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

- Results from the National HIV Behavioral Surveillance Study among Young Men who Have Sex with Men 2014-2015
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 people newly diagnosed with HIV
- In NYC in 2013, there were 87 newly diagnosed HIV cases among males 13-19 years of age; of these 74 (85%) were known to be MSM
- Gaps in knowledge exist on risk factors for HIV acquisition among young MSM (YMSM)
National HIV Behavioral Surveillance for Young Men who Have Sex with Men (NHBS-YMSM)

- Pilot project in 3 US cities: NYC, Chicago, and Philadelphia
- Funded by CDC, designed collaboratively
- Data collection period from Nov 2014 - Dec 2015
- Cross-sectional study design
NHBS-YMSM Objectives

• Determine the most effective sampling method(s) to reach YMSM
• Ascertain the feasibility of implementing each sampling method
• Evaluate the need to conduct ongoing HIV surveillance among YMSM by examining data related to HIV risk behaviors, HIV prevalence, HIV incidence, and other HIV-related outcomes
Eligibility Criteria

NYC NHBS-YMSM

- Born male, currently identifies as male
- Between the ages of 13 and 17 (extended to age 18 in Aug 2015)
- Live in NYC metropolitan statistical area (MSA)
- Ever had any sexual contact with another male or self-identified as gay or bisexual or reported same-sex sexual attraction
- Able to complete the survey in English
Two sampling methods were used to recruit YMSM:

- Venue-based sampling (VBS)
- Respondent-driven sampling (RDS)
Venue-Based Sampling (VBS)

NYC NHBS-YMSM

- Universe of YMSM-oriented venues constructed
  - Service organizations, street locations, house ball events

- Venues randomly selected, placed on monthly calendar
  - Special events or venues also added non-randomly (eg. Pride)

- Field team systematically approached persons at venue

- If agreed to, those approached were screened, and, if eligible, provided informed consent, were interviewed, and offered HIV testing and counseling

- Study incentives provided for the survey ($50) and HIV test ($25) in the form of gift cards
Respondent-Driven Sampling (RDS)

NYC NHBS-YMSM

• Study team recruited initial participants ("seeds") through street and facility-based outreach

• Seeds then recruited up to 5 other participants who met the eligibility criteria

• Each of those 5 participants were offered to recruit up to 5 more participants, and so on until the target sample size was met

• Study incentives were provided for the survey ($50), HIV test ($25) and peer recruitment ($20 per eligible participant)
Study Sample

NYC NHBS-YMSM

VBS

Approached  
n=4692

Screened  
n=2761 (59%)

Eligible  
n=302 (11%)

Completed Interviews  
n=177 (59%)

HIV Tested  
n=133 (75%)

RDS

Seeds  
n=39

Eligible Seeds  
n=34 (87%)

HIV Tested  
n=27 (79%)

Recruits  
n=23

Eligible Recruits  
n=21 (91%)

HIV Tested  
n=20 (95%)

177 VBS + 55 RDS (34 Seeds & 21 Recruits) = 232 Total
VBS Recruitment Venues

NYC NHBS-YMSM, n=177 (VBS recruits)

*Other includes street locations, non-LGBT events and malls
NHBS-YMSM RDS Recruitment Network Diagram

*Circles are network seeds*
Statistical Analysis

NYC NHBS-YMSM

- Analyses combine both VBS and RDS as a convenience sample. Results are not generalizable to the larger population
- 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 YMSM who did not self-report as HIV+ (n=226), since awareness of HIV infection influences risk
  - Some slides focus only on YMSM who did not self-report as HIV+ and who were sexually active (vaginal or anal sex; n=164).
- Overall prevalence of HIV infection determined by confirmed Western blot test among those who tested (n=177)
## Demographics

