

Are Bisexual Men a Bridge Population* for HIV Transmission to Women in NYC?

*Evidence from Surveillance Data and the
HIV Testing Survey (HITS)*

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Abstract

Background: Men who have sex with men and women (MSM/W) may serve as a bridge for the transmission of HIV from MSM to heterosexual women. We examined the prevalence of MSM/W among men living with HIV/AIDS in NYC and the prevalence of high risk sex in men sexually active with men and women.

Methods: NYC HIV/AIDS surveillance data and the HIV Testing Survey (HITS). HITS is an anonymous behavioral survey of populations at risk for HIV and was conducted at 7 gay bars in NYC (2000-2002).

Results: 12% of MSM living with HIV/AIDS in NYC in 2002 also have sex with women (MSM/W). The prevalence of MSM/W is highest in blacks (166 per 100,000) and men 40-49 years (151 per 100,000). Of the 490 men surveyed in HITS, 26% were either sexually active with both men and women or self-identified as bisexual. 51% of the 59 bisexually active men engaged in high risk sex with other men (i.e. unprotected anal sex with last partner or 4+ casual partners in the previous 12 months), and 25% (15/59) [95% CI = 18%,32%] engaged in high risk sex with both men and women.

Conclusions: Our data provide indirect evidence that bisexual men play a role in the HIV epidemic among heterosexual women. HIV prevention messages should acknowledge the intersection of MSM and heterosexual women.

*** “The sexual transmission of HIV beyond a high-risk or ‘core’ group into the low-risk general population; depends on linkages between sexual networks, i.e. the ‘core group’ and sexual partners outside the core group”**

Background

1. A significant proportion of HIV-infected men who have sex with men (MSM) also report sex with women
 - In SHAS, the Supplemental HIV/AIDS Survey, 1995-2000, **13%** of HIV-infected white MSM reported sex with women, **34%** of black MSM, and **26%** of Hispanic MSM (*Montgomery et al, AIDS Care, 2003*)
2. Men who have sex with men and women are (MSM/W) at equal or greater risk for HIV infection than MSM.
 - Among black men in Los Angeles the odds of being HIV-infection were **30** times greater among MSM/W and **13** times greater among MSM compared with exclusively heterosexual men (*LA HIV Epidemiology Program, 2002*)

Objectives

- 1. To describe the prevalence and demographic characteristics of men who have sex with men and women (MSM/W) living with HIV/AIDS in New York City using surveillance data**
- 2. To determine the frequency of high risk sex with men and women among MSM/W in a sample of men recruited from gay bars for the HIV Testing Survey (HITS)**

Methods

NYC HIV/AIDS Surveillance Data

- ❑ In NYC, HIV and AIDS are reported through active and passive surveillance, the HIV/AIDS Reporting System (HARS)
- ❑ As of December 31, 2002, **80,862** persons were known to be living with HIV/AIDS (PLWHA) in NYC, including **20,920** men who have sex with men
- ❑ Heterosexual transmission accounts for **54%** of AIDS in women with known risk

HIV Testing Survey (HITS)

- ❑ **An anonymous behavioral risk survey of populations at risk for HIV**
- ❑ **Structured interview covering sexual behavior with primary and casual male and female partners**
- ❑ **Men recruited from 7 gay bars in NYC in three surveys (2000, 2002, 2003)**
- ❑ **Total sample = 490**

HIV Testing Survey

Variable Definitions

Bisexual

- Men who have sex with men and women in the previous 12 months (MSM/W) or self-identification as bisexual

