exchange</b>	0	2.5	1.3-3.7
<b>All Types</b>	3	7.1	5.7-8.5

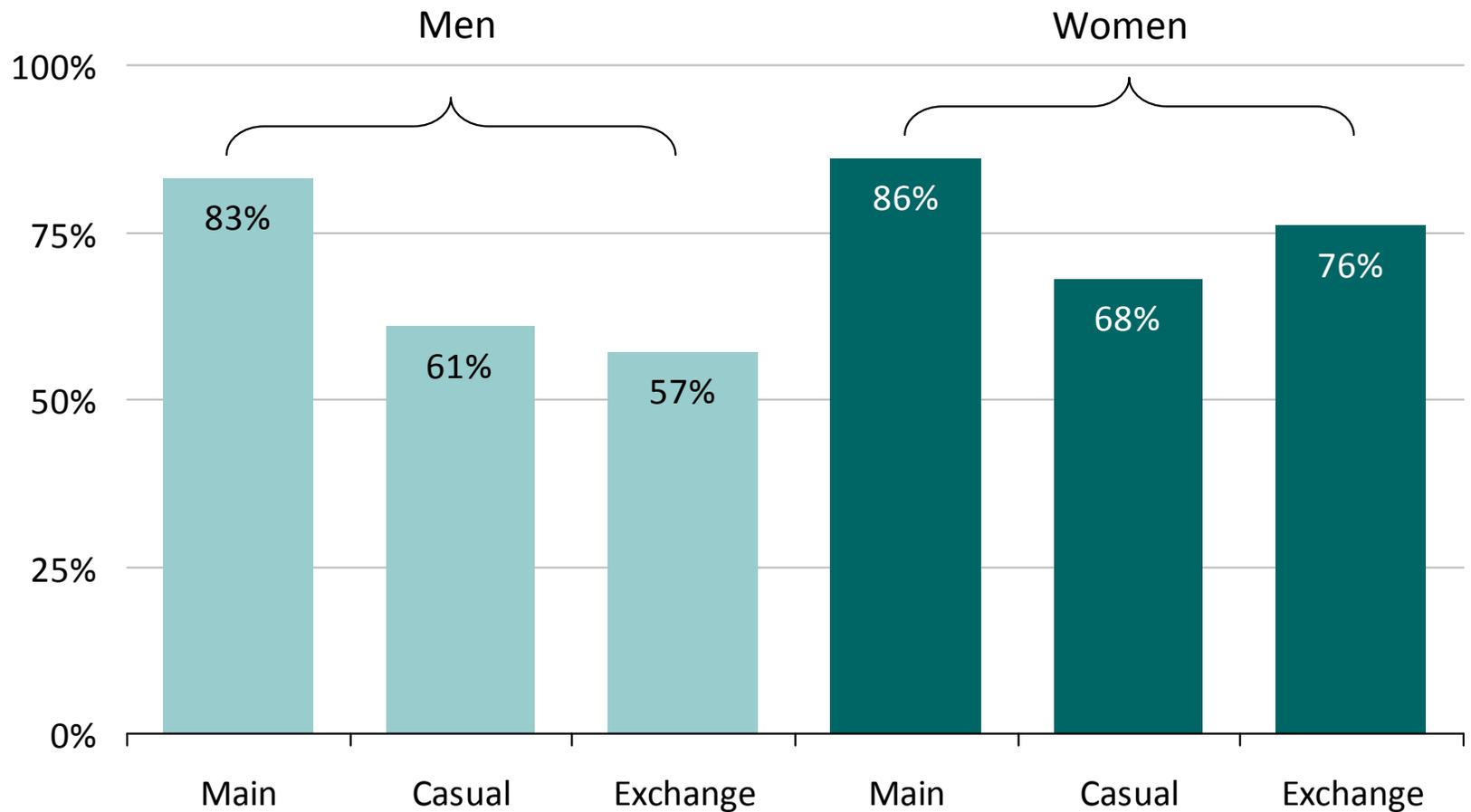
# Unprotected Sex in Past Year and Last Sex

NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)



# Unprotected Sex at Last Sex

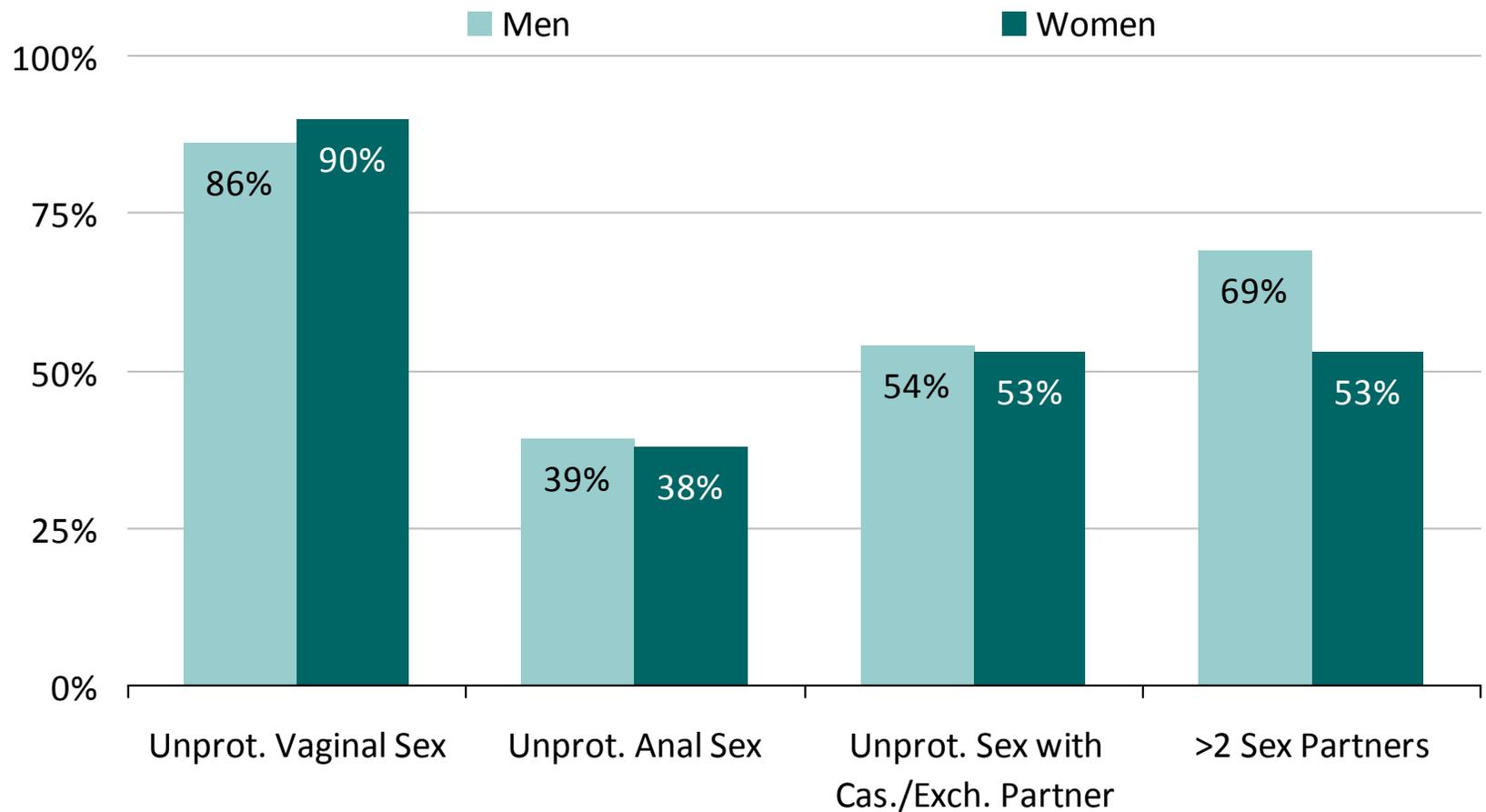
NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)



