Medical Monitoring Project (MMP)

Results from the MMP survey of people receiving HIV care in 2007 in NYC

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NYC Health

Background
Medical Monitoring Project (MMP)

The number of people living with HIV/AIDS (PLWHA) continues to increase

In the USA, at the end of 2006 there were an estimated 1.1 m PLWHA (CDC, 2009)

In NYC there are an estimated 104,234 PLWHA (NYC DOHMH, June, 2008)

Greater understanding is needed about the health-related needs of PLWHA, and about their HIV transmission risk and prevention

Objectives

Medical Monitoring Project (MMP)

- The MMP is a national study of PLWHA receiving medical care for HIV conducted by the Centers for Disease Control and Prevention (CDC) in collaboration with State and City health departments, and other local partners
- The objectives of the MMP are to:
  - Estimate the prevalence of clinical outcomes
  - Describe HIV-related and other health behaviors (e.g., adherence to antiretroviral treatment (ART))
  - Determine accessibility and use of health and support services
  - Assess the prevalence and frequency of HIV-related risk and preventive behaviors
  - Examine variations by geographic area, patient characteristics and other correlates

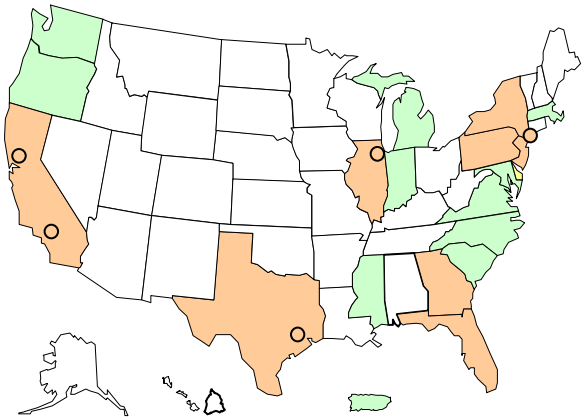
Methods

Medical Monitoring Project (MMP)

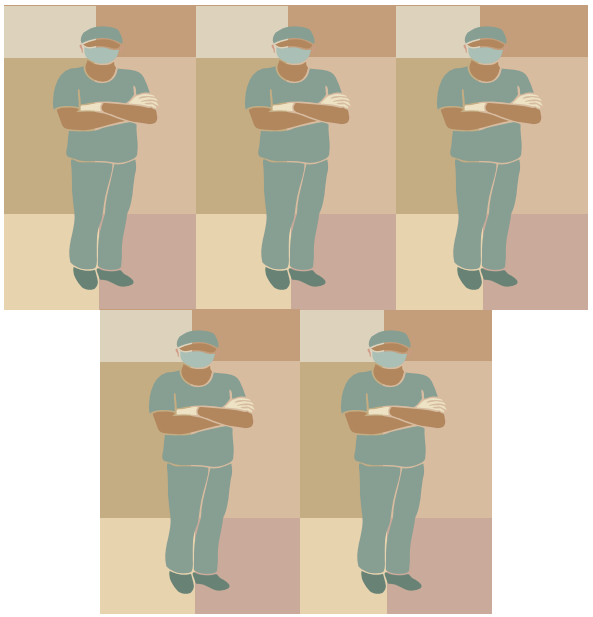
- Multi-year (2005-open) project with annual multi-stage probability sample of US adults in care for HIV
- Locally and nationally representative samples of HIV infected adults in care
- Cross-sectional design
- Data collection using 2 sources:
  - Computer-based structured interview, administered face-to-face by trained interviewer, and conducted in private
  - Medical record abstractions of those who consent to be interviewed

Methods

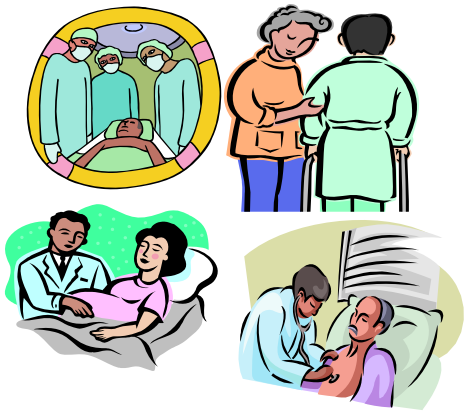
Medical Monitoring Project (MMP): 3-stage Sample Design



1st stage – local areas



2nd stage - providers



3rd stage - patients

Methods

Medical Monitoring Project (MMP): Sample Selection

- Stage 1 – Local Areas:
  - 26 areas selected (may vary in later years)
  - 20 states and 6 cities
  - Estimated to include >80% of US AIDS cases
  - Probability of selection is proportional to size (PPS) (based on prevalence of AIDS cases within each area as of December 2002)

Methods

Medical Monitoring Project (MMP): Sample Selection

- Stage 2 – Medical Providers (facilities or private providers):
  - Providers who deliver HIV medical care
    - Monitor CD4 count, viral load
    - Rx ART
  - Selected from a sampling frame of all providers in a local area by PPS based on estimated patient load (sampling frame developed by each site)
  - Selected providers provide a list of patients (by name or other identifier) to the health department

Methods

Medical Monitoring Project (MMP): Sample Selection

- Stage 3 – Patients seen by a Selected Provider
  - Eligibility
    - HIV-infected
    - ≥ 18 years of age
    - received HIV medical care at facility 1/1 – 4/30 in a given cycle year
  - Randomly sampled
  - Equal probability of selection across facilities
  - Identified by ID number
  - Participation is voluntary and requires informed consent*
  - Patients are provided an incentive for participation ($40 in metrocards)

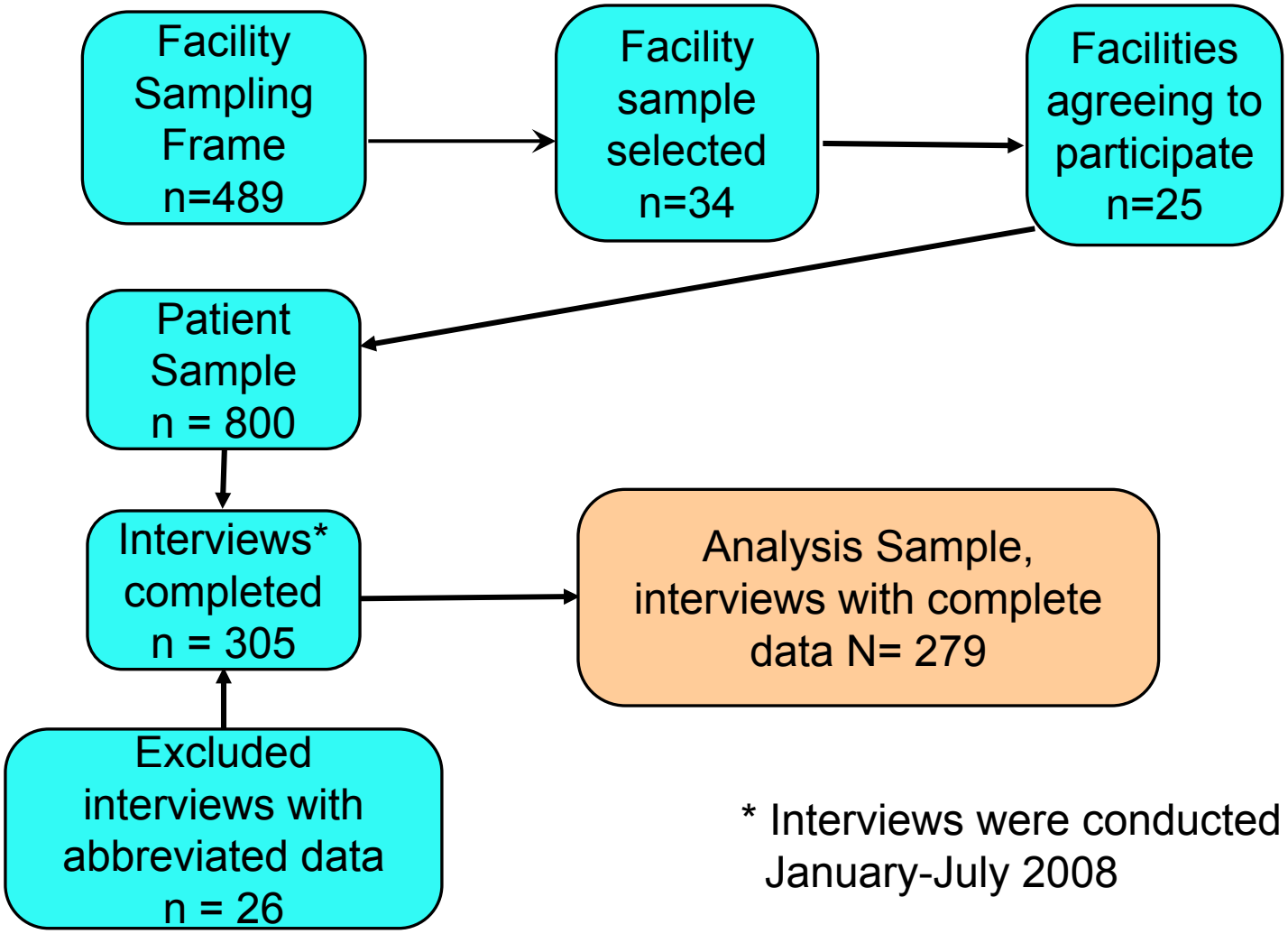
* In NYC MMP is research, not surveillance, and requires IRB approval

Methods

Analysis of Interview Data

- Descriptive analyses:
  - Demographics and socio-economic profile
  - HIV testing profile
  - Clinical status
  - HIV medical treatment
  - Health services utilization and perceived support service need
  - Drug and alcohol risk profile
  - Sexual risk behaviors
- Associations with race-ethnicity (Black, Hispanic, White), HIV medical treatment and clinical status examined for selected variables
- Sexual risk behaviors by partner's gender and HIV status
- Chi-Square test; statistical significance $p < 0.05$

