HIV Risk and Prevalence among NYC Men who Have Sex with Men

Results from the 2014 National HIV Behavioral Surveillance Study
Background

- NYC has the largest population of men who have sex with men (MSM) of any U.S. city
- MSM are the largest risk group of people living with HIV/AIDS and new infections
- Nationally, HIV incidence has increased among young, black MSM (Prejean, 2011)
- HIV risk factors vary in different MSM communities
National HIV Behavioral Surveillance (NHBS)

- 20 metropolitan statistical areas throughout the United States
- Funded by CDC, designed collaboratively
- Ongoing, cyclical study of three risk groups: MSM, IDU, and high-risk heterosexuals
- Fourth round of NHBS-MSM data collection in 2014
- Cross-sectional study design
NHBS 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 risk and prevalence
Eligibility Criteria

*NYC NHBS-MSM, 2014*

- Born male, currently identifies as male
- At least 18 years old
- NYC resident
- Ever had oral or anal sex with another man
- Speaks English or Spanish
Venue-Based Sampling

NYC NHBS-MSM, 2014

- Universe of MSM-oriented venues constructed
  - Bars, clubs, parks, restaurants, gyms, cruising areas

- Venues randomly selected, placed on monthly calendar
  - Special events or venues also added non-randomly

- Field team sequentially samples men at venue
  - Men must cross an imaginary line; venue volume measured

- Approached men are screened, and, if eligible, provide informed consent, interviewed, and HIV tested

- Data was collected August – November 2014
Statistical Analysis  *NYC NHBS-MSM, 2014*

- Analyses restricted to those who reported oral or anal sex with another man in the past 12 months (n=476)
- Basic descriptive frequencies of demographics, risks, and use of HIV testing and prevention services
- Chi-square tests (categorical variables) and Wilcoxon tests (non-normal continuous variables) were used to compare differences in HIV risks and use of HIV testing and prevention services
  - Most slides focus only on MSM who did not self-report as HIV+ (n=404), since awareness of HIV infection influences risk
- Overall prevalence of HIV infection determined by confirmed Western blot test among those who tested (n=317)
  - Awareness of HIV status, among those who tested HIV positive (n=47)
Study Sample

NYC NHBS-MSM, 2014

Counted at Venue
n=7731

Approached
n=2450 (32%)

Screened
n=996 (41%)

Eligible & Interviewed
n=556 (56%)

Active NYC MSM
n=476 (86%)

HIV Tested
n=317 (67%)

Self-Reported HIV-/Unk.
n=404 (85%)

HIV Tested
n=270 (67%)
Participant United Hospital Fund (UHF) Neighborhood of Residence and Recruitment Venues

NYC NHBS-MSM, 2014, n=459 with valid ZIP codes

Legend
- Venue Locations

# of participants
- 0
- 1 - 2
- 3 - 9
- 10 - 15
- 16 - 79

Manhattan: 48%
Brooklyn: 24%
Queens: 19%
Bronx: 8%
Staten Island: 0%
Recruitment Venues

NYC NHBS-MSM, 2014, n=476

- Bars: 73.9%
- Sex Environments: 5.0%
- Dance Clubs: 4.2%
- Street Locations: 4.2%
- Cafes or Restaurants: 2.5%
- Gay Pride or Similar Events: 1.5%
- Parks: 1.1%
- Retail Businesses: 0.9%
## Demographics

*NYC NHBS-MSM, 2014, n=476*

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>16%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>30%</td>
</tr>
<tr>
<td>White</td>
<td>45%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
<tr>
<td>Not Reported</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual orientation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gay</td>
<td>87%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>12%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Unknown</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>44%</td>
</tr>
<tr>
<td>30-39</td>
<td>30%</td>
</tr>
<tr>
<td>40-49</td>
<td>16%</td>
</tr>
<tr>
<td>50+</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Birthplace</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>74%</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>3%</td>
</tr>
<tr>
<td>Foreign</td>
<td>24%</td>
</tr>
</tbody>
</table>
### Demographics