**NYC NHBS-YMSM, n=232**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>33%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>51%</td>
</tr>
<tr>
<td>White</td>
<td>13%</td>
</tr>
<tr>
<td>Other*</td>
<td>3%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Birthplace</th>
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<tbody>
<tr>
<td>United States</td>
<td>90%</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>3%</td>
</tr>
<tr>
<td>Foreign</td>
<td>7%</td>
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<table>
<thead>
<tr>
<th>Age</th>
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<tbody>
<tr>
<td>13-15</td>
<td>22%</td>
</tr>
<tr>
<td>16-18</td>
<td>78%</td>
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</table>

<table>
<thead>
<tr>
<th>Borough of Residence</th>
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<tbody>
<tr>
<td>Manhattan</td>
<td>29%</td>
</tr>
<tr>
<td>Bronx</td>
<td>25%</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>25%</td>
</tr>
<tr>
<td>Queens</td>
<td>13%</td>
</tr>
<tr>
<td>Staten Island</td>
<td>4%</td>
</tr>
<tr>
<td>Outside of NYC, within MSA</td>
<td>3%</td>
</tr>
</tbody>
</table>

*Other race/ethnicity includes American Indian or Alaska Native and Asian.*
# Demographics

**NYC NHBS-YMSM, n=232**

<table>
<thead>
<tr>
<th>Sexual Identity</th>
<th>Jailed &gt;24 hours</th>
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<tbody>
<tr>
<td>Gay</td>
<td>Ever</td>
</tr>
<tr>
<td>63%</td>
<td>9%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>Past 12 Months</td>
</tr>
<tr>
<td>32%</td>
<td>4%</td>
</tr>
<tr>
<td>Heterosexual/Straight</td>
<td></td>
</tr>
<tr>
<td>3%</td>
<td></td>
</tr>
</tbody>
</table>

## Education

- Currently in HS/pursuing GED: 86%
- Completed HS/GED: 12%
- Did not complete HS/GED: 2%
Sexual Behaviors

NYC NHBS-YMSM, n=226 (HIV-/Unk.)

- Any Vaginal/Anal Sex
  - Ever: 73%
  - Past 12 months: 65%

- Oral/Anal Sex (Male Partner)
  - Ever: 73%
  - Past 12 months: 69%

- Any Anal Sex (Male Partner)
  - Ever: 61%
  - Past 12 months: 57%

- Oral Sex Only (Male Partner)
  - Ever: 12%
  - Past 12 months: 12%

- Vaginal/Anal Sex (Female Partner)
  - Ever: 34%
  - Past 12 months: 16%
Condomless Sex in Past 12 Months

NYC NHBS-YMSM, n=164 (HIV-/Unk., ever sexually active)
Condomless Sex at Last Sex in Past 12 Months

NYC NHBS-YMSM, n=146 (HIV-/Unk., sexually active 12m)
Number of Male Sex Partners\(^1\) in Past 12 Months

*NYC NHBS-YMSM, n=164 (HIV-/Unk., ever sexually active)*

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious(^2)</td>
<td>1.0</td>
<td>1.1</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Casual(^3)</td>
<td>1.0</td>
<td>4.4</td>
<td>0</td>
<td>250</td>
</tr>
<tr>
<td>All Types</td>
<td>2.0</td>
<td>5.5</td>
<td>0</td>
<td>250</td>
</tr>
</tbody>
</table>

\(^1\)Males with whom participant reports oral or anal sex

\(^2\)Defined as someone the participant dated for a while and feel very close to

\(^3\)Defined as someone the participant is casually dating or is sleeping with but not dating
Median Number of Male Sex Partners\(^1\) in Past 12 Months by Participants’ Race/Ethnicity

*NYC NHBS-YMSM n=156 (HIV-/Unk., male sex partner in past 12 months)*

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic/Latino</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious(^2)</td>
<td>1.0</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Casual(^3)</td>
<td>2.0</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>All Types</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>3.5</td>
</tr>
</tbody>
</table>