NYC 2007 MMP Sample

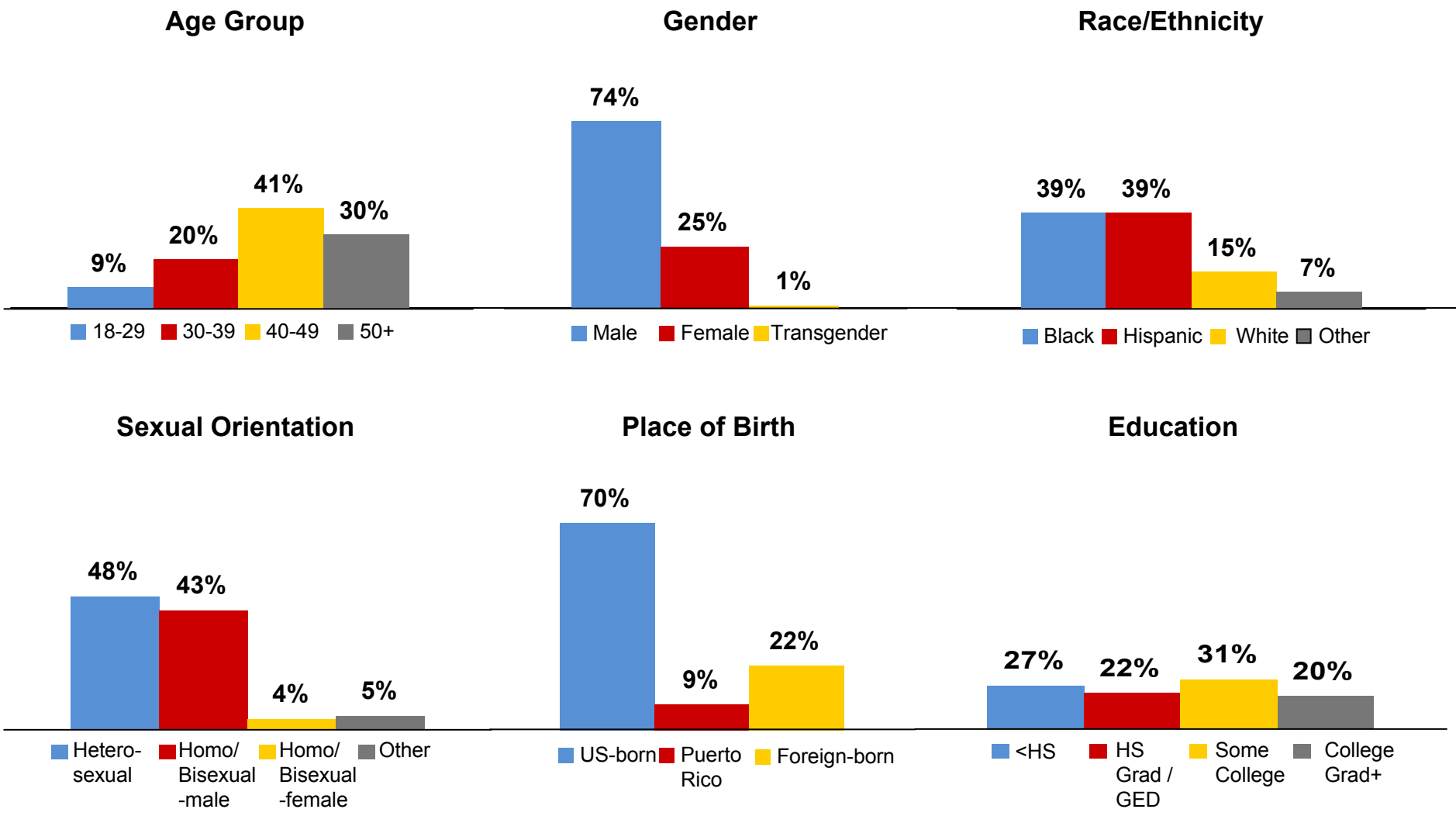


* Interviews were conducted January-July 2008

MMP Participants' Social Demographics

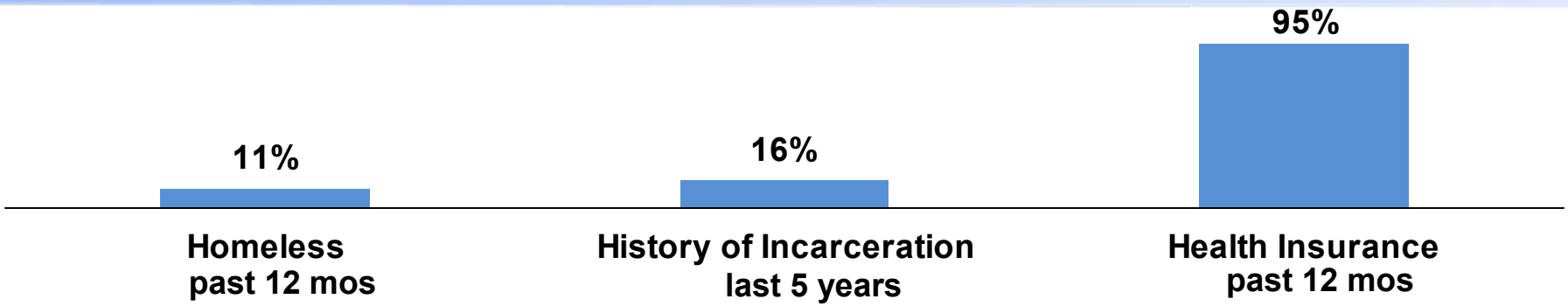
Participants' Social Demographics (N=279)

MMP, NYC, 2007

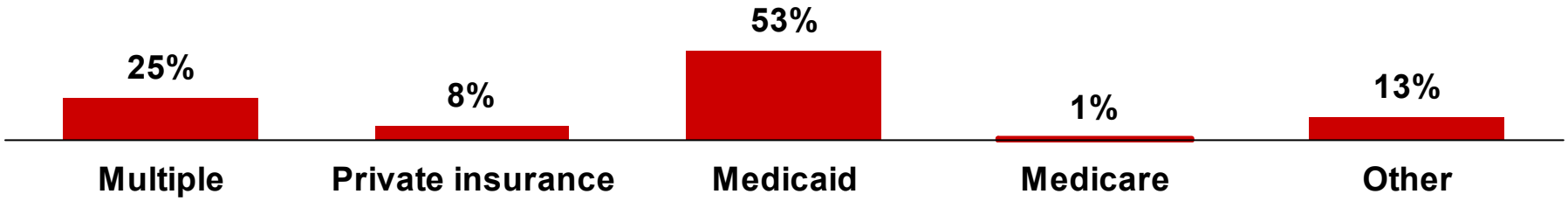


Participants' Social Demographics (N=279)

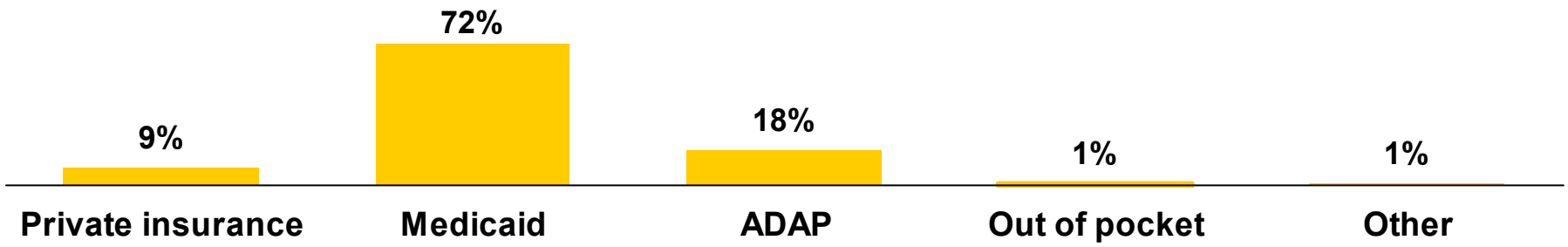
MMP, NYC, 2007 (cont'd)



Type of Health Care Coverage Past 12 Months:



Prescription Payment Methods Past 12 Months:



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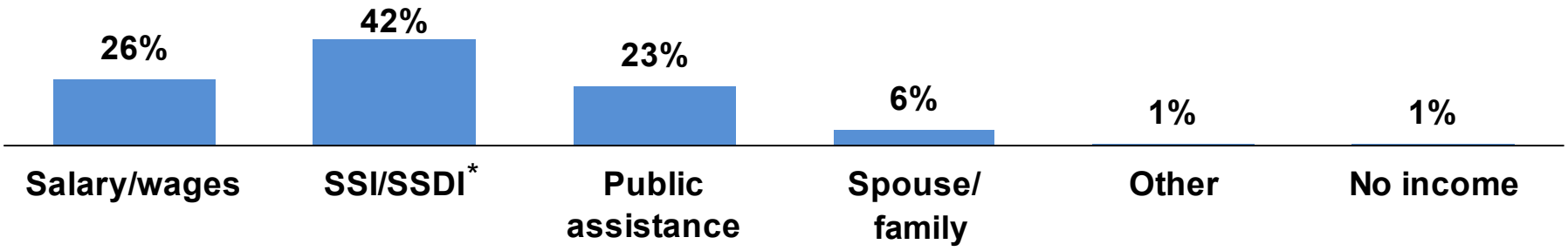
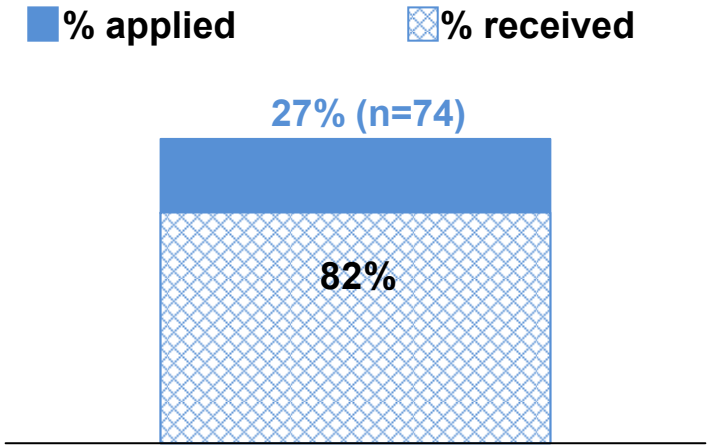
Participants' Social Demographics (N=279)

MMP, NYC, 2007 (cont'd)

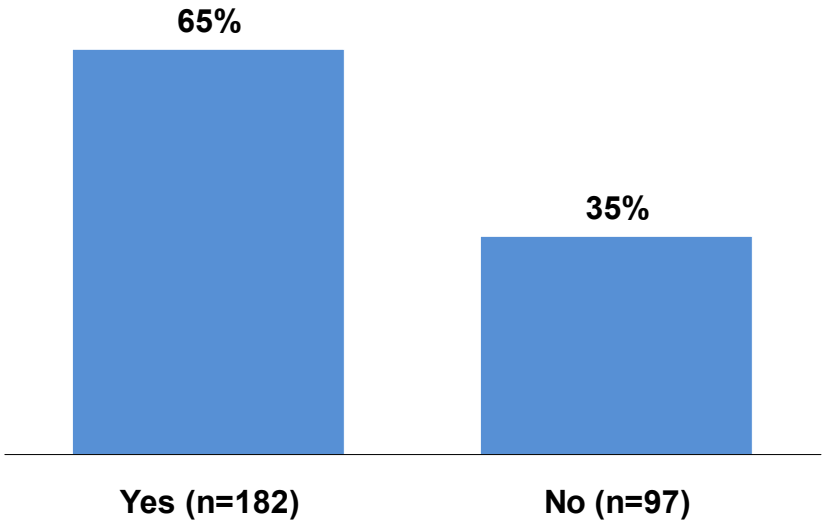
Main Source of Income Past 12 Months:



% Applied for public assistance and % Received assistance Past 12 Months



Received Public Assistance Past 12 Months

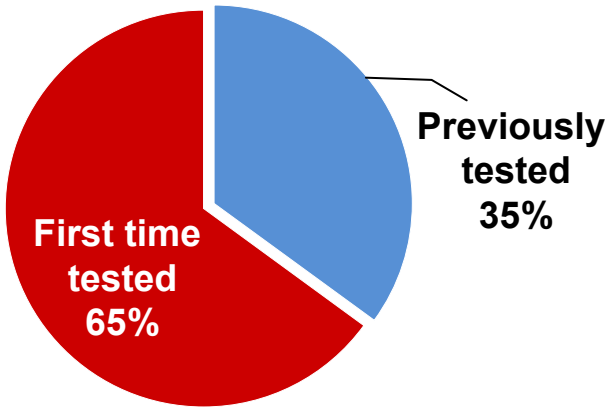


* Supplemental Security Income (SSI); Social Security Disability Income (SSDI)

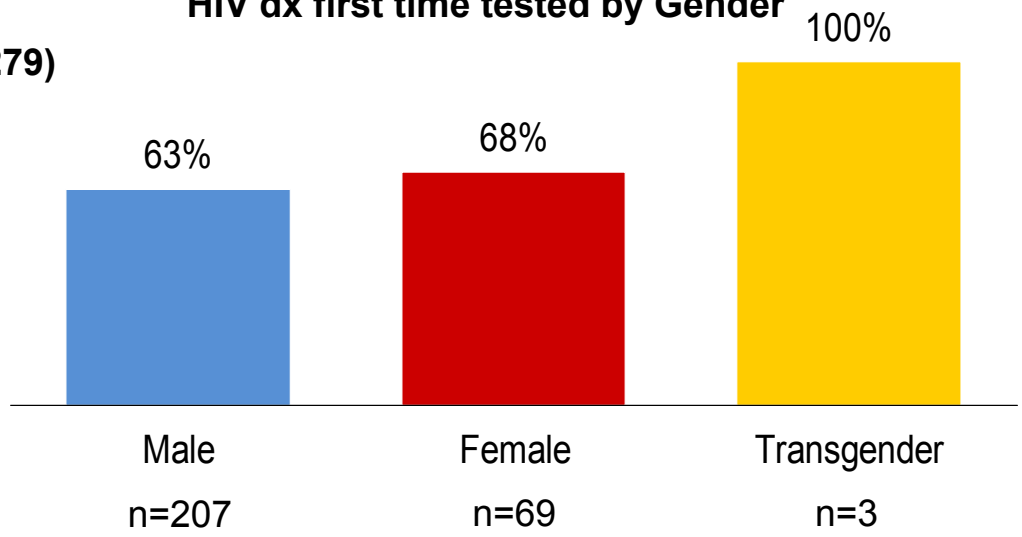
Participants' HIV Testing History

MMP, NYC, 2007

Ever tested for HIV before HIV diagnosis (n=279)