*NYC NHBS-MSM, 2014, n=476*

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10k</td>
<td>7%</td>
</tr>
<tr>
<td>10k-30k</td>
<td>24%</td>
</tr>
<tr>
<td>30k-50k</td>
<td>21%</td>
</tr>
<tr>
<td>&gt;50k</td>
<td>48%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jailed &gt;24 hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 12 Months</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;High School</td>
<td>1%</td>
</tr>
<tr>
<td>High School Graduate or Some College</td>
<td>35%</td>
</tr>
<tr>
<td>≥College Graduate</td>
<td>64%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Homeless</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 12 Months</td>
<td>5%</td>
</tr>
<tr>
<td>Currently</td>
<td>1%</td>
</tr>
</tbody>
</table>
Number of Male Sex* Partners in Past 12 Months

*Oral or anal sex

NYC NHBS-MSM, 2014, n=404 (HIV-/Unk.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Median</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main</td>
<td>1</td>
<td>1.1</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>Casual</td>
<td>4</td>
<td>8.7</td>
<td>0</td>
<td>200</td>
</tr>
<tr>
<td>All Types</td>
<td>4</td>
<td>9.8</td>
<td>1</td>
<td>200</td>
</tr>
</tbody>
</table>
Median Number of Male Sex* Partners in Past 12 Months by Participants’ Race/Ethnicity

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Casual</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>All Types</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

* Oral or anal sex
# Sexual Behavior

**NYC NHBS-MSM, 2014, n=404 (HIV-/Unk.)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condomless Anal Intercourse (12m)</td>
<td>52%</td>
</tr>
<tr>
<td>Condomless Anal Intercourse (Last Sex)</td>
<td>33%</td>
</tr>
<tr>
<td>Vaginal or Anal Sex with a Woman (12m)</td>
<td>9%</td>
</tr>
<tr>
<td>Condomless Vaginal or Anal Sex with a Woman (12m)</td>
<td>4%</td>
</tr>
</tbody>
</table>
Condomless Anal Intercourse in Past 12 Months and at Last Sex by Race/Ethnicity

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

- **Past 12 Months**
  - Black: 41%
  - Hispanic: 59%
  - White: 53%
  - Other: 46%

- **Last Sex**
  - Black: 35%
  - Hispanic: 34%
  - White: 35%
  - Other: 33%
Condomless Anal Intercourse in Past 12 Months and at Last Sex by Age

NYC NHBS-MSM, 2014, n=404 (HIV-/Unk.)
Condomless Anal Intercourse by Partner Characteristics

NYC NHBS-MSM, 2014, n=404 (HIV-/Unk.)

- Condomless Anal Intercourse with >1 Partner: 21%
- Condomless Anal Intercourse with Casual Partner: 29%
- Condomless Anal Intercourse with Partner of HIV+ or Unknown Status: 10%
Sex with a Woman in Past 12 Months
NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

- Vaginal/Anal Sex
  - Black: 9%
  - Hispanic: 14%
  - White: 10%
  - Other: 0%
  - Significance: $p=0.05$

- Condomless Vaginal/Anal Sex
  - Black: 7%
  - Hispanic: 8%
  - White: 2%
  - Other: 0%
  - Significance: $p=0.02$
Non-Injection Drug Use in Past 12 Months

NYC NHBS-MSM, 2014, n=476

- Any Drug: 33% <1x/Week, 28% ≥1x/Week
- Marijuana: 29% <1x/Week, 23% ≥1x/Week
- Powdered Cocaine: 27% <1x/Week, 4% ≥1x/Week
- Crack Cocaine: 5% <1x/Week, 0% ≥1x/Week
- Amyl Nitrate: 25% <1x/Week, 8% ≥1x/Week
- Meth: 8% <1x/Week, 2% ≥1x/Week
Binge Alcohol Use in Past 12 Months by Race/Ethnicity
NYC NHBS-MSM, 2014, n=464 (reported race)

Binge: 5 or more drinks in “one sitting”
Binge Alcohol Use in Past 12 Months by Age

NYC NHBS-MSM, 2014, n=476

Any Binge

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Any Binge</th>
<th>At Least Weekly Binge</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>83%</td>
<td>46%</td>
</tr>
<tr>
<td>30-39</td>
<td>84%</td>
<td>45%</td>
</tr>
<tr>
<td>40-49</td>
<td>78%</td>
<td>38%</td>
</tr>
<tr>
<td>50+</td>
<td>42%</td>
<td>33%</td>
</tr>
</tbody>
</table>

P<0.0001

Binge: 5 or more drinks in “one sitting”
Drug and Alcohol Use at Last Sex by Race/Ethnicity

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

- Any Drug or Alcohol: 53% White, 49% Non-White
- Alcohol: 50% White, 44% Non-White
- Marijuana: 10% White, 13% Non-White
- Powdered Cocaine: 4% White, 4% Non-White
Alcohol/Drug Use and Sexual Risk at Last Sex

NYC NHBS-MSM, 2014, n=404 (HIV-/Unk.)