\(^1\)Males with whom participant reports oral or anal sex

\(^2\)Defined as someone the participant dated for a while and feel very close to

\(^3\)Defined as someone the participant is casually dating or is sleeping with but not dating
Condomless Anal Sex with a Man in Past 12 Months by Participants’ Race/Ethnicity

NYC NHBS-YMSM, n=159 (HIV-/Unk, ever sexually active)*

- Black: 49%
- Hispanic/Latino: 50%
- White: 30%

*Other race/ethnicity (American Indian or Alaska Native, Asian) not shown due to small sample size.
Condomless Anal Sex with a Man at Last Sex in Past 12 Months by Participants’ Race/Ethnicity

NYC NHBS-YMSM, n=141 (HIV-/Unk., sexually active 12m)*

- Black: 22%
- Hispanic/Latino: 23%
- White: 5%

*Other race/ethnicity (American Indian or Alaska Native, Asian) not shown due to small sample size.
Condomless Anal Sex with a Man in Past 12 Months by Participants’ Age

NYC NHBS-YMSM, n=164 (HIV-/Unk., ever sexually active)

13-15: 27%
16-18: 51%

$p = 0.0257$
Condorless Anal Sex with a Man at Last Sex in Past 12 Months by Participants’ Age

NYC NHBS-YMSM, n=146 (HIV-/Unk., sexually active 12m)
Condomless Anal Sex in Past 12 Months by Male Partner Type and Participant’s Race/Ethnicity

NYC NHBS-YMSM, n=159 (HIV-/Unk., ever sexually active)*

*Other race/ethnicity (American Indian or Alaska Native, Asian) not shown due to small sample size.
Condomless Anal Sex at Last Sex in Past 12 Months by Partner Characteristics

NYC NHBS-YMSM, n=146 (HIV-/Unk., sexually active 12m)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>0%</th>
<th>1%</th>
<th>8%</th>
<th>13%</th>
<th>16%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8%</td>
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<tr>
<td>Older</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>Known HIV status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td>HIV-positive</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ever IDU</td>
<td>0%</td>
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<tr>
<td>Ever incarcerated</td>
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<td></td>
<td></td>
<td></td>
<td>1%</td>
</tr>
</tbody>
</table>
Non-Injection Drug Use* in Past 12 Months

NYC NHBS-YMSM, n=226 (HIV-/Unk.)

*Use of other drugs (methamphetamine, crack cocaine, non-prescribed painkillers, heroin, and poppers) was less common (<5%)
Alcohol Use

NYC NHBS-YMSM, n=226 (HIV-/Unk.)

- Alcohol Use (12m): 71%
- Alcohol Use (30 days): 53%
- Binge Drinking* (12m): 47%
- Binge Drinking (30 days): 24%

*Binge drinking was defined as consuming 5 or more drinks in one sitting
Drug and Alcohol Use at Last Sex

NYC NHBS-YMSM, n=146 (HIV-/Unk., sexually active 12m)

- Any Drug or Alcohol: 21% Male partner, 44% Female partner, $p = 0.0225$
- Alcohol only: 8% Male partner, 4% Female partner
- Marijuana: 13% Male partner, 39% Female partner, $p = 0.0051^*$

*Fisher’s exact test used
Drug/Alcohol Use and Condomless Sex at Last Sex in Past 12 Months

NYC NHBS-YMSM, n=146 (HIV-/Unk., sexually active 12m)

- Condomless Anal Sex with Man: 14% Used Alcohol/Drugs, 24% No Alcohol/Drugs
- Condomless Vaginal/Anal Sex with Woman: 11% Used Alcohol/Drugs, 6% No Alcohol/Drugs
- Condomless Anal Sex with Unk. HIV Status Male Partner: 3% Used Alcohol/Drugs, 6% No Alcohol/Drugs
- Condomless Vaginal/Anal Sex with Unk. HIV Status Female Partner: 6% Used Alcohol/Drugs, 4% No Alcohol/Drugs
Self-Reported Sexually Transmitted Disease (STD) Testing and Diagnoses in Past 12 Months