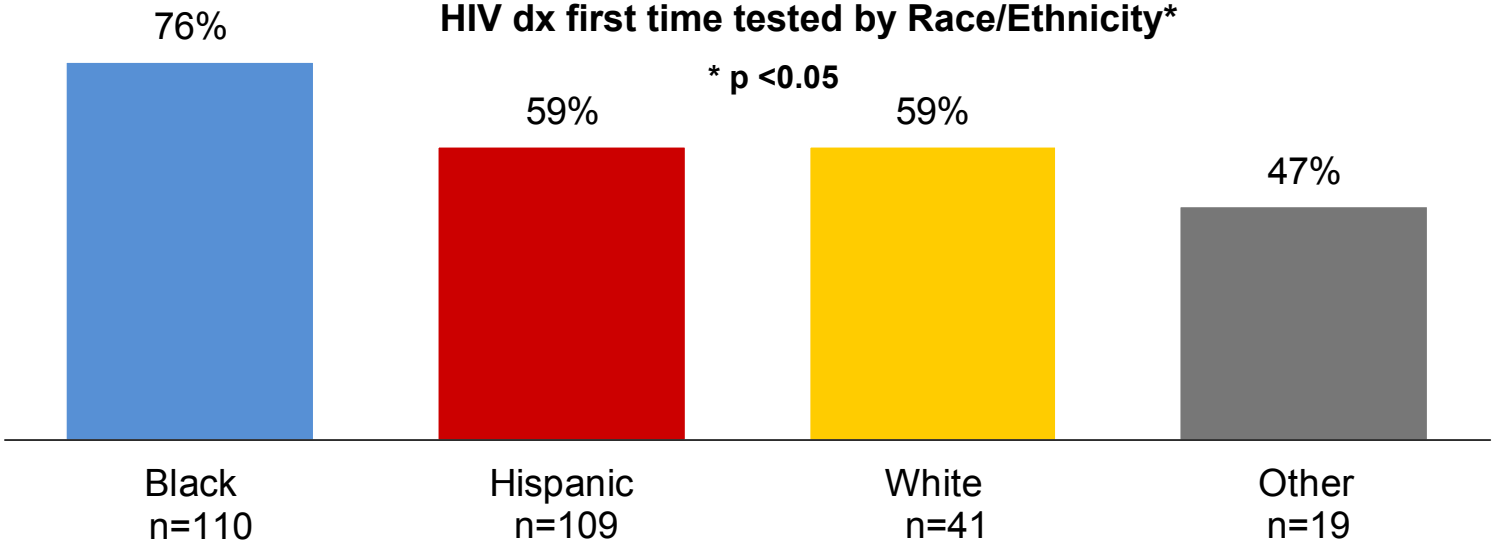


HIV dx first time tested by Gender



HIV dx first time tested by Race/Ethnicity*

*** p <0.05**



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MMP Participants' Clinical Characteristics

Participants' Health Status

AIDS Diagnosis, CD4 Count, and Viral Load (N=279)

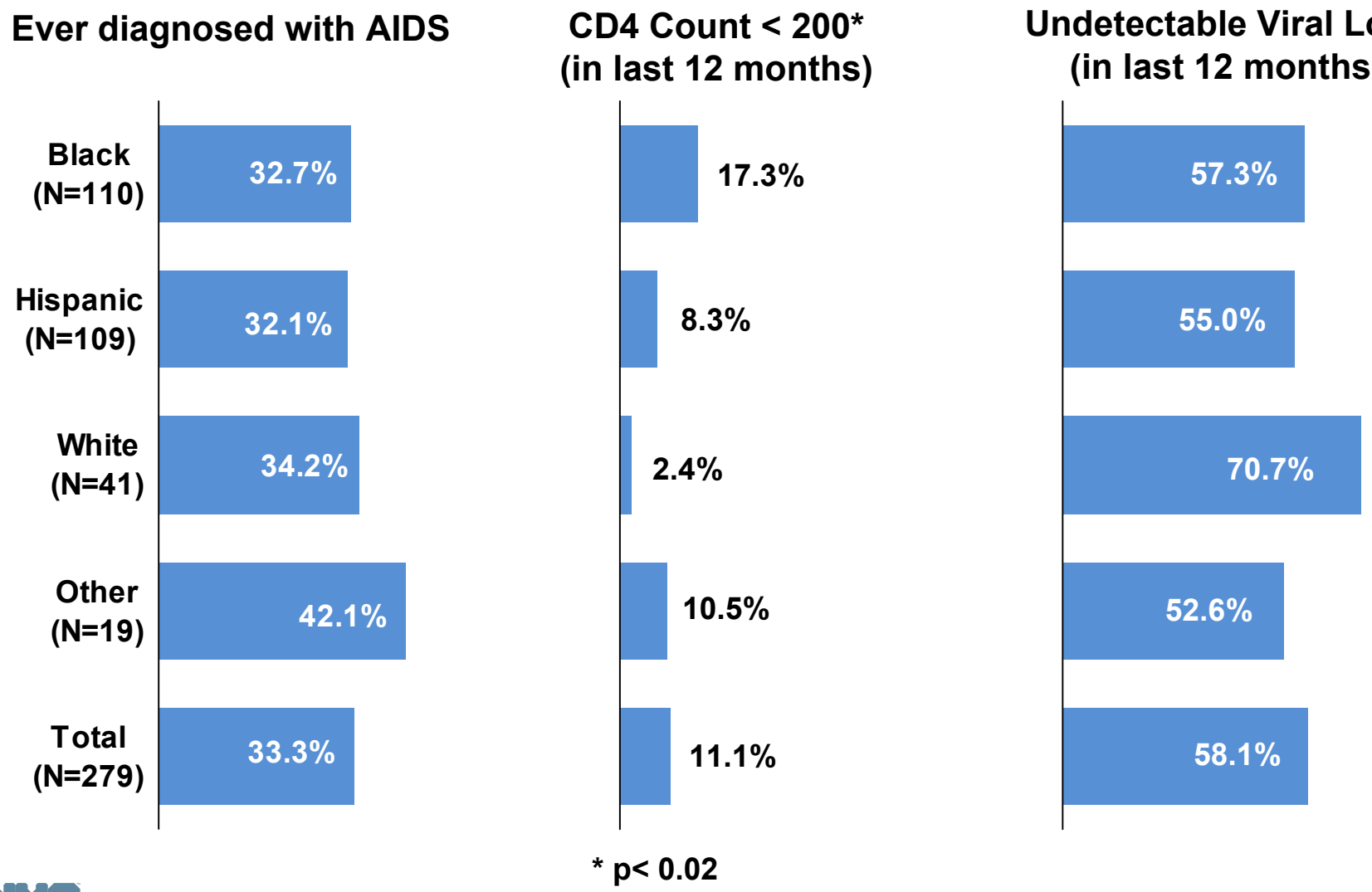
MMP, NYC, 2007

Median Year of HIV dx (n=251)	1997	
Told by doctors or healthcare providers that you had AIDS (Ever)		
Yes	93	33.3%
No	185	66.3%
Don't Know	1	0.4%
Median Year of AIDS dx (n=76)	2000	
CD4 count in last 12 months (most recent)		
0-199	31	11.1%
200-499	100	35.8%
500+	98	35.1%
Don't Know	50	17.9%
Viral load in the last 12 months (most recent)		
undetectable	162	58.1%
< 5,000 – 100,000	62	22.2%
> 100,000	5	1.8%
Don't Know	50	17.9%

Participants' Health Status by Race/Ethnicity

AIDS Diagnosis, most recent CD4 Count < 200, most recent Undetectable Viral Load

MMP, NYC, 2007



* p< 0.02

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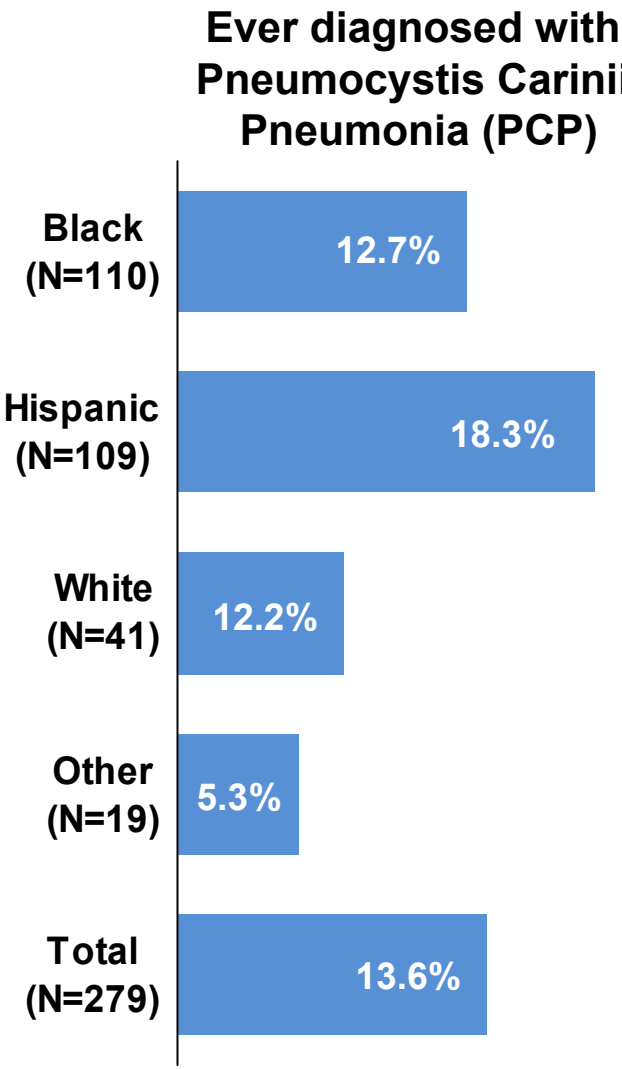
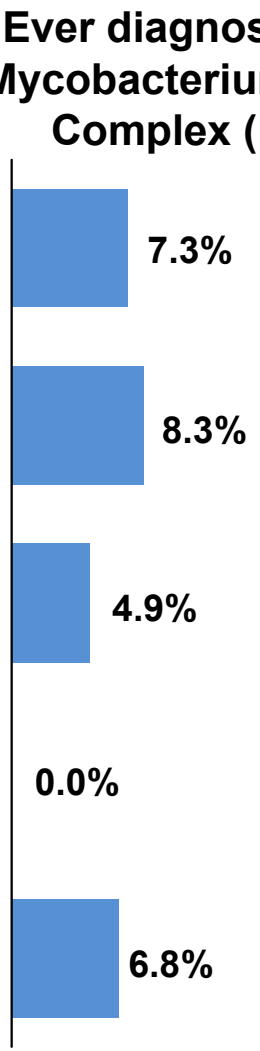
Participants' Health Status by Race/Ethnicity
Opportunistic Infections