Denominators: of those with a respective partner type at last sex

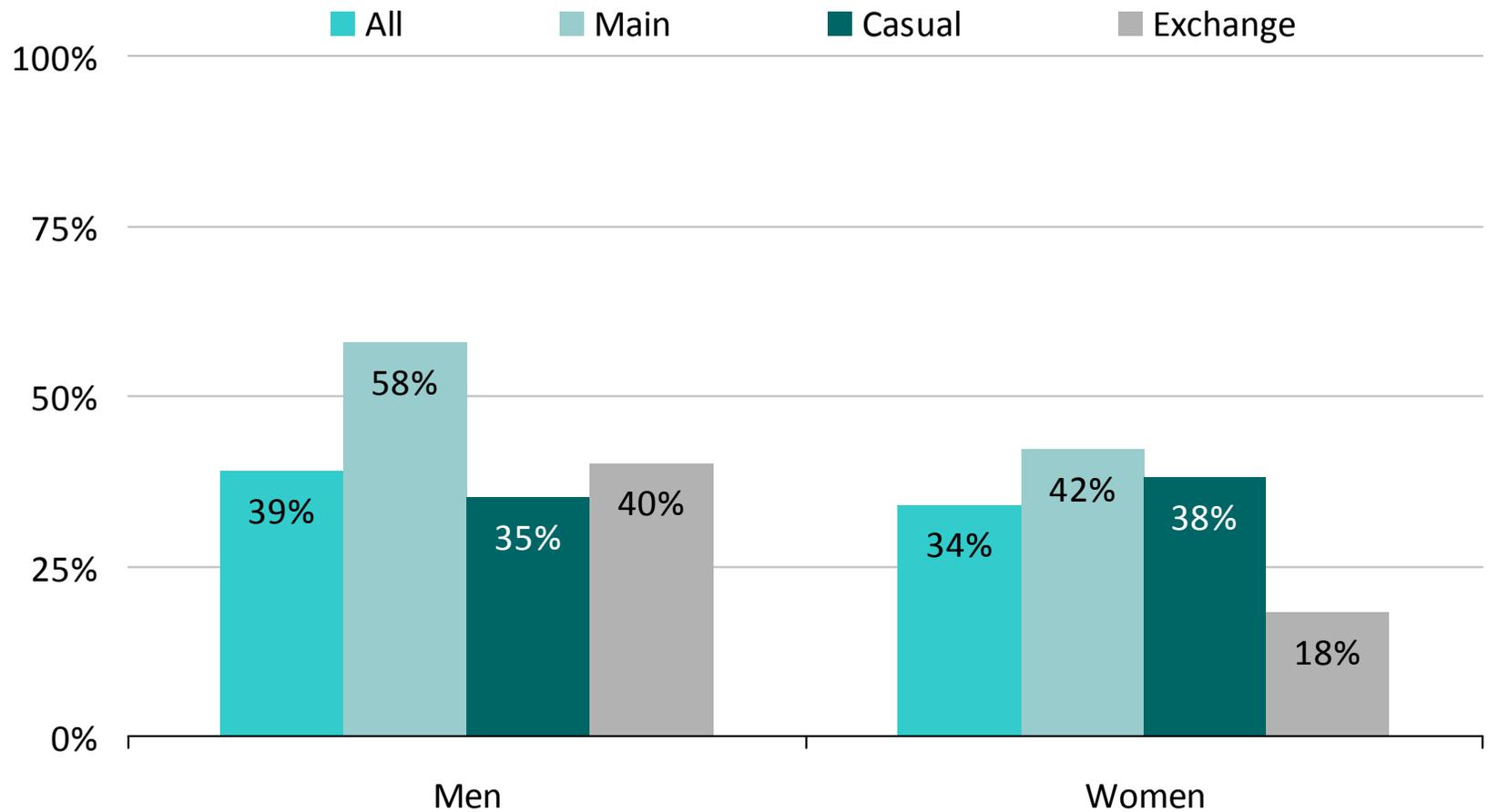
# Past Year Heterosexual Risks

*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*



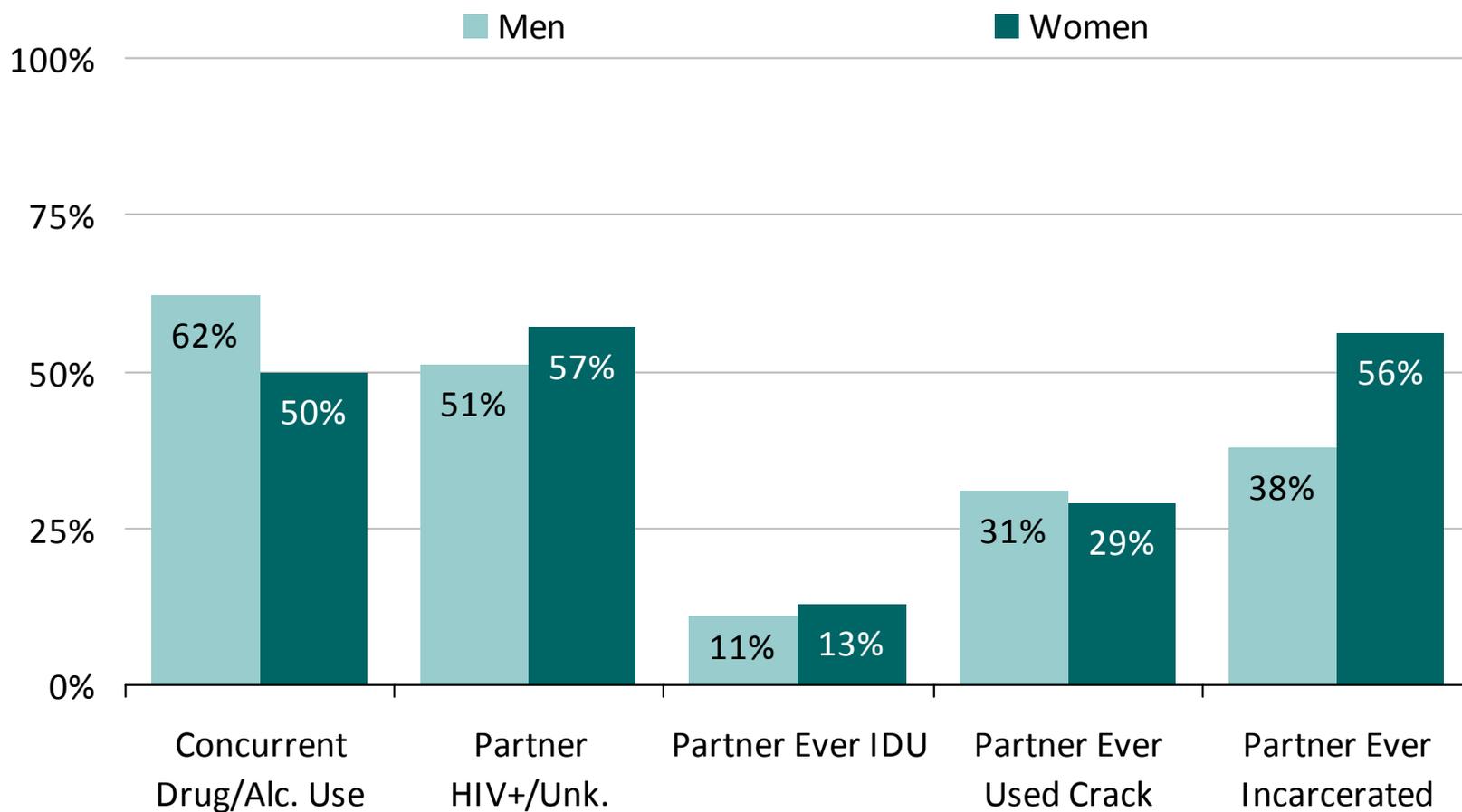
# Discussed HIV with All New Partners in Past Year