- Condomless Anal Intercourse:
  - Used Alcohol/Drugs: 31%
  - No Alcohol/Drugs: 35%

- Condomless Anal Intercourse with HIV+/Unk. Status Partner:
  - Used Alcohol/Drugs: 13%
  - No Alcohol/Drugs: 9%
Self-Reported Sexually Transmitted Disease (STD) Diagnosis in Past 12 Months by Race/Ethnicity

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

- **Syphilis**
  - Black: 7%
  - Hispanic: 4%
  - White: 1%
  - Other: 0%
  - *p=0.01 (Exact)*

- **Chlamydia**
  - Black: 10%
  - Hispanic: 8%
  - White: 6%
  - Other: 0%

- **Gonorrhea**
  - Black: 10%
  - Hispanic: 8%
  - White: 8%
  - Other: 0%
HIV Testing History by Race/Ethnicity

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

- Ever Tested:
  - Black: 97%
  - Hispanic: 97%
  - White: 94%
  - Other: 96%

- Past 12 Months:
  - Black: 81%
  - Hispanic: 79%
  - White: 78%
  - Other: 75%
HIV Prevention Services

NYC NHBS-MSM, 2014, n=394 (reported race, HIV-/Unk.)

<table>
<thead>
<tr>
<th>Service</th>
<th>White</th>
<th>Non-White</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used NYC Condom (6 m)</td>
<td>38%</td>
<td>50%</td>
<td>0.03</td>
</tr>
<tr>
<td>Used Any Free Condom (12 m)</td>
<td>51%</td>
<td>66%</td>
<td>0.003</td>
</tr>
<tr>
<td>Individual Counseling (12 m)*</td>
<td>11%</td>
<td>25%</td>
<td>0.005</td>
</tr>
<tr>
<td>Group Counseling (12 m)</td>
<td>3%</td>
<td>10%</td>
<td>0.002</td>
</tr>
</tbody>
</table>

*pnot including counseling as part of an HIV test*
HIV Prevalence and Awareness by Age

NYC NHBS-MSM, 2014, n=317 (tested in study)

<table>
<thead>
<tr>
<th></th>
<th>Tested*</th>
<th>HIV-Positive†</th>
<th>95% CI</th>
<th>% Unaware§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>66.6%</td>
<td>14.8%</td>
<td>11.1% – 19.2%</td>
<td>4%</td>
</tr>
<tr>
<td>By Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>73.9%</td>
<td>2.6%</td>
<td>0.7%-6.4%</td>
<td>0%</td>
</tr>
<tr>
<td>30-39</td>
<td>65.2%</td>
<td>22.8%</td>
<td>14.7%-32.8%</td>
<td>5%</td>
</tr>
<tr>
<td>40-49</td>
<td>59.2%</td>
<td>31.1%</td>
<td>18.2%-46.7%</td>
<td>7%</td>
</tr>
<tr>
<td>≥50</td>
<td>50.0%</td>
<td>33.3%</td>
<td>15.6%-55.3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*p=0.005

†p<0.0001

§Among MSM who tested HIV positive (n=47)
### HIV Prevalence and Awareness by Race/Ethnicity

*NYC NHBS-MSM, 2014, n=307 (reported race, tested in study)*

<table>
<thead>
<tr>
<th>By Race/Ethnicity</th>
<th>Tested</th>
<th>HIV-Positive*</th>
<th>95% CI</th>
<th>% Unaware†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>59.7%</td>
<td>28.3%</td>
<td>16.0%-43.5%</td>
<td>0%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>67.6%</td>
<td>14.3%</td>
<td>8.0%-22.8%</td>
<td>14%</td>
</tr>
<tr>
<td>White</td>
<td>66.2%</td>
<td>11.9%</td>
<td>7.1%-18.4%</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>76.9%</td>
<td>5.0%</td>
<td>0.1%-24.9%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*p<0.03

†Among MSM who tested HIV positive (n=45)
NYC National HIV Behavioral Surveillance Team

NYC Department of Health

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   Dita Broz
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CDC Grant#: 1U1BPS003246-04
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