MMP, NYC, 2007





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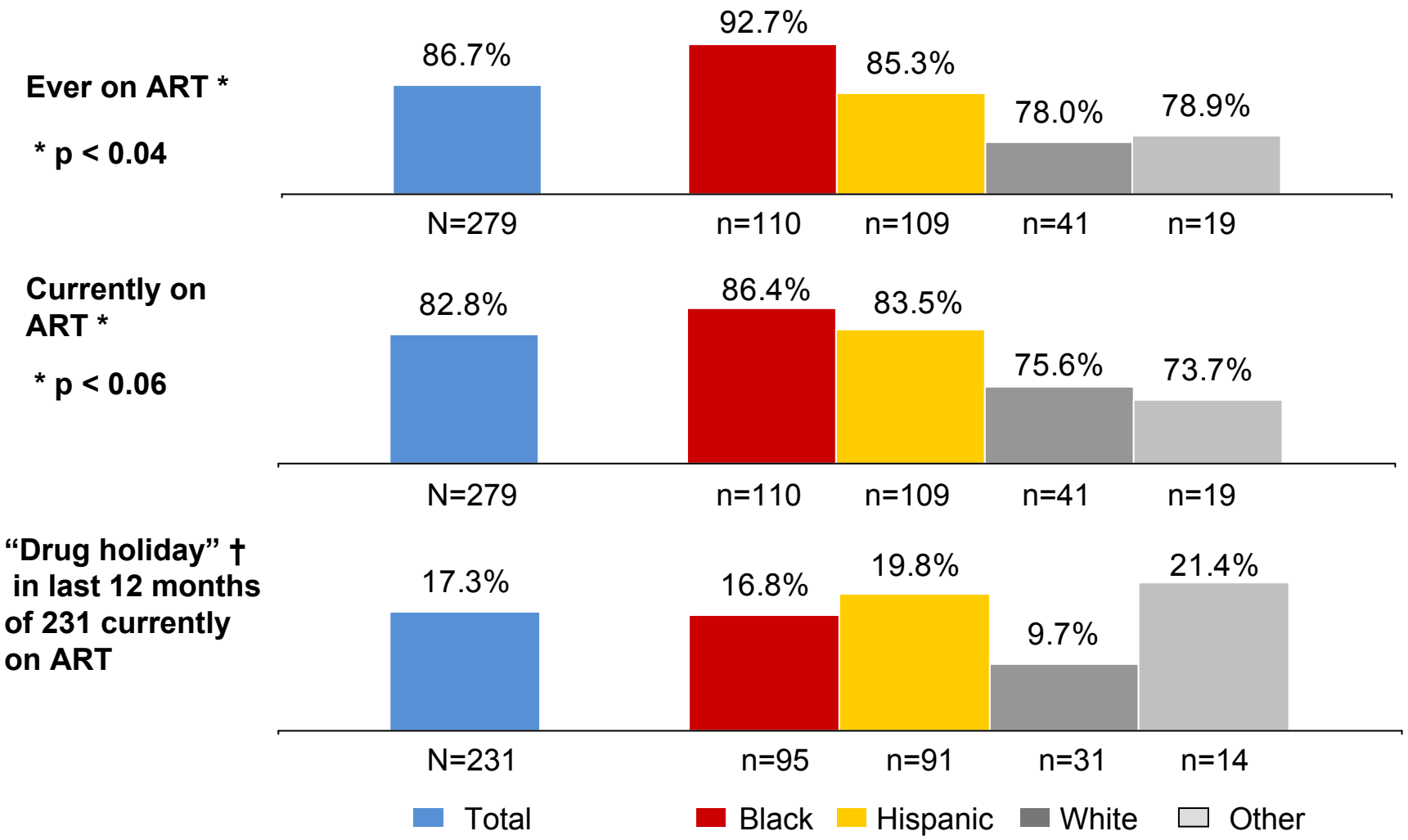
HIV Treatment by Race/Ethnicity

MMP, NYC, 2007



† participant planned to not take any doses of ART for at least two whole days in a row, and this was not recommended by participant's health care provider

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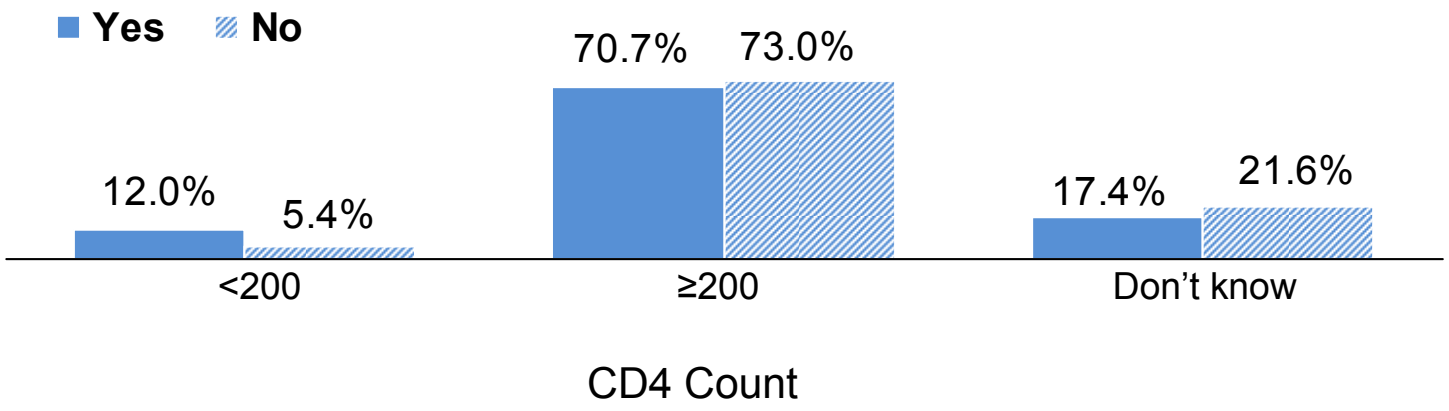
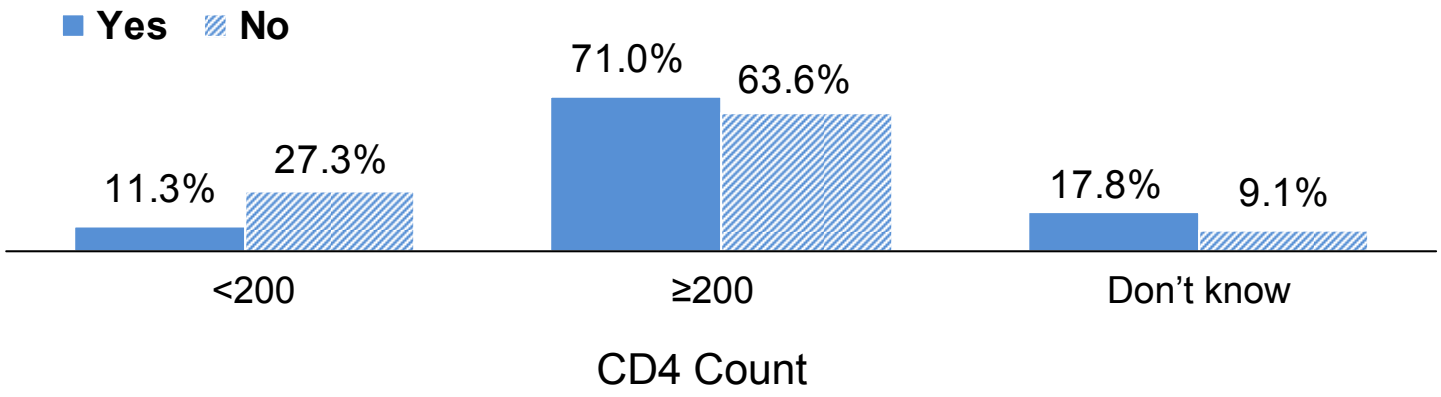
CD4 Count by ART

MMP, NYC, 2007

Ever on ART
Yes: (n=242)
No: (n=37)



Currently on ART (of 242 ever on ART)
Yes: (n=231)
No: (n=11)



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CD4 Count by "Drug Holiday" from ART in Last 12 Months

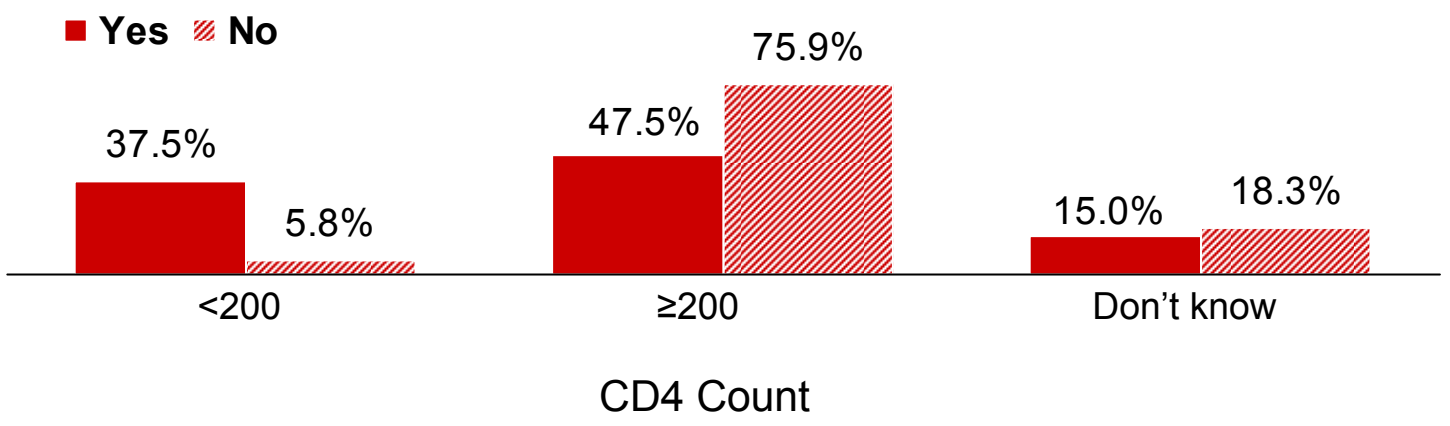
MMP, NYC, 2007

"Drug holiday" in last 12 months* (of 231 currently on ART)

Yes: (n=40)

No: (n=191)