*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*



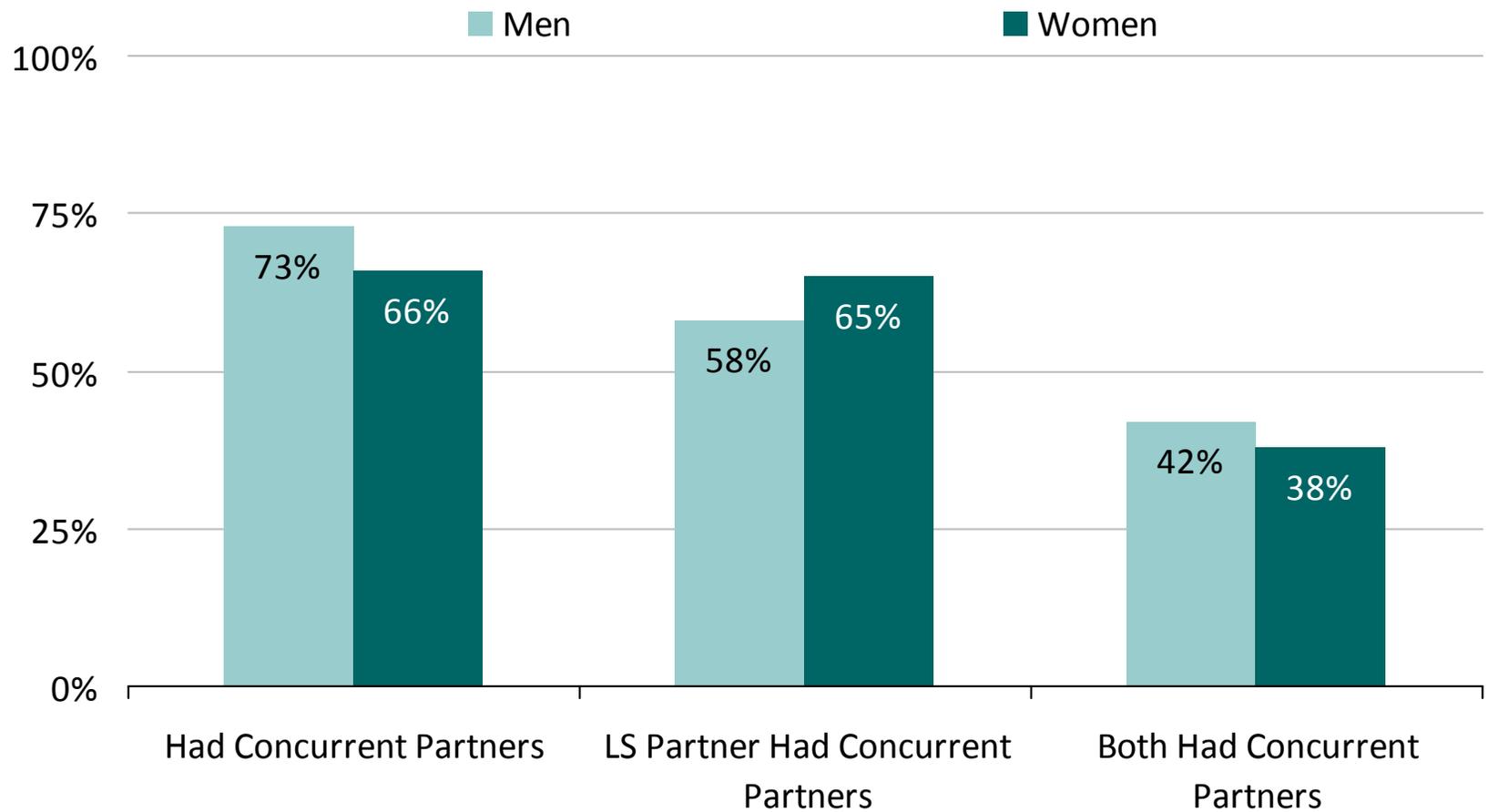
# Risk Characteristics of Last Heterosexual Act

*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*



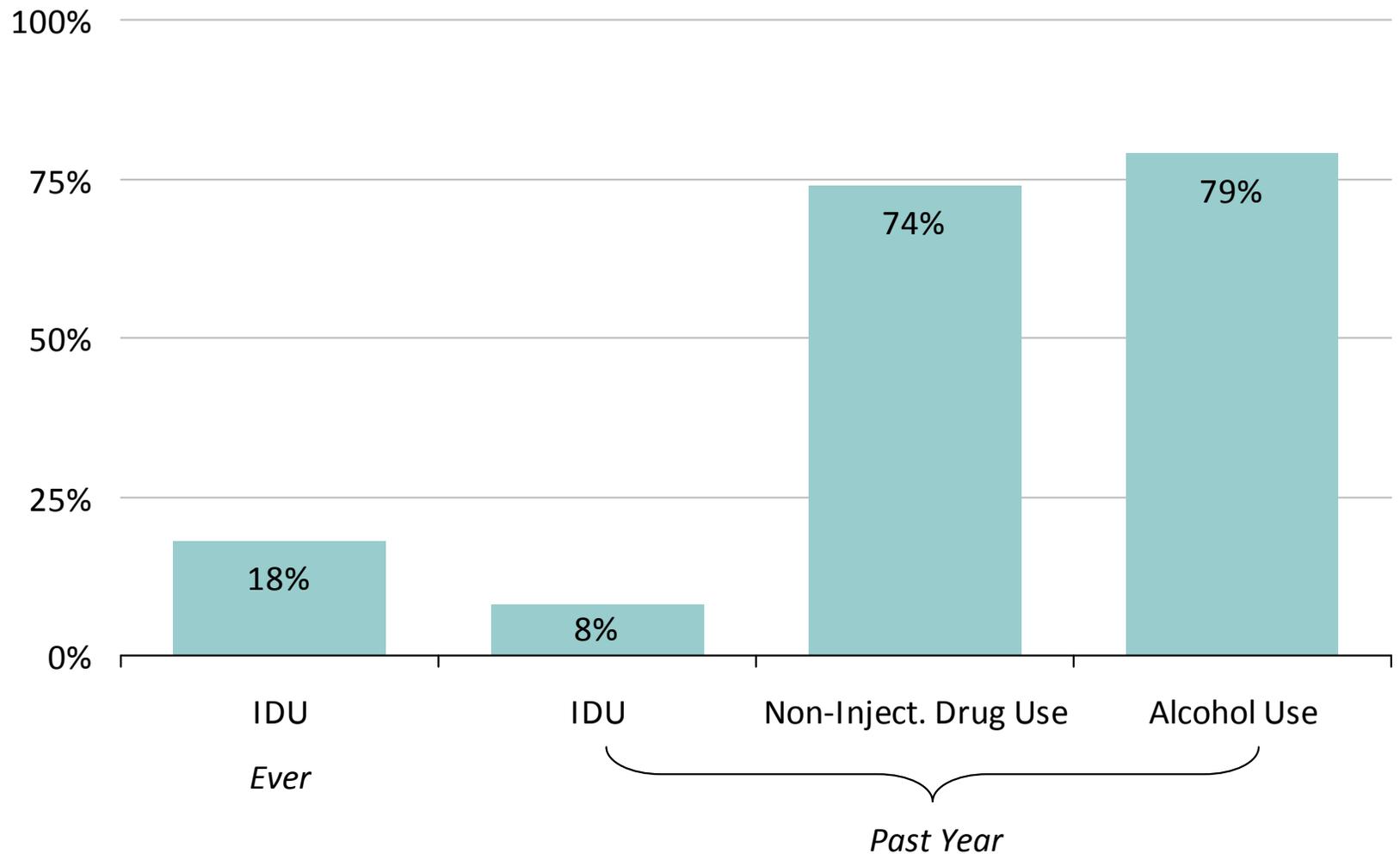
# Concurrent Partners During Last Sex Partnership