High risk sex with men

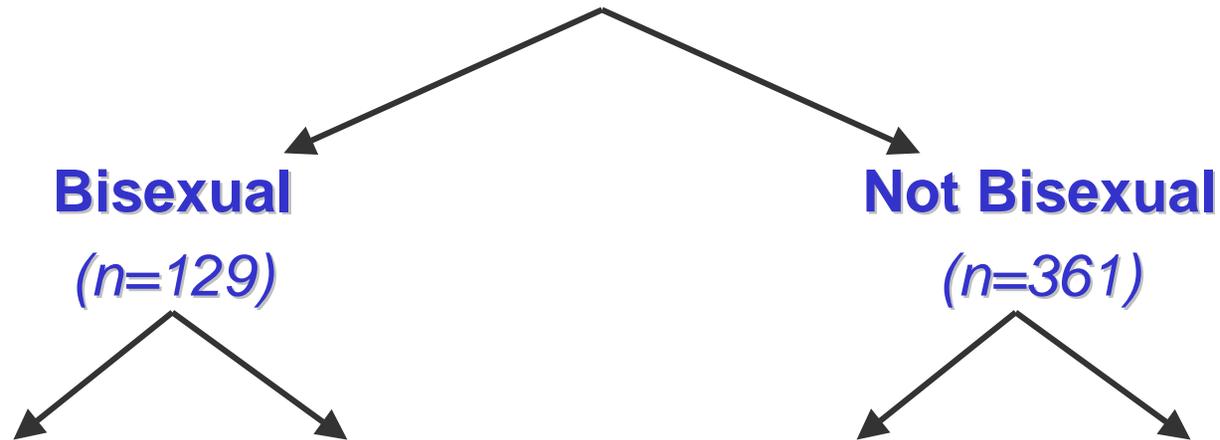
- No condom during receptive or insertive anal sex with last primary or casual partner
- 4+ casual sex partners in previous 12 months

High risk sex with women

- No condom during vaginal or anal sex with last primary or casual partner
- 4+ casual partners in previous 12 months

HIV Testing Survey Sample

(n=490)



Bisexual

(n=129)

Not Bisexual

(n=361)

Sexually active with men and women (MSM/W)
(n=59)

Self-identified as bisexual and not MSM/W
(n=70)

Sexually active with men only ("MSM")
(n=316)

Other: not sexually active, sex with women only
(n=45)

Results

Characteristics of 2,458* Men Living with HIV/AIDS in NYC who Have Sex with Men and Women

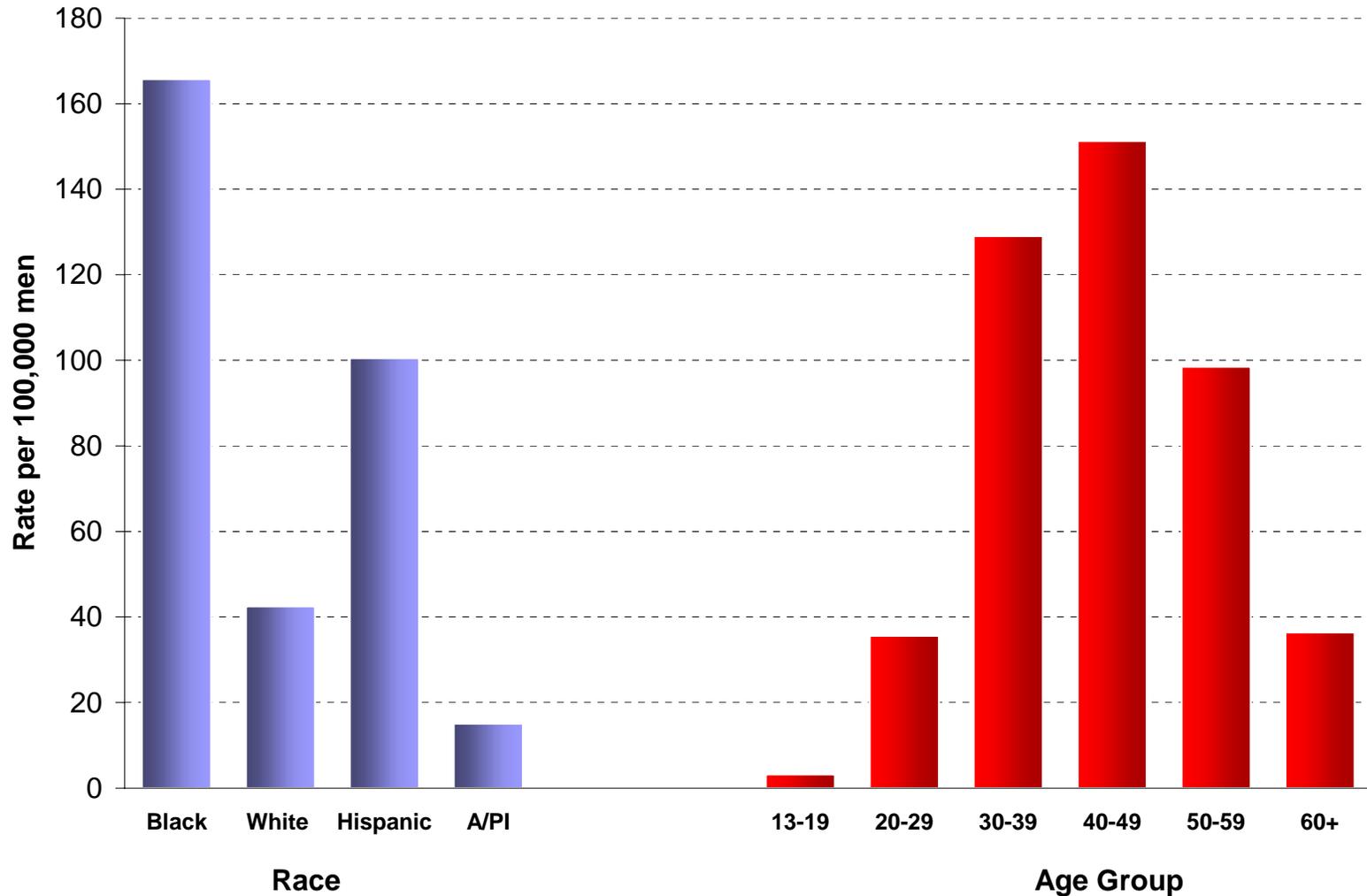
Rate per 100,000 men in NYC by Race and Age