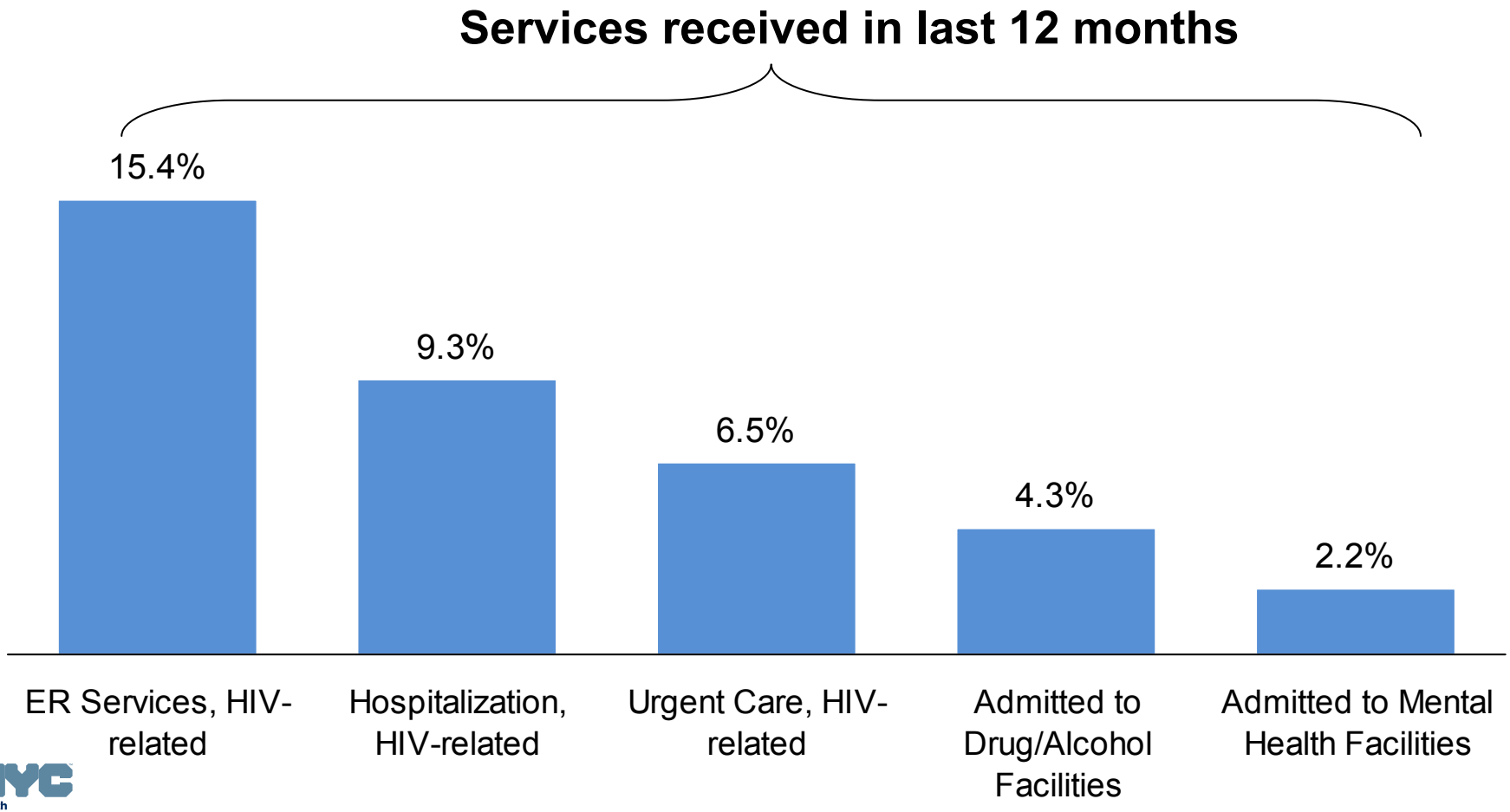
* $p < 0.0001$



MMP Participants' Service Utilization

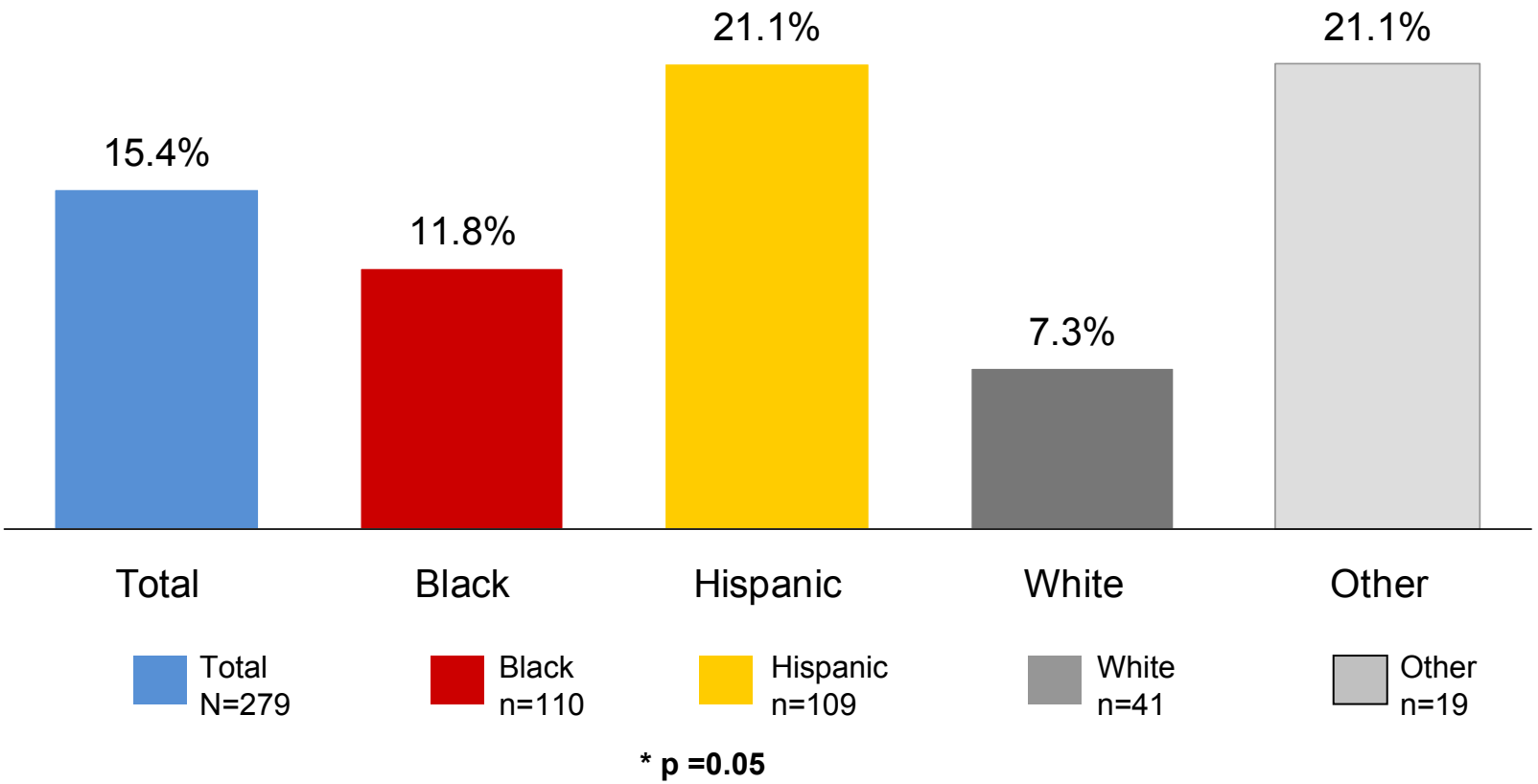
Healthcare Service Utilization
in Last 12 Months
MMP, NYC, 2007

- **93.9% of all participants had seen a healthcare provider in past 3 months**



Emergency Services, HIV-Related by Race/Ethnicity

MMP, NYC, 2007



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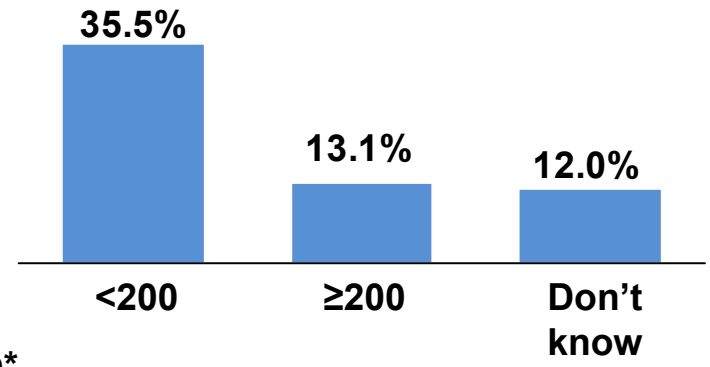
Healthcare Service Utilization by CD4 Count

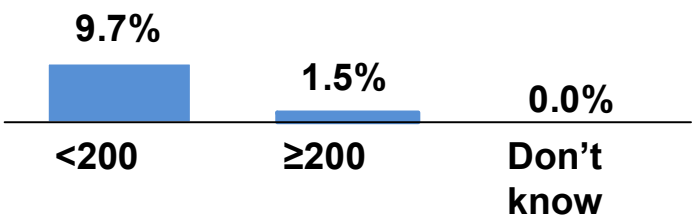
MMP, NYC, 2007

ER * HIV-rel.**

*** p<=0.01

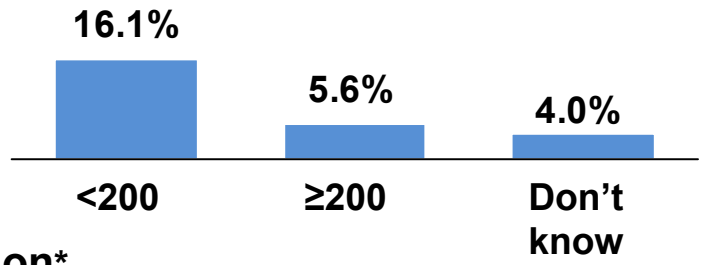


Mental Health Services

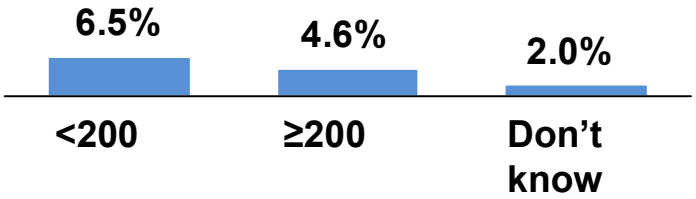


Urgent Care* HIV-rel.

*p <=0.07

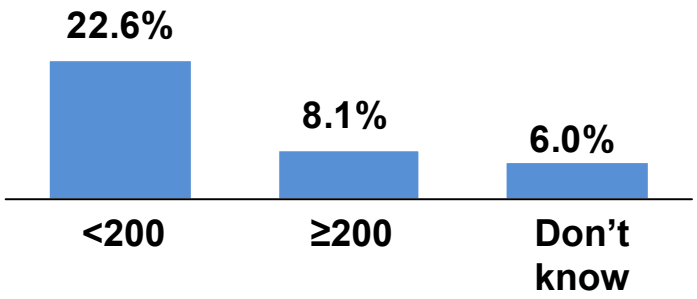


Drug/Alcohol Treatment



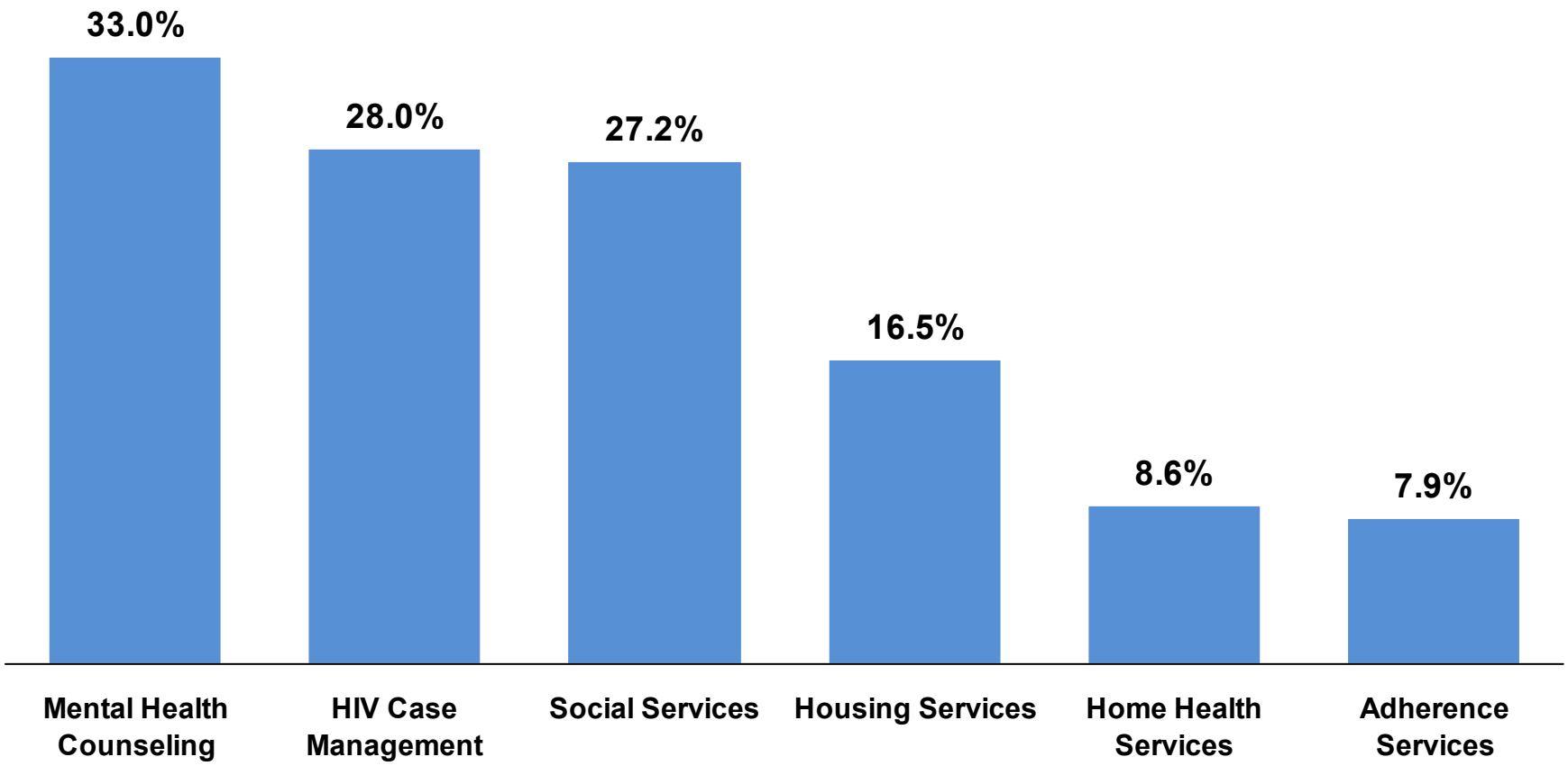
Hospitalization* HIV-rel.