*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*



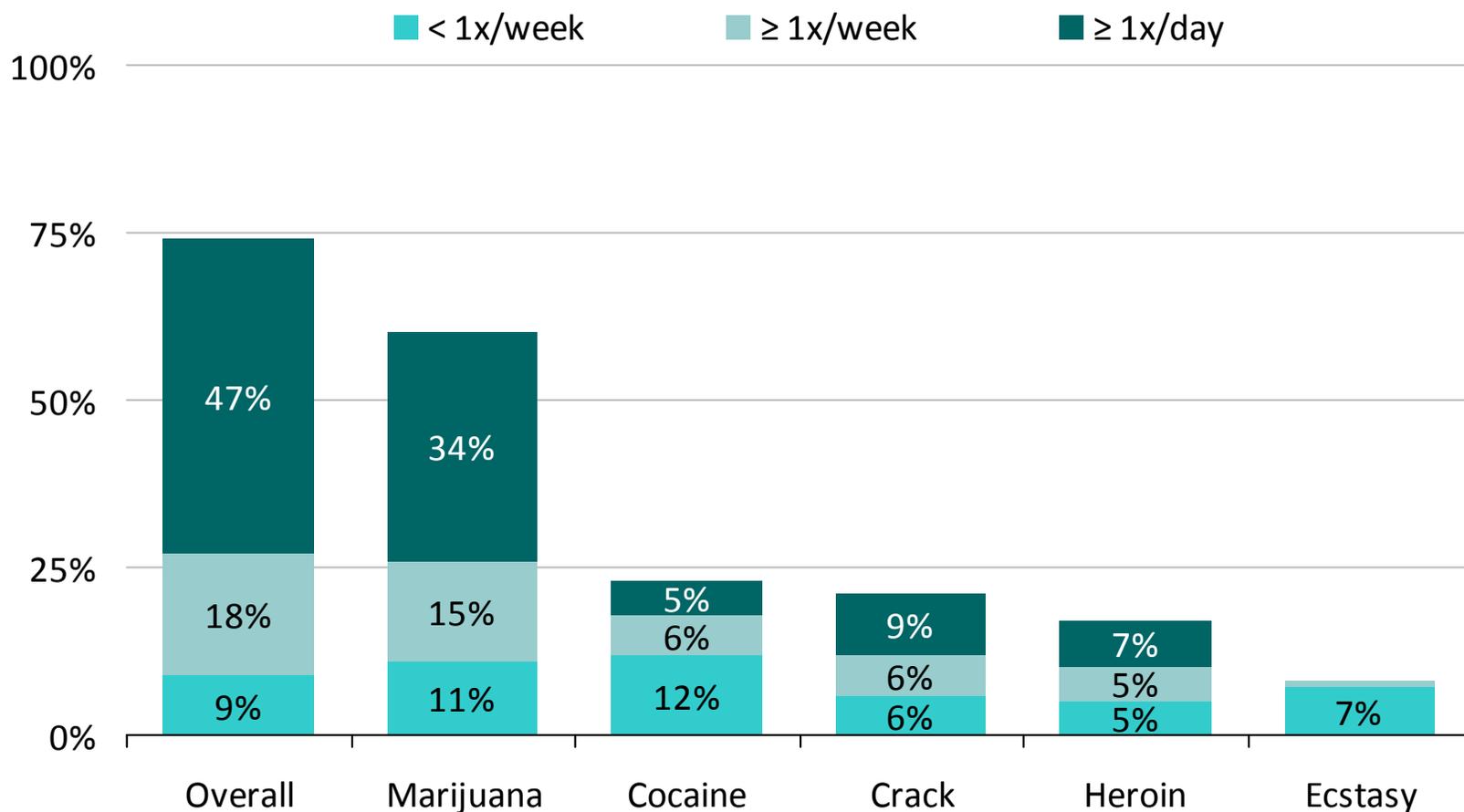
# Drug and Alcohol Use History

NYC NHBS-HET2, 2010, n=523



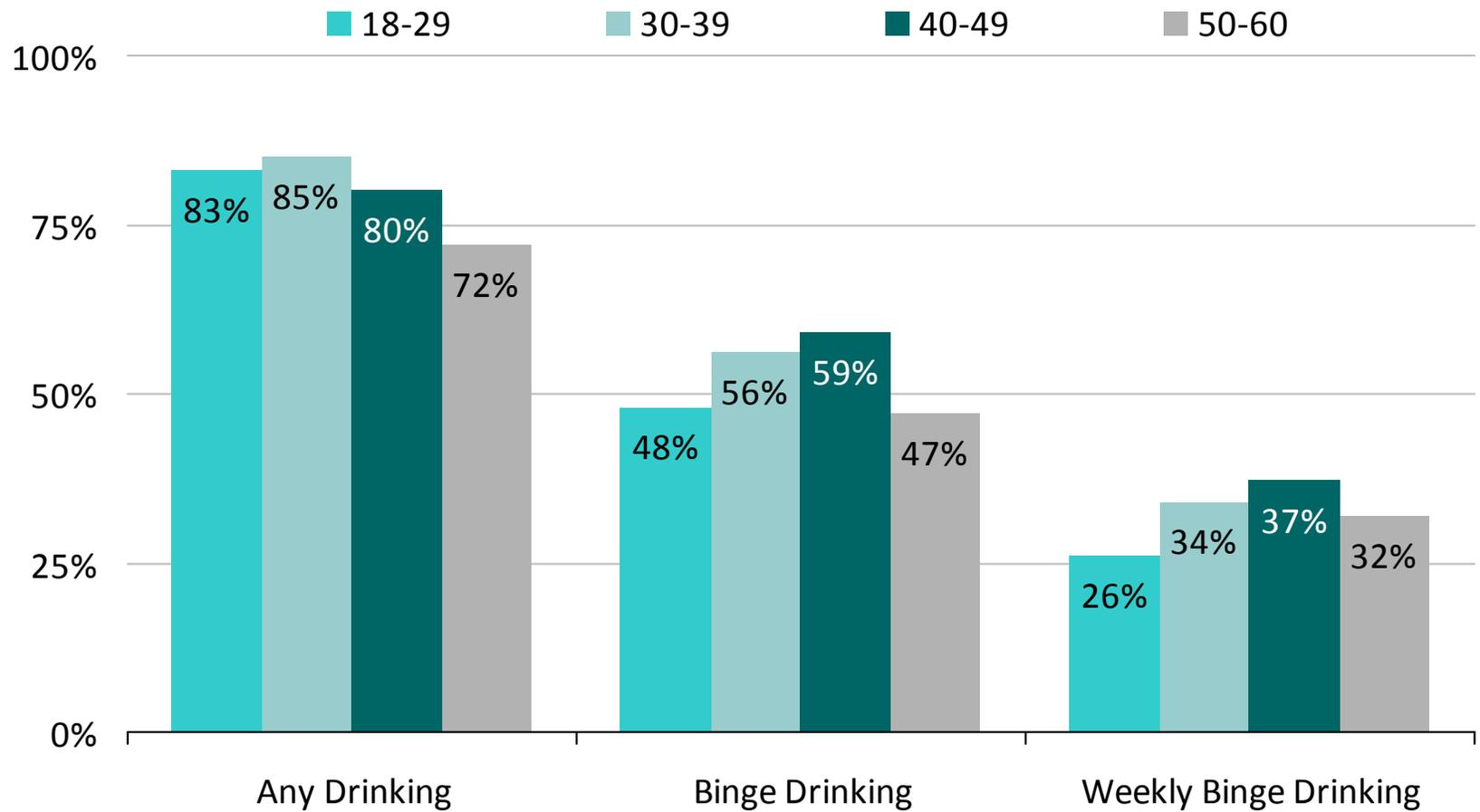