Race/Ethnicity		
Black	1,102	45%
White	794	32
Hispanic	496	20
API/NA/Other/Unknown	66	3
Age		
13-19	12	<1%
20-29	218	9
30-39	849	35
40-49	817	33
50+	562	23

* Represents 12% (1,458/20,920) of men living with HIV/AIDS in NYC (end of 2002) with a know risk factor of MSM.

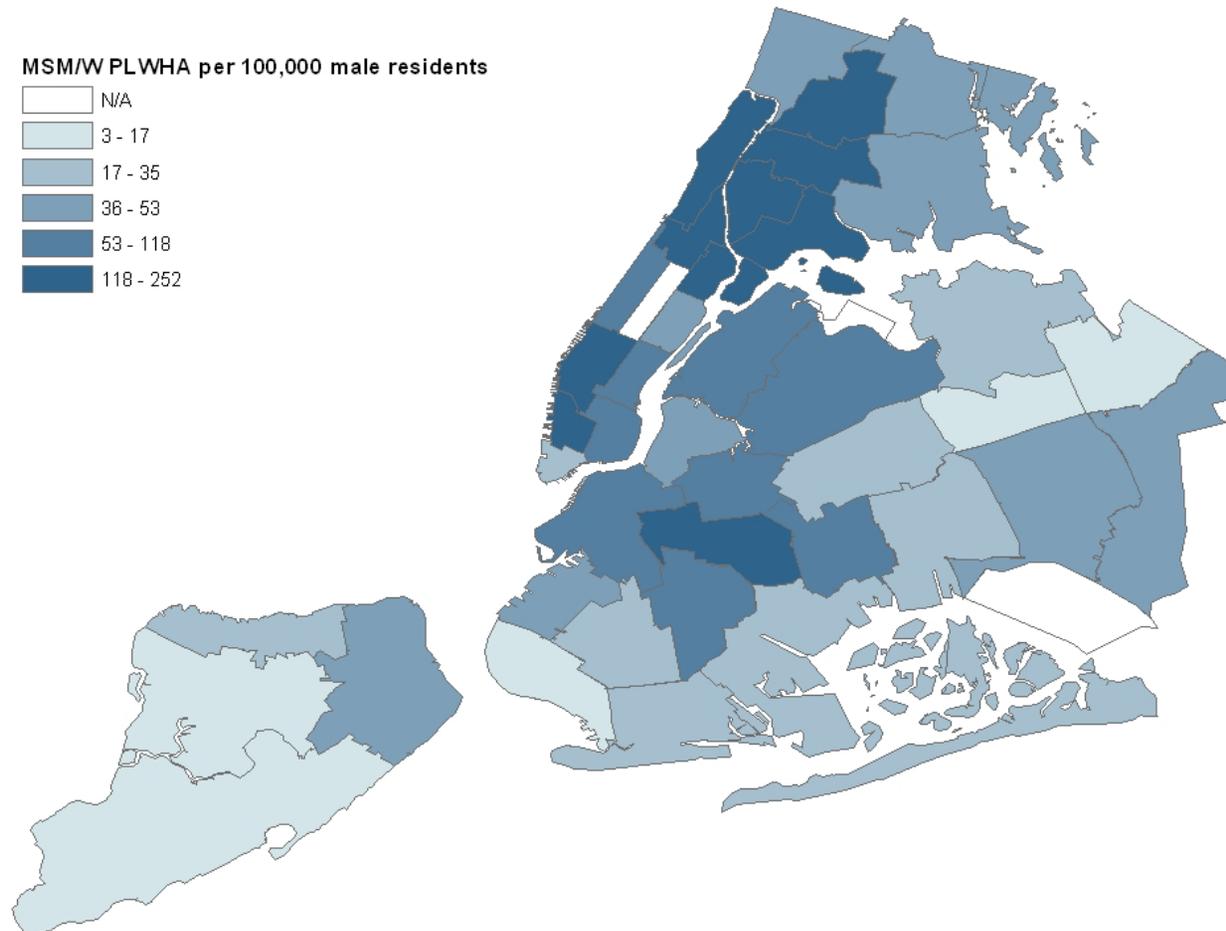
Men Living with HIV/AIDS in NYC who Have Sex with Men and Women, by Race and Age