** p <=0.03



Received services

Support Service Need
in Last 12 Months
MMP, NYC, 2007



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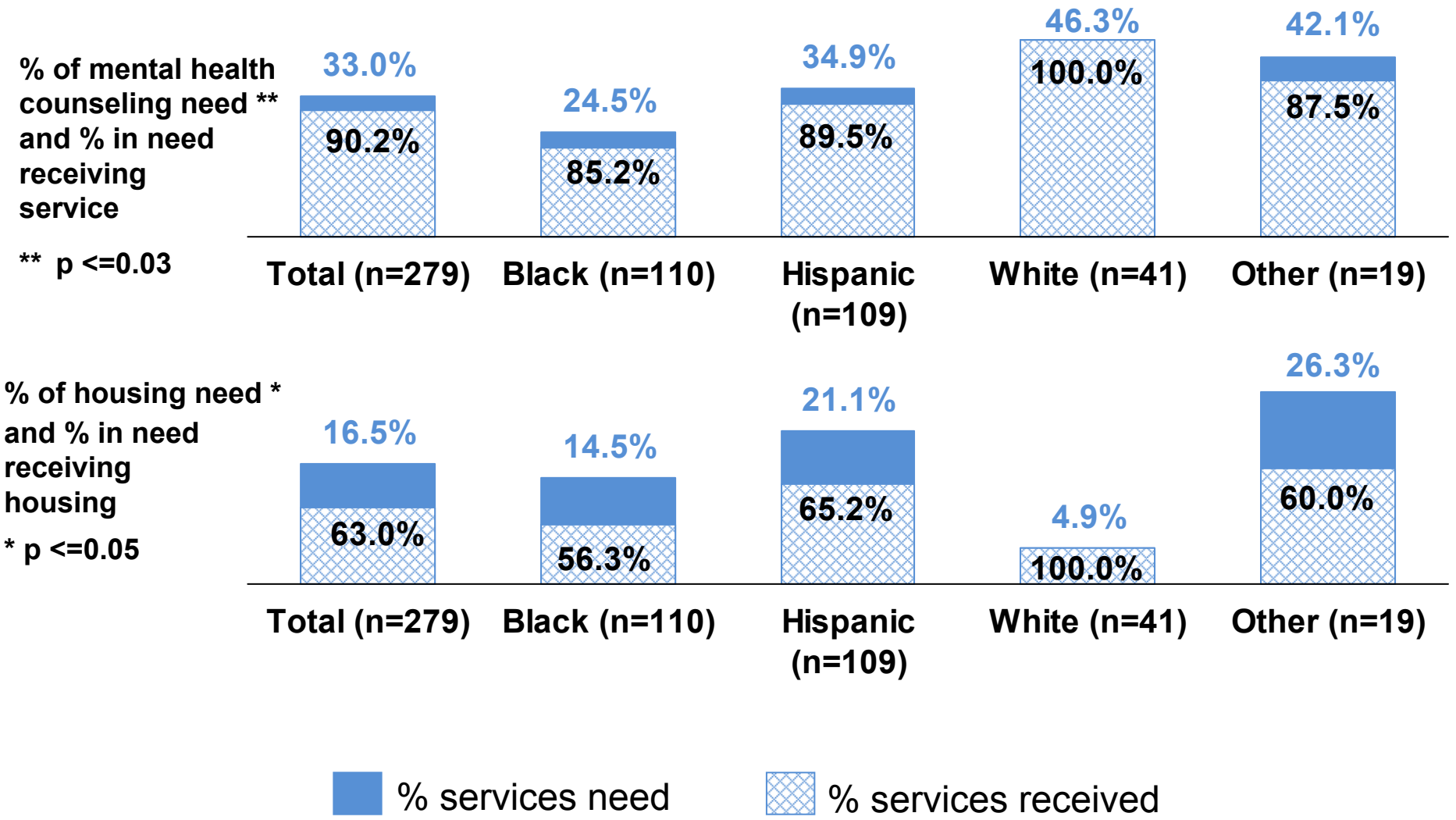
Support Services Needed and Received by Race/Ethnicity

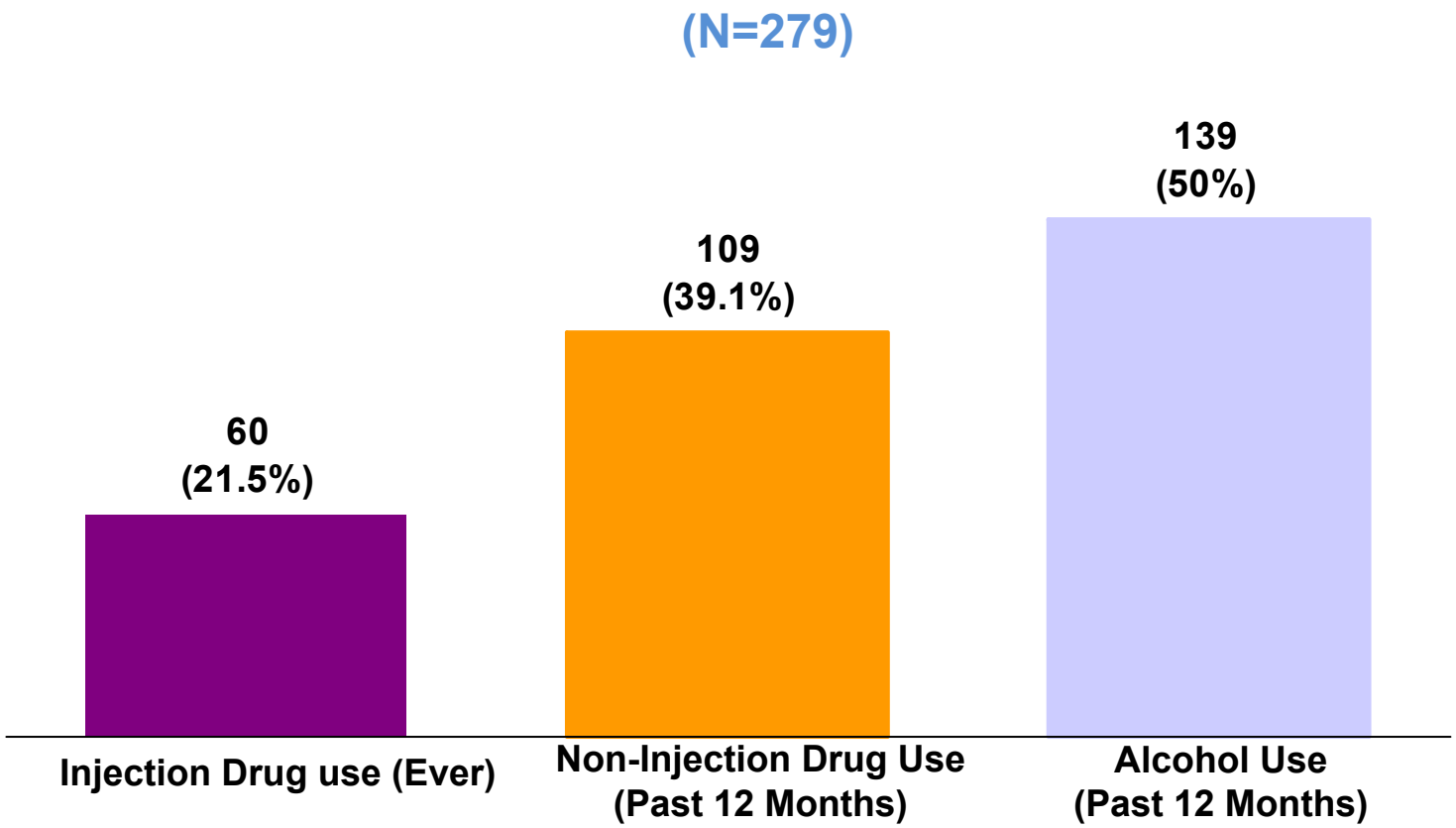
MMP, NYC, 2007



MMP Participants' Drug Use Profile

Drug and Alcohol Use

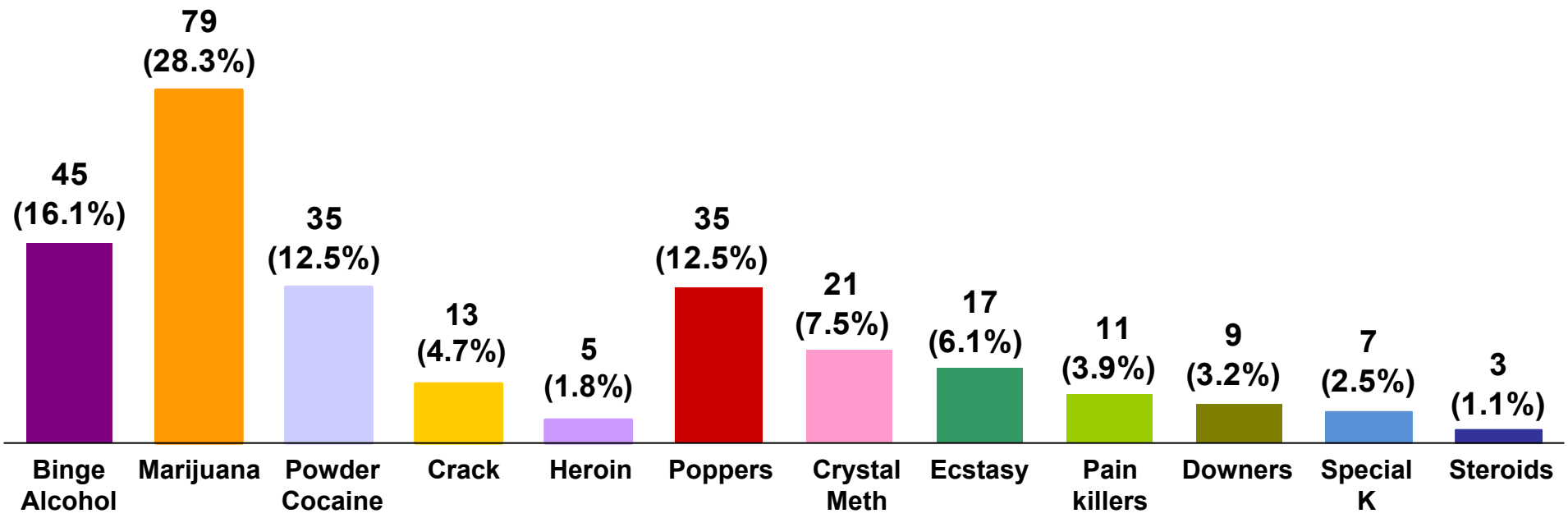
MMP, NYC, 2007



Non-Injection Drug Use and Binge Alcohol Drinking

MMP, NYC, 2007

(N=279)