# Non-Injection Drug Use in Past Year

NYC NHBS-HET2, 2010, n=523



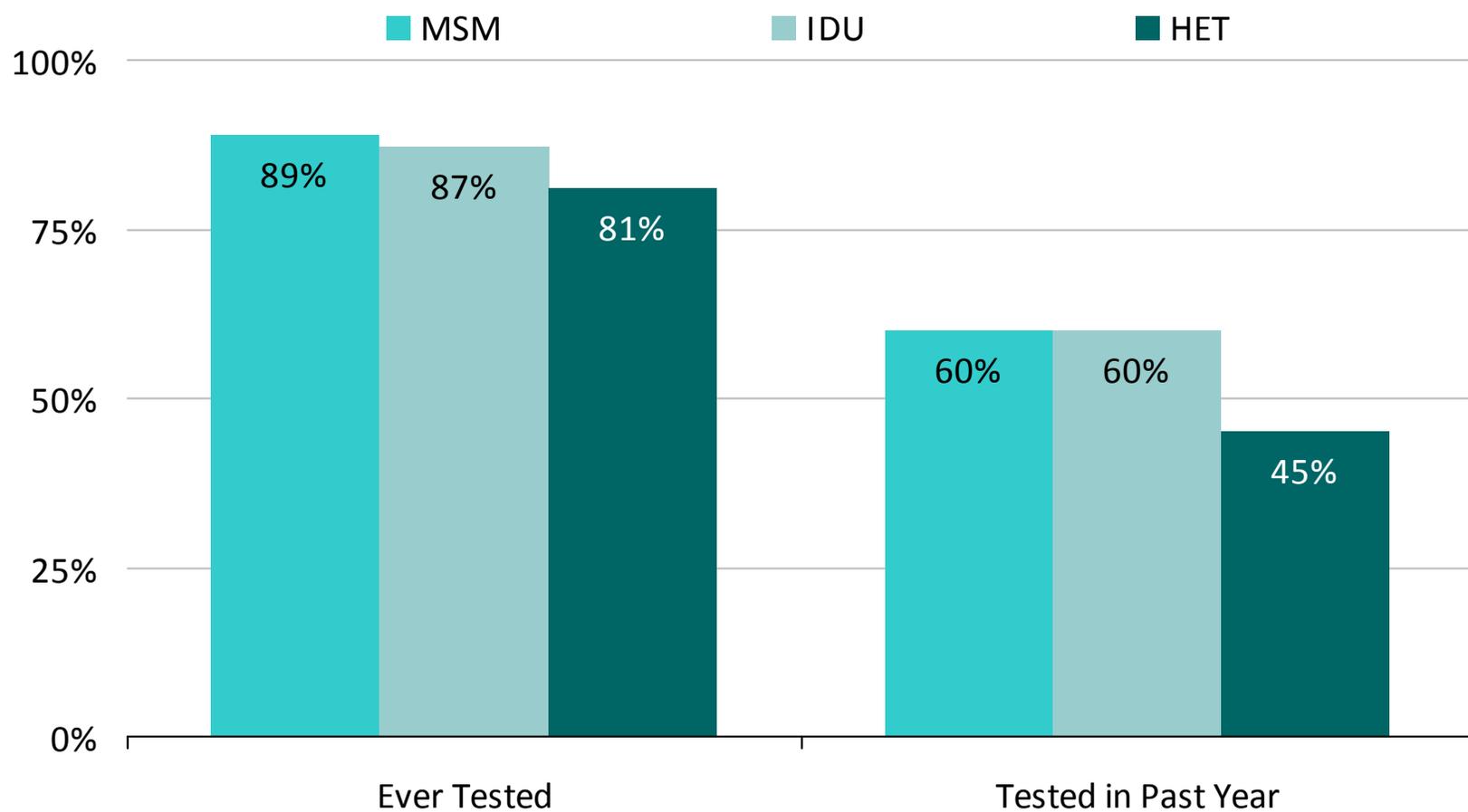
# Alcohol Use in Past Year

NYC NHBS-HET2, 2010, n=523



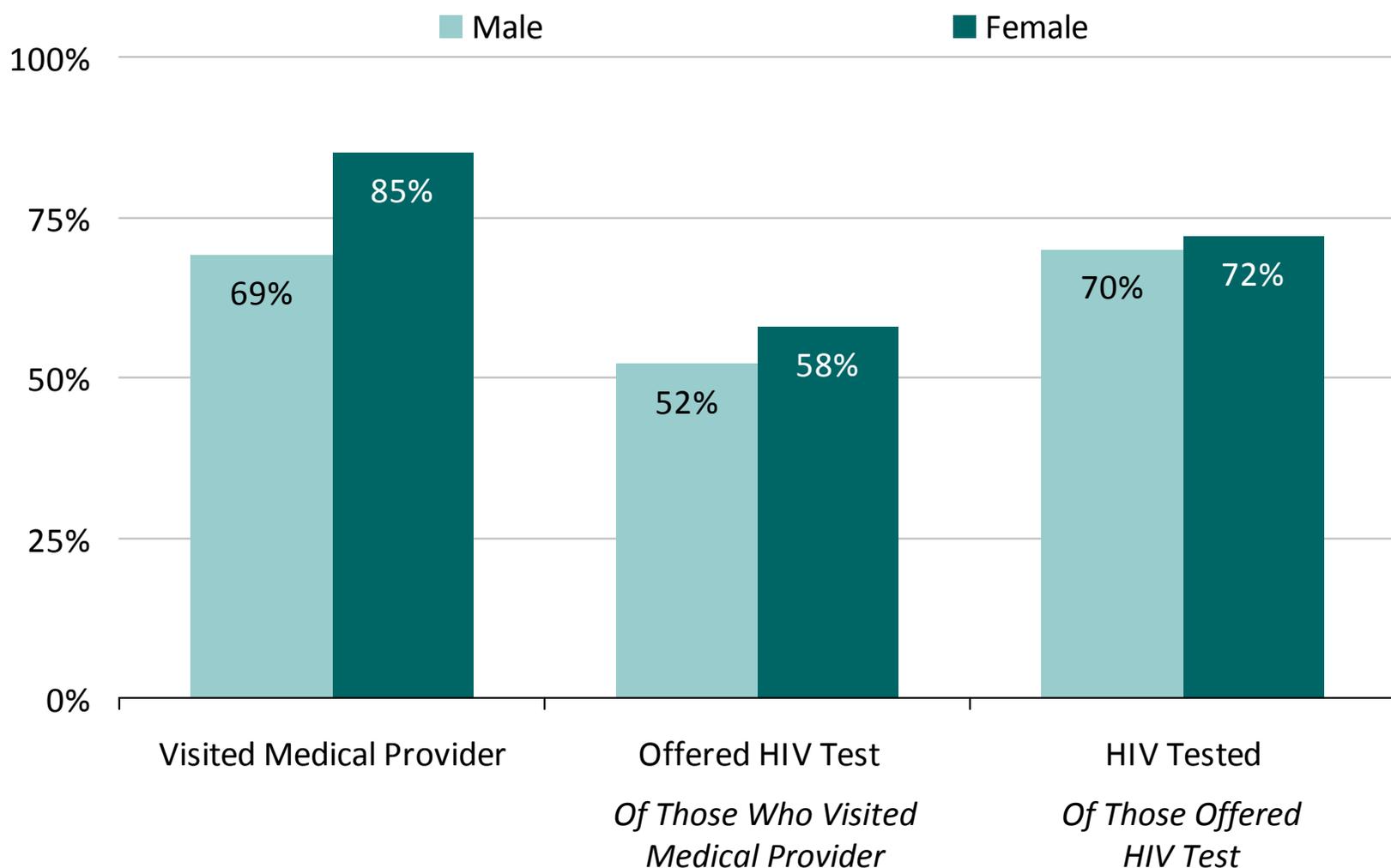