NYC NHBS-YMSM, n=164 (HIV-/Unk., ever sexually active)

- Any STD Testing*: 45%
- Any Bacterial STD Diagnosis*: 7%
- Syphilis Diagnosis: 4%
- Chlamydia Diagnosis: 2%
- Gonorrhea Diagnosis: 2%

*Excluding HIV and hepatitis
**Defined as any syphilis, chlamydia, or gonorrhea diagnosis
Offered HIV Test by Health Provider in Past 12 Months by Race/Ethnicity

NYC NHBS-YMSM, n=144 (HIV-/Unk., sexually active, saw health provider)*

- **Black**: 64%
- **Hispanic/Latino**: 72%
- **White**: 44%

*Other race (American Indian or Alaska Native, Asian) not shown due to small sample size.
HIV Testing History by Race/Ethnicity

NYC NHBS-YMSM, n=159 (HIV-/Unk., sexually active)*

*Other race (American Indian or Alaska Native, Asian) not shown due to small sample size.
HIV Prevention Services in the Past 12 Months

NYC NHBS-YMSM, n=226 (HIV-/Unk.)

Received Free Condoms
- Sexually Active (Ever): 84%
- Not Sexually Active: 61%

Individual Counseling*
- Sexually Active (Ever): 55%
- Not Sexually Active: 37%

Group Counseling**
- Sexually Active (Ever): 45%
- Not Sexually Active: 27%

*Defined as a one-on-one conversation with 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 group of small people to discuss ways to prevent HIV. Does not include discussions with a group of friends.
Pre-Exposure Prophylaxis (PrEP)

NYC NHBS-YMSM, n=226 (HIV-/Unk.)

- Heard of PrEP:
  - Sexually Active (Ever): 49%
  - Not Sexually Active: 26%

- Willing to take PrEP:
  - Sexually Active (Ever): 64%
  - Not Sexually Active: 54%
# HIV Prevalence and Awareness by Age

*NYC NHBS-YMSM, n=177 (tested in study with valid result)*

<table>
<thead>
<tr>
<th></th>
<th>Tested*</th>
<th>HIV-Positive</th>
<th>% Unaware(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>76.3%</td>
<td>4.0%</td>
<td>28.6%</td>
</tr>
<tr>
<td>By Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-16</td>
<td>65.4%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>17-18</td>
<td>79.4%</td>
<td>4.9%</td>
<td>28.6%</td>
</tr>
</tbody>
</table>

\(^*p=0.0357 \text{ for difference in proportion tested by age}\)

\(^1\)Among MSM who tested HIV positive (n=7)
### HIV Prevalence and Awareness by Race/Ethnicity\(^1\)

**NYC NHBS-YMSM, \( n=169 \) (tested in study with valid result)**

<table>
<thead>
<tr>
<th>By Race/Ethnicity</th>
<th>Tested</th>
<th>HIV-Positive</th>
<th>% Unaware(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>75.0%</td>
<td>3.5%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>79.5%</td>
<td>5.4%</td>
<td>20.0%</td>
</tr>
<tr>
<td>White</td>
<td>63.3%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

\(^1\)Other race category not shown due to small sample size

\(^2\)Among MSM who tested HIV positive (\( n=7 \))
Conclusions

• Venue-based sampling (VBS) was a more effective sampling method to recruit YMSM in NYC, compared to respondent-driven sampling.

• Most YMSM were sexually active and a high proportion reported engaging in unprotected anal sex.

• Despite a small number of HIV-positive participants, HIV prevalence was higher than in the general NYC population.

• YMSM of color may be at higher risk for HIV infection. Risk behaviors were more prevalent among YMSMOC in this sample.
NYC National HIV Behavioral Surveillance YMSM Team

NYC Department of Health

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