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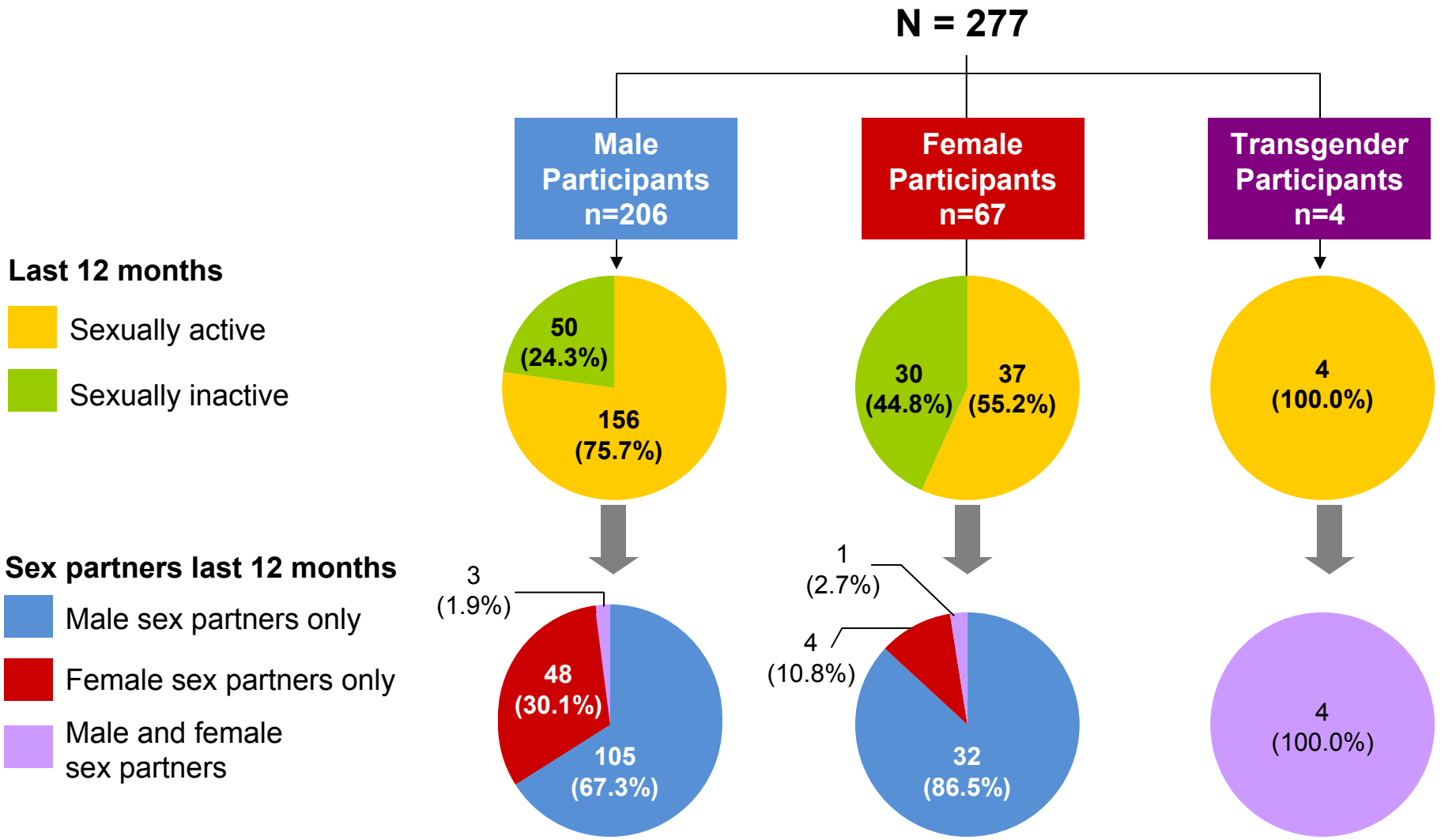
Sexual Activity and Sexual Risk Behaviors

Sexually Active Status by Partnership Gender

MMP, NYC, 2007



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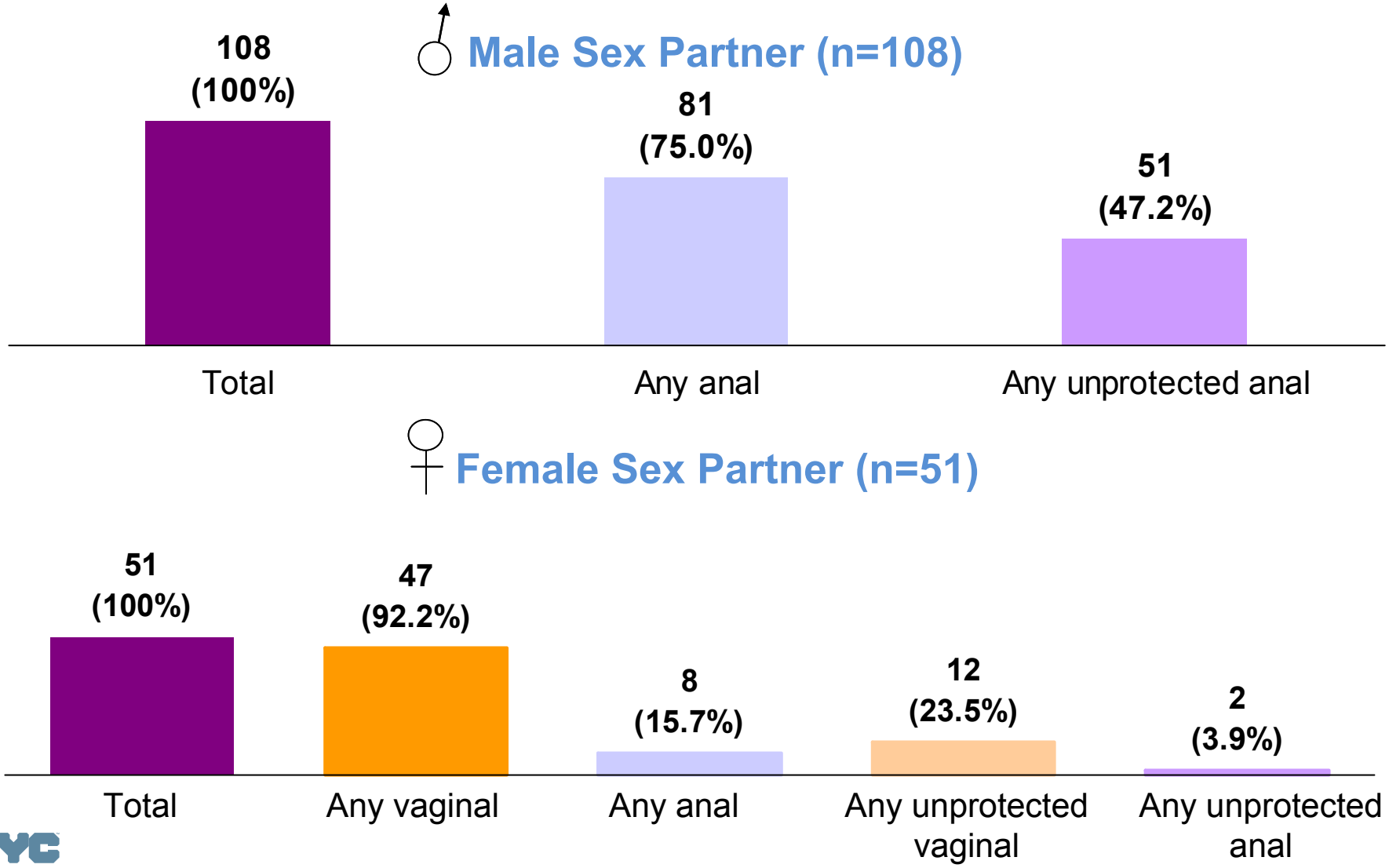
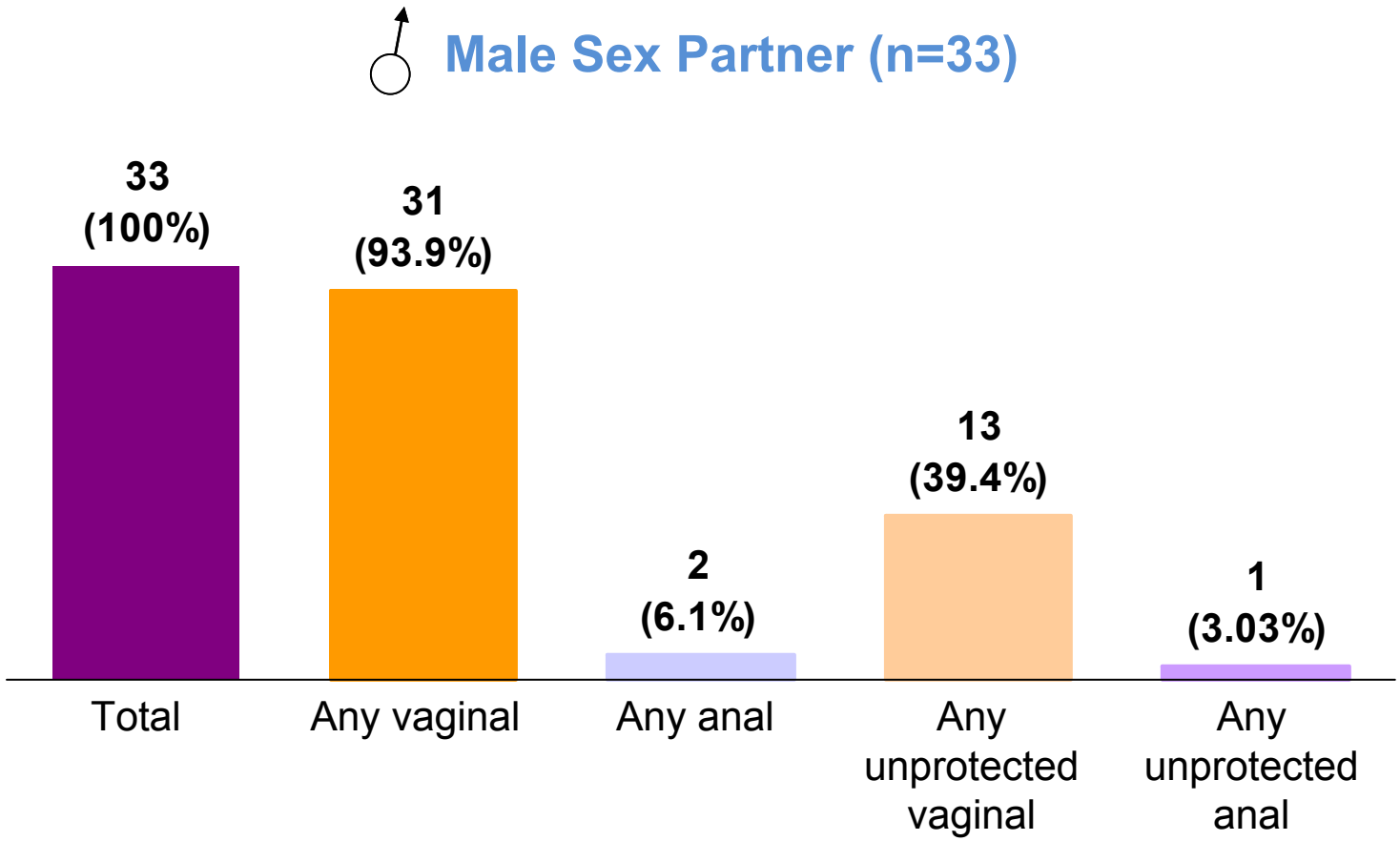
Sexual Behaviors among Male Participants by Partnership Gender (past 12 months)

MMP, NYC, 2007



Sexual Behaviors among Female Participants by Partnership Gender (past 12 months)