# HIV Testing History by Risk Group

*NYC NHBS MSM (2008), IDU (2009), and HET (2010)*



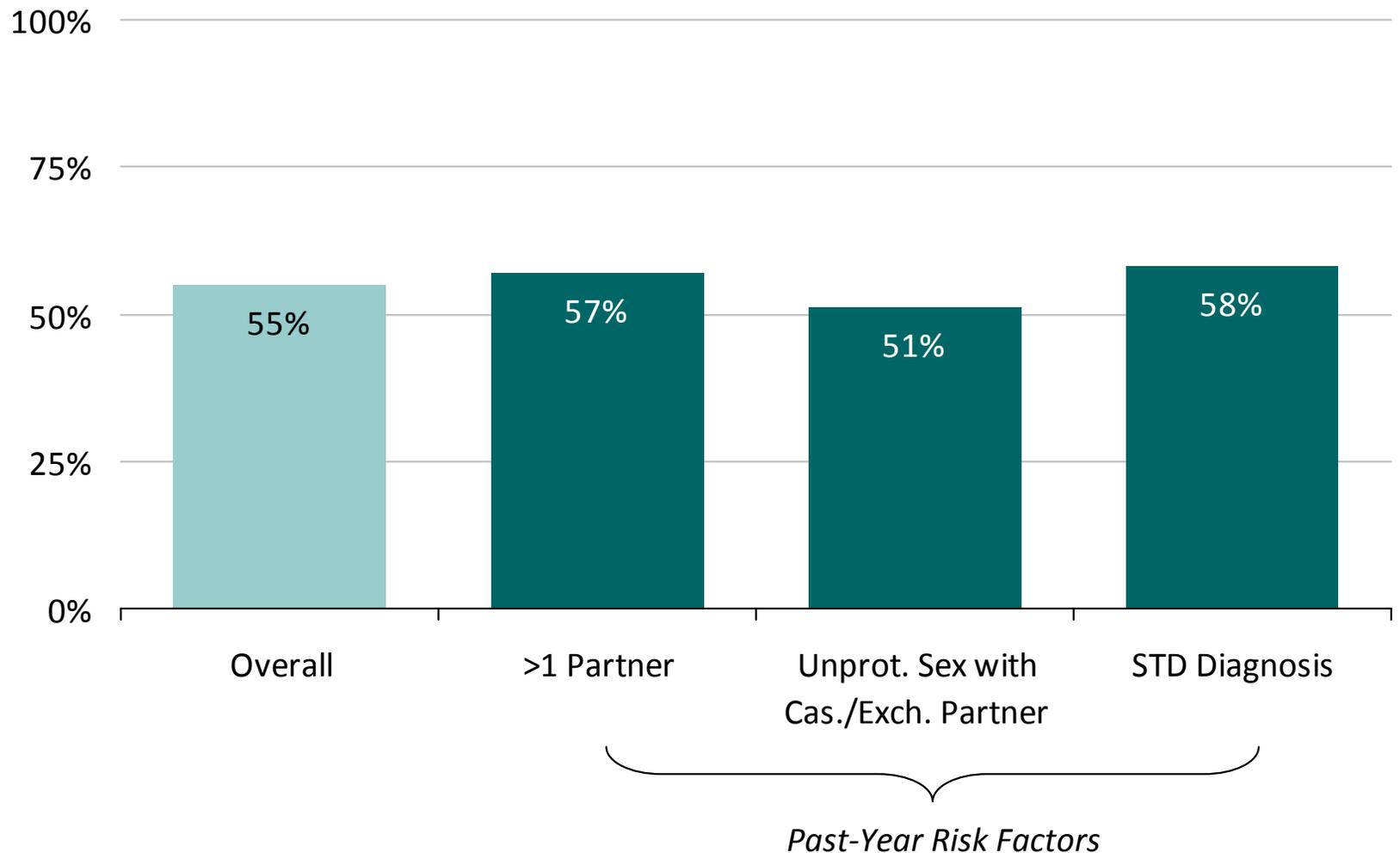
# Medical Visits and HIV Testing in Past Year