NYC HIV/AIDS Reporting System (HARS), 2002



Men Living with HIV/AIDS in NYC who Have Sex with Men and Women, by Neighborhood

NYC HIV/AIDS Reporting System (HARS), 2002



Demographic Characteristics of Bisexual and Not Bisexual Men

HIV Testing Survey (HITS)

	Bisexual (n=139)	Not Bisexual (n=361)
Median Age (years)*	30	33
Black*	40%	23%
White	14%	35%
Hispanic	29%	24%
A/PI	9%	11%
<u><</u> HS Graduate*	33%	19%
Manhattan Residents*	34%	52%

The bisexual men are significantly ($p < .05$) younger, more likely to be black, less educated, and more likely to live outside Manhattan ($p < 0.001$)*

Characteristics of MSM/W who Engaged in High Risk (HR) Sex with Men (vs. no HR sex with men)

HIV Testing Survey (HITS)

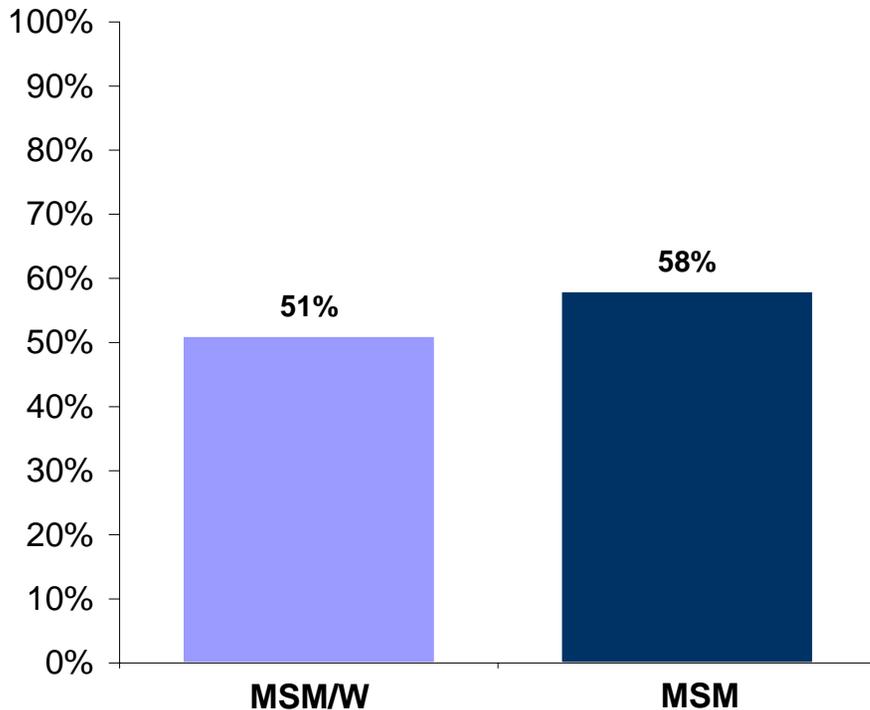
	HR Sex with Men (n=30)	No HR Sex with Men (n=29)
Median Age (years)*	31	29
Black*	27%	45%
White	17%	10%
Hispanic	17%	38%
A/PI	23%	3%
≤ HS Graduate*	10%	41%
Manhattan Residents	43%	38%