MMP, NYC, 2007



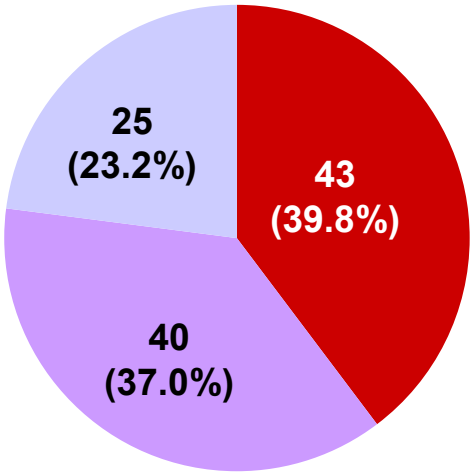
Male Participants' Sexual Activities

Unprotected Anal Sex (UAS) with Last Sex Partner by HIV Status of Partner

MMP, NYC, 2007

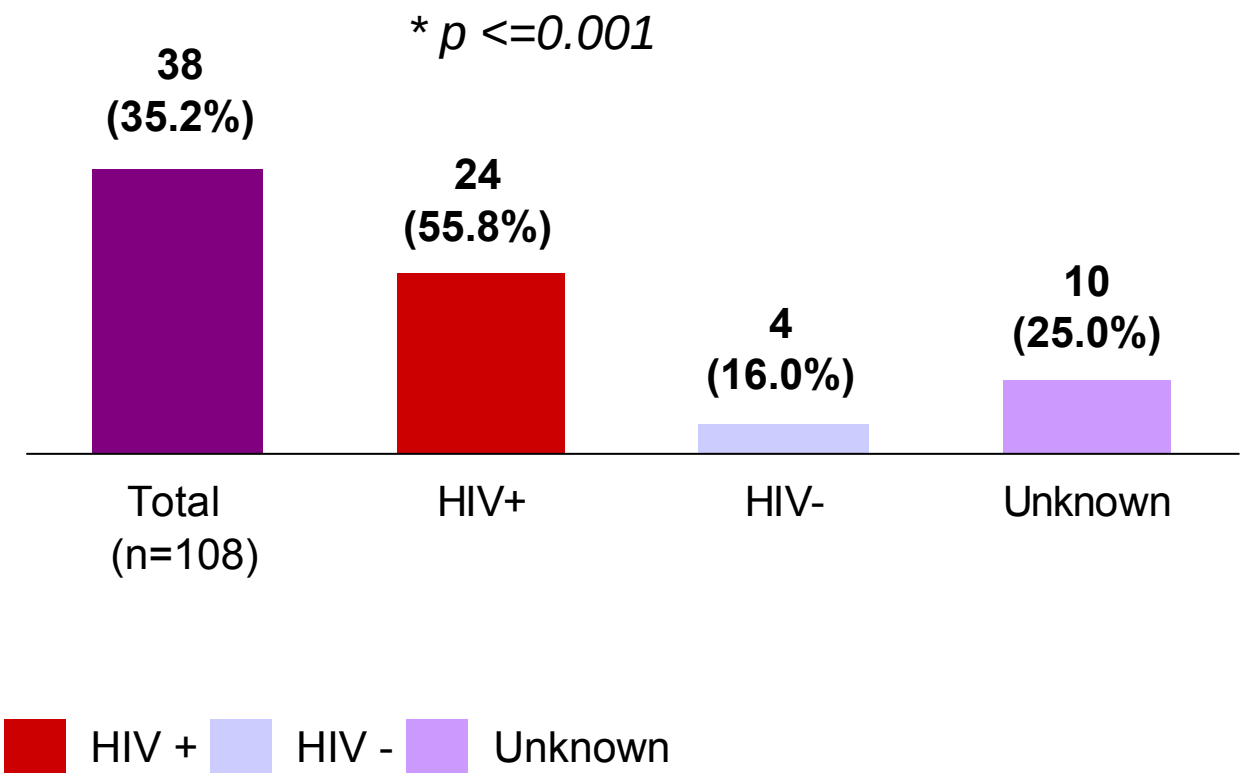
Male Participants
Male Sex Partner*

(n=108)



HIV Status of Last Sex Partner

Engaged in UAS with last sex partner*



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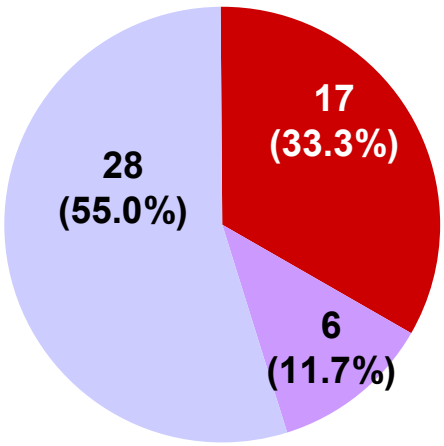
Male Participants' Sexual Activities

Unprotected Anal Sex (UAS) or Unprotected Vaginal Sex (UVS) with Last Sex Partner by HIV Status of Partner

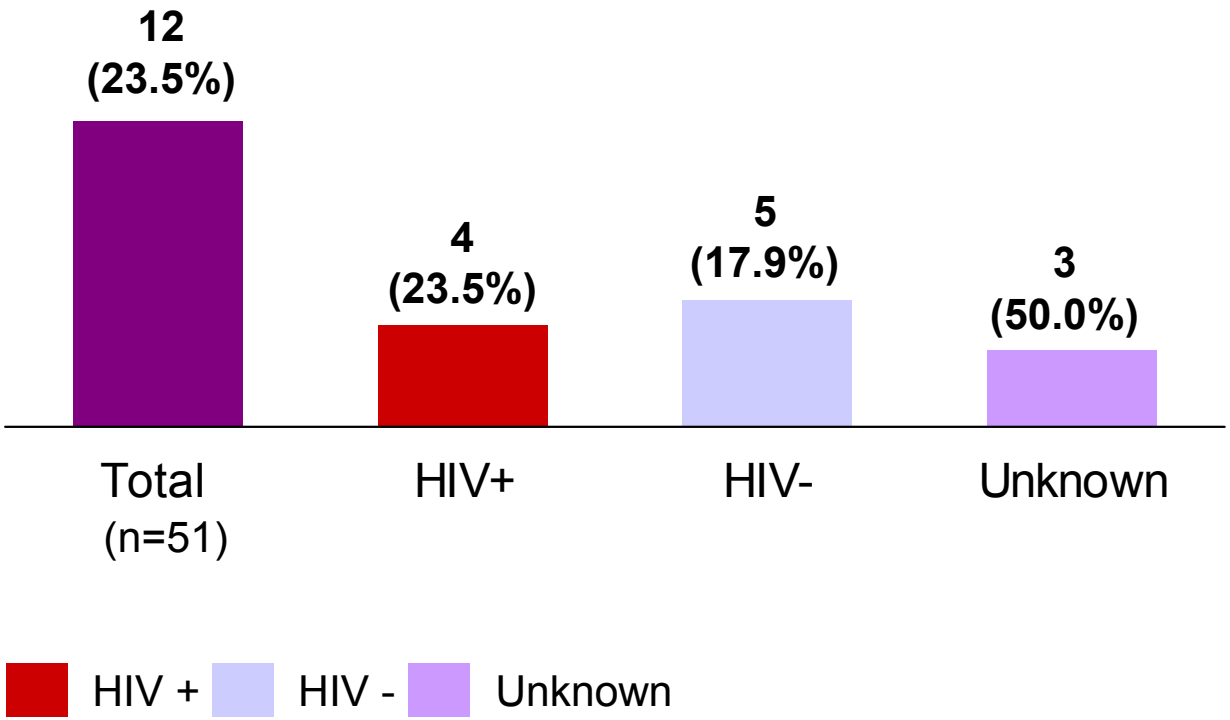
MMP, NYC, 2007

Male Participants
Female Sex Partner
(n=51)



HIV Status of Last Sex Partner

Engaged in UAS or UVS with last sex partner



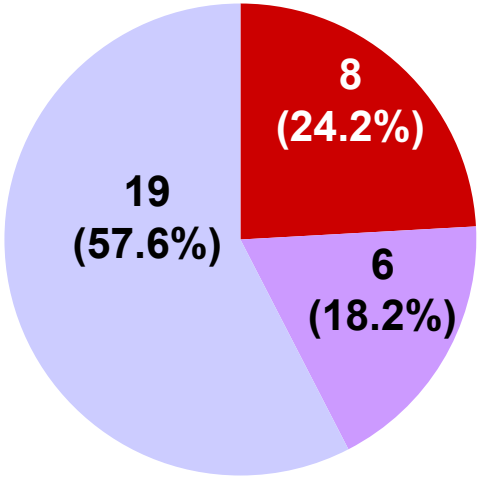
Female Participants' Sexual Activities

Unprotected Anal Sex (UAS) or Unprotected Vaginal Sex (UVS) with Last Sex Partner by HIV Status of Partner

MMP, NYC, 2007

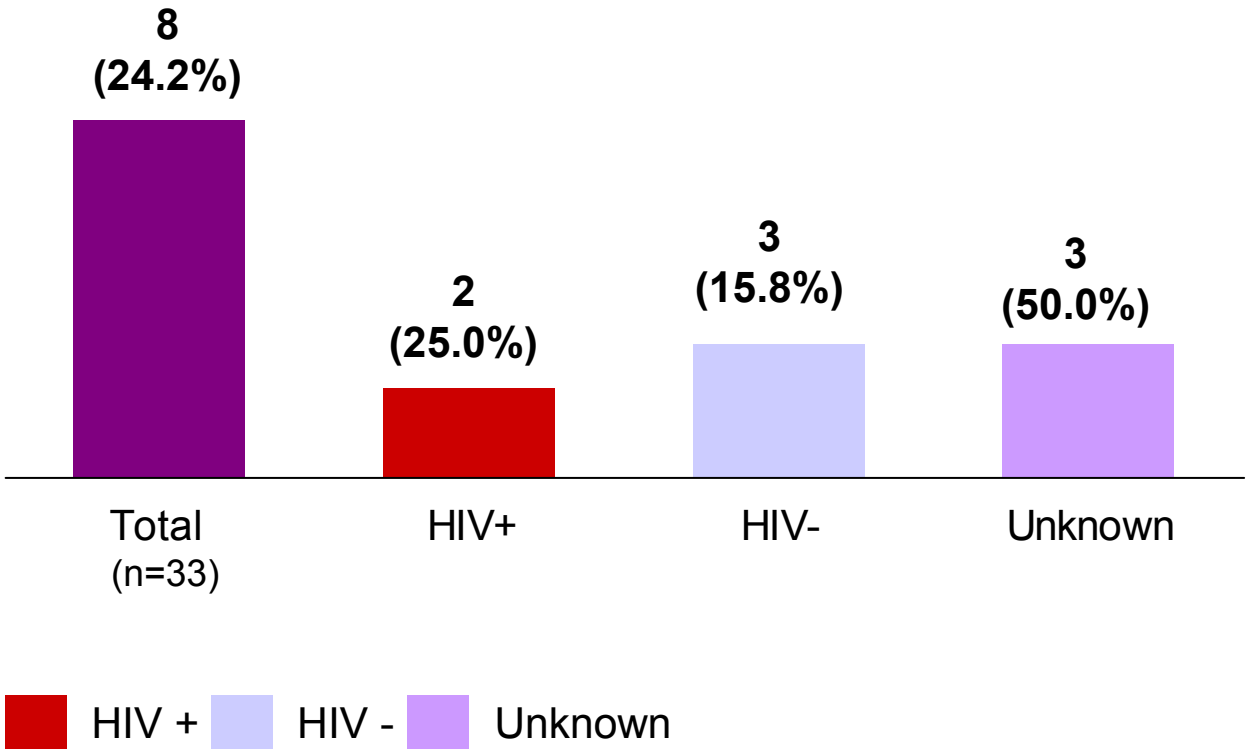
Female Participants
Male Sex Partner

(n=33)



HIV Status of Last Sex Partner

Engaged in UAS or UVS with last sex partner



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Summary

- Many participants were in economic need and depended on government programs for income support and health insurance
- HIV testing may not have covered many of those at risk early enough, particularly among Black patients
- Over 80% were currently on ART and the majority appeared to have responded to treatment
  - the majority had not progressed to AIDS
  - few had CD4 counts < 200
  - the majority had undetectable viral loads
- However, Black and Hispanic patients were more likely than Whites to have CD4 counts < 200
- Non-adherence to ART (a “drug holiday”) was associated with lower CD4 cell counts and detectable viral loads

Summary (continued)

- Most had seen a health care provider in the last 3 months
- HIV-related ER visits and in-patient hospitalizations were relatively low overall, although Hispanics were more likely to visit the ER
- Those with CD4 counts < 200 were more likely to visit the ER and be hospitalized for HIV-related health conditions
- The majority did not report a perceived need for support services; of those reporting such need, a large majority reported that they received the service
- Many engaged in non-injection drug use and consumed alcohol
- Many engaged in sexual risk behaviors
  - Almost half of sexually active MSM engaged in unprotected anal sex
  - Over a third of sexually active women engaged in unprotected vaginal sex
  - MSM were more likely to have engaged in unprotected anal sex with HIV positive partners and may have practiced “serosorting”

Limitations

- Data are based on self-report
- Stigmatized behaviors (e.g., sex and drug risk behaviors) may be underreported
- Cross-sectional design, therefore cannot determine causal relationships
- Caution is required in making generalizations to all NYC HIV-infected patients receiving care for HIV:
  - Some facilities did not participate
  - Low response rate in patient sample
  - Unweighted data are from a complex survey design

Conclusions

- Many HIV-infected individuals received ART and appeared to be adherent and to have responded to treatment
- Greater understanding is needed on race/ethnic disparities in immunosuppression among NYC HIV patients
- Determining and modifying the factors associated with non-adherence to ART may contribute to improving the health status of PLWHA
- The effect of drug and alcohol use on the health status and transmission risk of PLWHA should be assessed
- Effective interventions are needed to prevent the sexual transmission of HIV to uninfected sex partners and to prevent PLWHA from acquiring other sexually transmitted infections

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