*NYC NHBS-HET2, 2010, n=507 (HIV-/Unknown Status)*



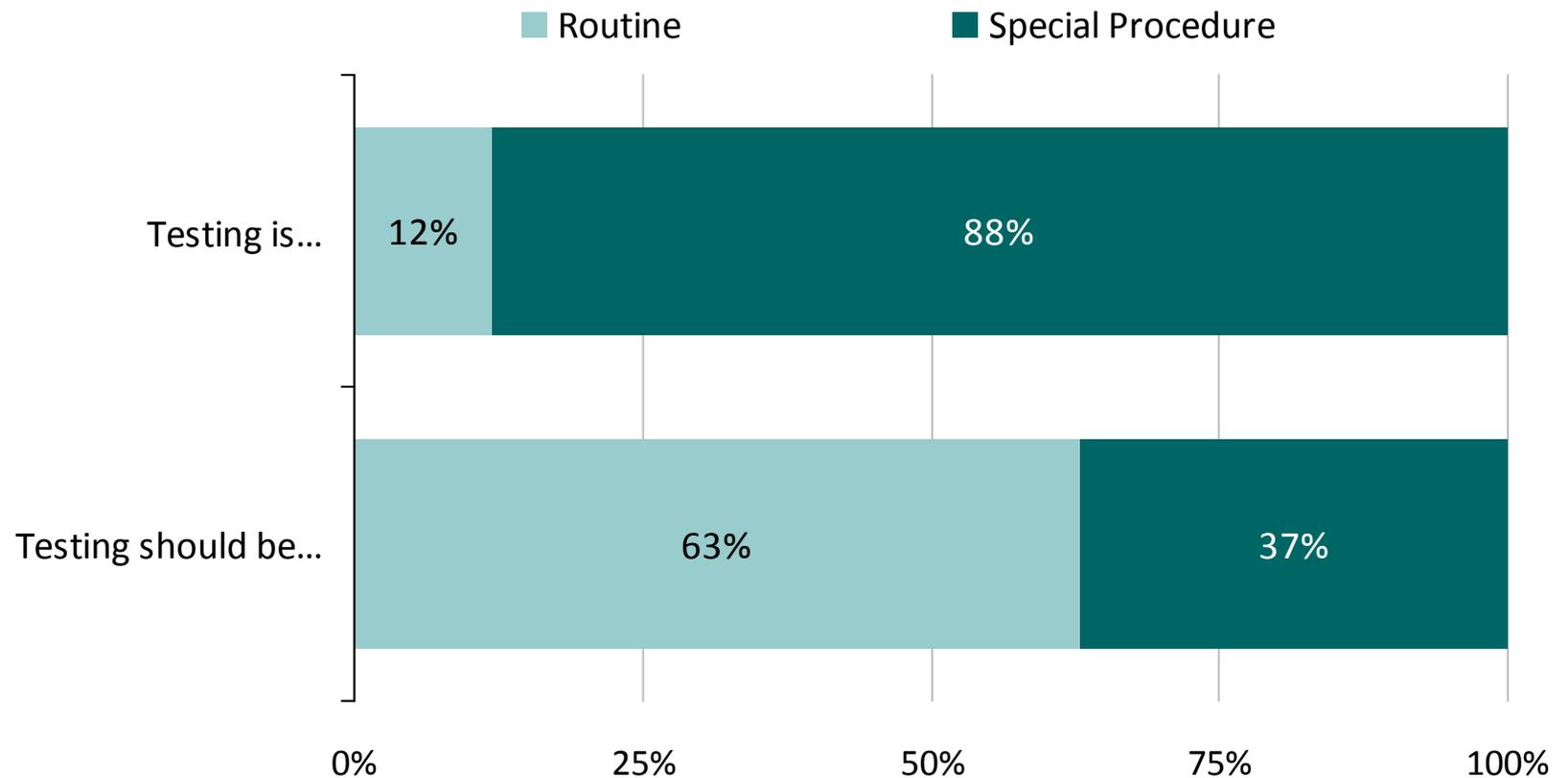
# Offered HIV Test by Past-Year Risks

*NYC NHBS-HET2, 2010, n=372 (HIV-/Unk. Visiting Med. Provider)*



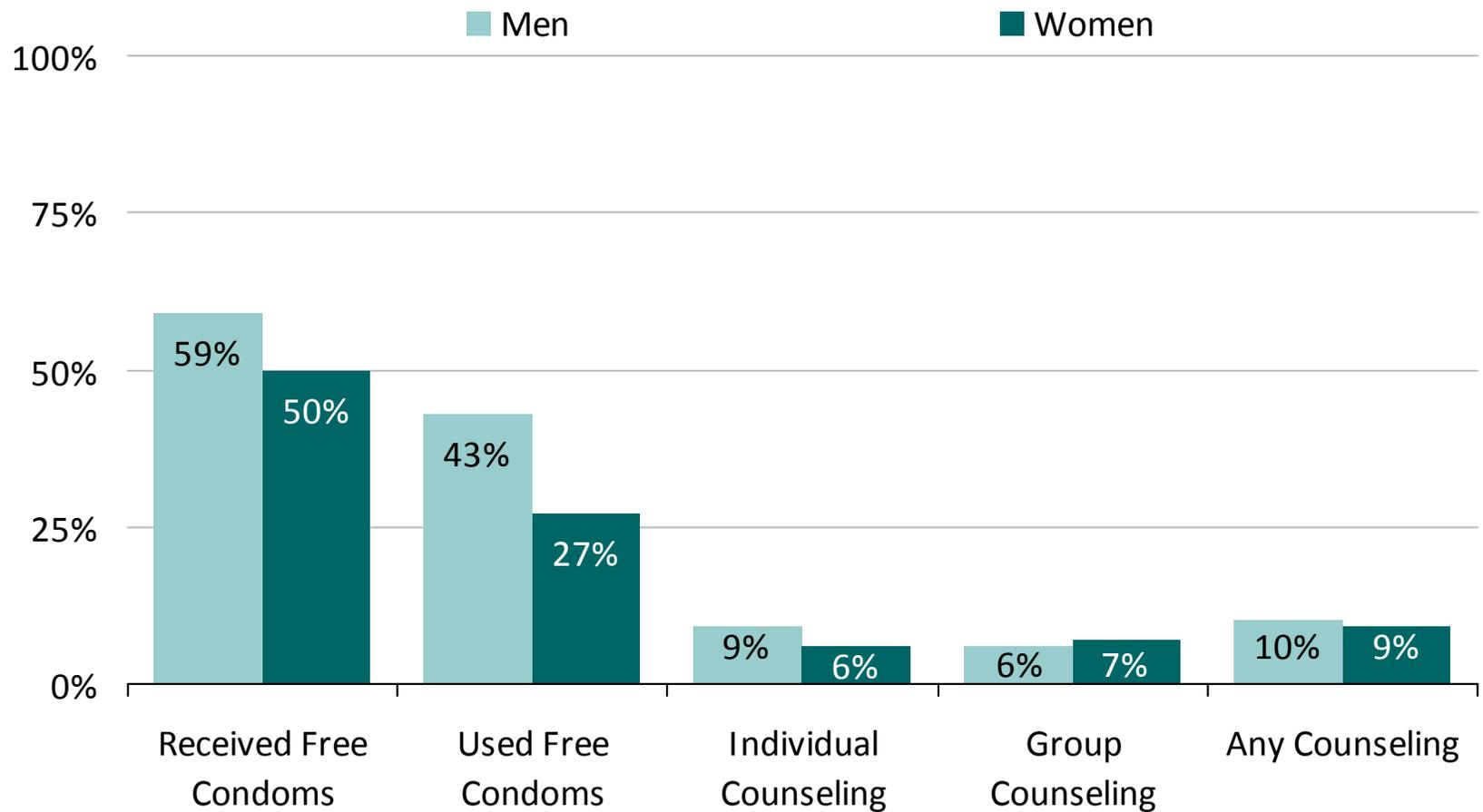
# Beliefs about Routine HIV Testing

NYC NHBS-HET2, 2010, n=523



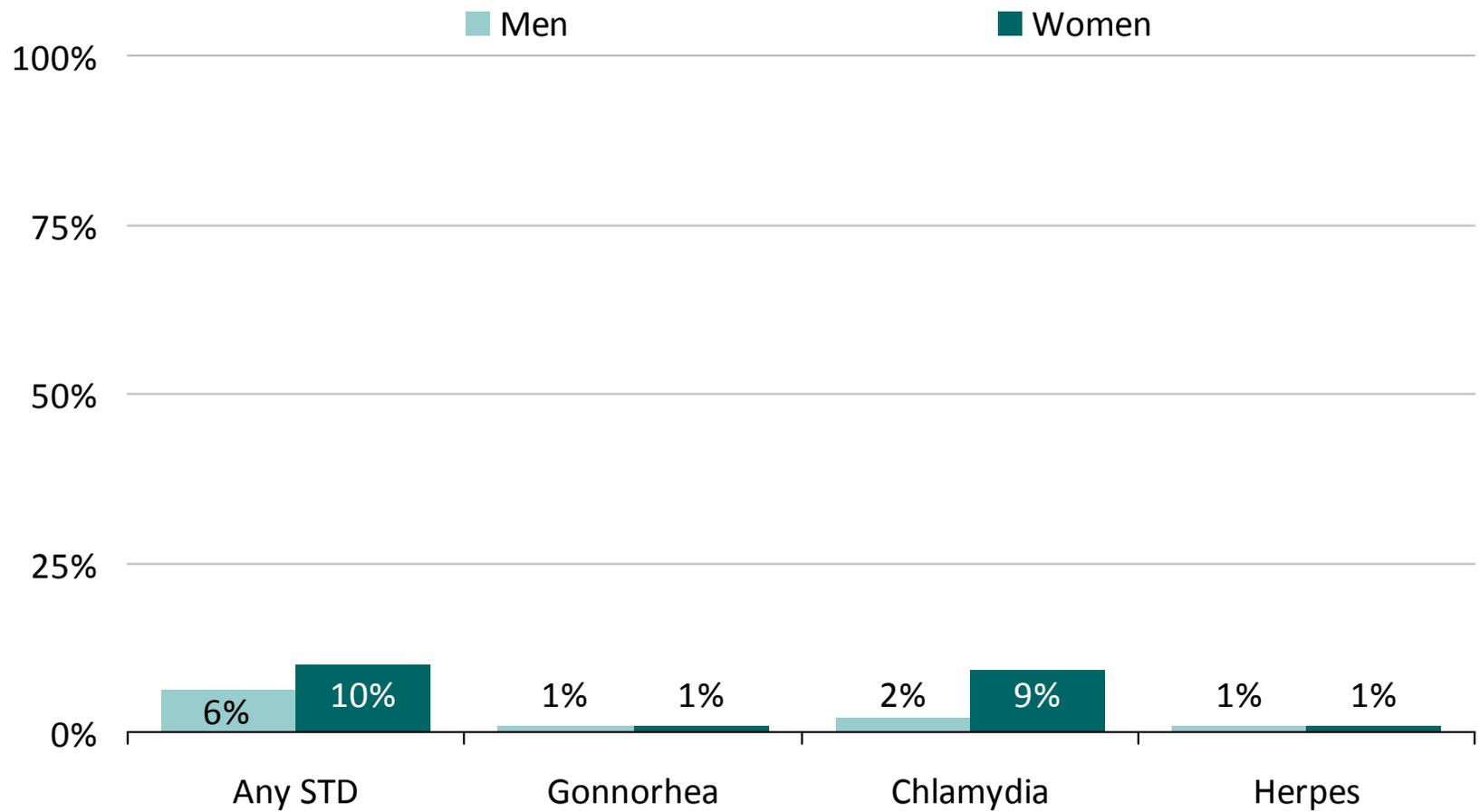
# HIV Prevention Activities in Past Year