**MSM/W who engage in HR sex with men were significantly older, less likely to be Black or Hispanic (and more likely to be A/PI), and better educated (*p<0.05)*

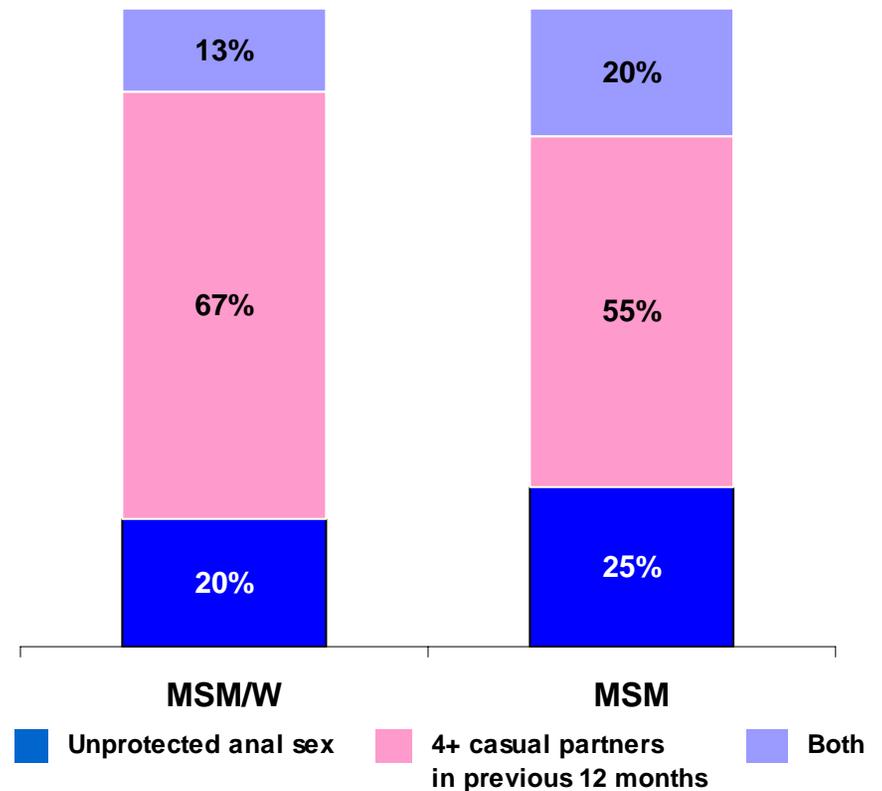
Sexual Behaviors of MSM/W and MSM

HIV Testing Survey (HITS)

Percent of MSM/W and MSM Engaging in Any HR Sex



Distribution of HR Sex Practices in MSM/W and MSM



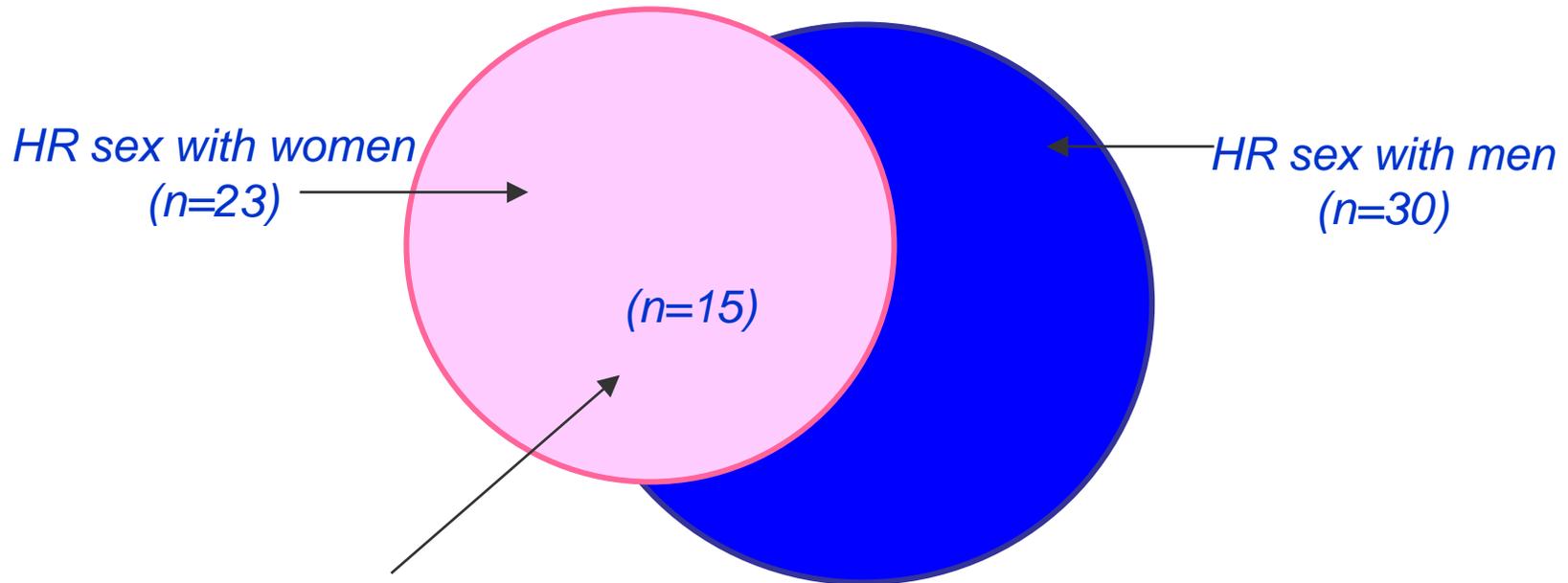
Characteristics of MSM/W who Engaged in High Risk Sex with Women (vs. no HR sex with women)*

HIV Testing Survey (HITS)

	HR with Women (n=23)	No HR with Women (n=35)
Median Age (years)	31	29
Black	30%	40%
White	38%	14%
Hispanic	22%	31%
A/PI	26%	6%
<u><</u> HS Graduate	9%	34%
Manhattan Residents	59%	45%

**None of these differences is statistically significant.*

MSM/W Who Engage in High Risk Sex with Both Men and Women



- *25% (15/59) [95% CI = 18%,32%] of all MSM/W engaged in high risk sex with men and women*
- *There were no significant differences in the demographic characteristics of men who did and did not engage in high risk sex with both men and women*

Conclusion

- ❑ Our data provide indirect evidence that bisexual men may be an important bridge for bringing HIV from the MSM population to heterosexual women
- ❑ High rates of HIV-infected MSM/W in blacks, 40-49 year olds and in neighborhoods in Brooklyn and the Bronx mirror the epidemic in heterosexually-infected women in NYC.
- ❑ MSM/W have a high prevalence (**51%**) of high risk sexual behaviors (comparable to MSM) and overall, **25%** engage in high risk sex with both men and women.

Limitations

- ❑ Our data cannot directly support the sexual network analysis needed to establish bisexual men as a bridge population
- ❑ The HIV risk of male partners of women infected with HIV through heterosexual sex is poorly characterized in surveillance data
- ❑ The true size of the HIV-infected bisexual population in NYC is not known since stigma may deter men from reporting same-sex behavior
- ❑ High risk sexual practices may be under-reported in HITS
- ❑ The HITS sample of bisexual men who engaged in high risk sex with men and women was too small to adequately characterize

Recommendations

- ❑ HIV prevention messages to men and women should acknowledge the intersection of MSM and heterosexual women
- ❑ HIV prevention messages for women should focus on their risk from partner's sexual exposure outside the relationship, including sexual relationships with other men
- ❑ Larger and more diverse samples of bisexual men are needed to explore the extent of the HIV risks for both bisexual men and their female partners