NYC NHBS-HET2, 2010, n=523



# STD Diagnoses in Past Year

NYC NHBS-HET2, 2010, n=523



# Estimated HIV Prevalence

*NYC NHBS-HET2, 2010, n=509 (Tested in Study)*

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	<b>HIV-Positive</b>	<b>95% CI</b>
<b>Overall</b>	12.3%	8.0–16.7%
<b>Lifetime Risks</b>		
HET only	9.0%	4.4–13.5%
HET & MSM	0.2%	0.0–0.5%
HET & IDU	29.6%	14.1–45.1%
HET, MSM & IDU	42.2%	7.6–76.8%
<b>Gender</b>		
Male	11.2%	5.5–16.8%
Female	14.9%	7.0–20.8%

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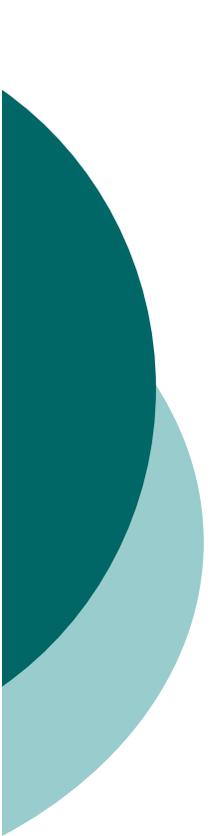
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---

	<b>HIV-Positive</b>	<b>95% CI</b>
<b>Overall</b>	12.3%	8.0–16.8%
<b>Age</b>		
18-29	0.0%	0.0%
30-39	1.2%	0.0–3.5%
40-49	14.8%	6.7–22.9%
50-60	30.9%	18.7–43.1%
<b>Race/Ethnicity</b>		
Black	15.3%	9.9–20.6%
Hispanic	0.8%	0.0–2.1%

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# Summary

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- NHBS study able to sample heterosexuals with multiple levels of sexual risk
  - Substantial overlap between lower and higher risk heterosexuals (e.g., heterosexually active MSM & IDU)
- Many participants experienced poverty, homelessness, and incarceration
- Overall average of sexual partners was low (median=3), but high-risk exchange and MSM partnerships were common

# Summary

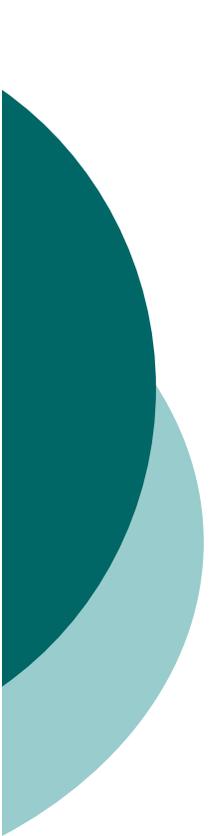
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- Nearly all engaged in unprotected sex
  - Rates of unprotected sex at last encounter were highest in main partnerships, but still common with riskier casual/exchange partners
- Sexual partnerships with high-risk partners (HIV+, IDU, incarcerated) and partner concurrency were common
- Most participants used drugs and alcohol, with a minority of heavy users

# Summary

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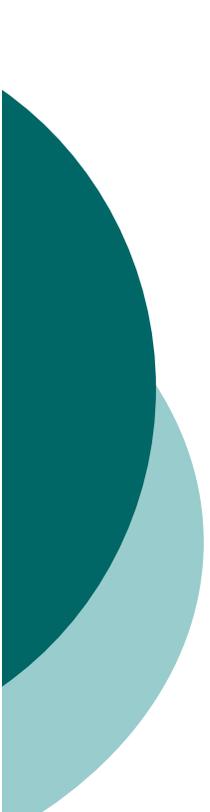
- Compared to MSM & IDU, HET have lowest levels of recent HIV testing despite high levels of risk
  - Only half of those visiting a medical provider were offered an HIV test
  - Offers of HIV testing did not vary by HIV risk factors
  - Few perceived that testing *was* routine, but most thought that it *should be* routine
- Only half of participants received free condoms in the past year, and fewer used them
  - Levels of intensive HIV prevention counseling were very low



# Summary

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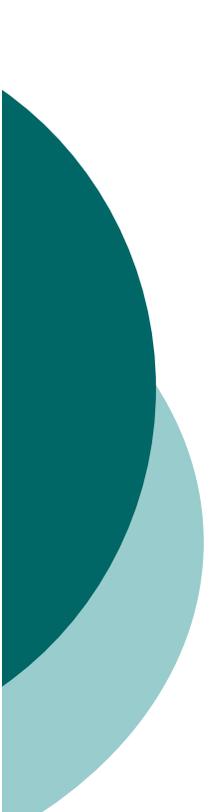
- STDs were more common among women than men
- HIV prevalence was high overall (12%), and varied by lifetime risk factors, with rates among MSM/IDU the highest (42%)
  - There were also disparities by gender, race/ethnicity, and age



# Limitations

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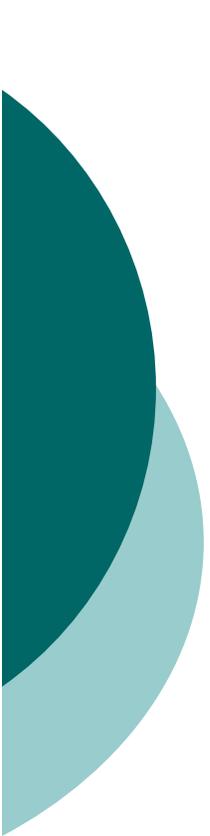
- RDS-based estimates may not be generalized to the population of New York City high-risk heterosexuals if methodological assumptions are not met
  - Selection bias from certain subgroups (e.g., drug users) may overestimate HIV risk and prevalence estimates
- All data except HIV status were measured by self-report, and may be biased by recall error or social desirability



# Conclusions

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- Continued work is needed to define and identify high-risk heterosexuals across multiple dimensions of risk
  - Individual, partner, network, community, and structural
- The broadest HIV prevention activities – HIV testing and condom distribution – require further expansion and targeting in this population
- Intensive biomedical and behavioral interventions for high-risk heterosexuals are indicated



# Contact

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