# Methamphetamine and YMSM:
## *Understanding Patterns and Correlates of Use, and the Association with HIV-Related Sexual Risk*

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# Background:
## *Methamphetamine and MSM*

- Addictive stimulant: nationwide use

- Prevalent among men who have sex with men (MSM)

- Popularity stems from association with sexual activity

- Strong association has been described between methamphetamine

  – Unprotected anal intercourse

  – Sex with multiple partners

Methamphetamine has emerged as a major risk factor for HIV and other sexually transmitted diseases

# Background:
## *Methamphetamine and MSM*

- Methamphetamine and sexual environments
  - Internet, circuit parties, bathhouses, and sex clubs
- Linked to psychological factors
  - Self-esteem, loneliness, isolation, depression
- Jan 2005: CDC Meeting – Future research to explore:
  - Natural history of meth use and risky behaviors
  - Social and sexual context of meth use
  - Relationship between meth and risky sex in subpopulations of MSM

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**\*\*Little-to-no research specific to the methamphetamine and sexual risk taking of YMSM**

# Objective:

- To describe patterns and consequences of meth use
- To examine the relationship between meth use, sexual risk, psychological factors and social contexts

# Methods:
## *Subjects and Recruitment*

- Convenience sample (n=310) of YMSM
- Ethnically diverse
- Age 16-24
- Recruited from multiple community-based sources
- Data collection: August 2004-April 2005 (9 months)
- Design:
    - Computer-assisted
    - Cross-sectional survey
    - Voluntary and confidential
    - 90 minutes to complete survey
    - $30 for participation

# **Methods**:
## *Measures and Information*

- Demographic Measures
- Sexual and Substance Use Behaviors
- Dependent Variable = Methamphetamine Use:
  - Have you used methamphetamine (meth, tina, chalk, ice, crystal, or glass) anytime in the past year?
  - How many times have you used methamphetamine in the past year?

# **Methods**:
## *Measures and Information*

- Independent Variables
  - Social Context: Bathhouse/Sex Club, Internet, Commercial Sex, Older Anal Sex Partners
  - Psychological Distress: BSI-18
  - Self-Esteem: Rosenberg Self-Esteem Scale
  - Romantic Loneliness: SELSA
- Other Measures
  - Consequences and negative patterns of meth use, such as:
    - Failure to do day-to-day activities
    - Unable to remember what happened last night
    - Did something sexually unintended (i.e. did not use condom)
    - Used drugs because a date or sexual partner pressured you

# **Methods**:
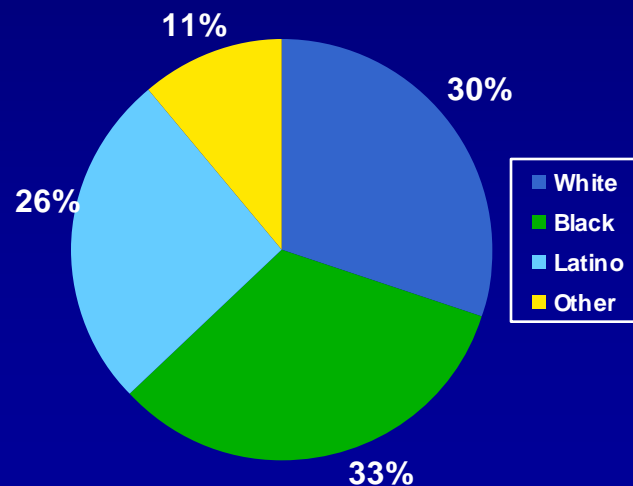## *Statistical Analysis: 4 Steps*

- Frequencies of demographic data, methamphetamine use and risk behaviors
- Factors associated with methamphetamine use (Chi-square):
  – Demographic variables: Age, race/ethnicity, HIV serostatus
  – Negative drug-related consequences and patterns of use (N=172, 55.5% of the original sample)
- Separate hierarchical regression analysis for each IV – controlling for demographic variables
- Multiple hierarchical logistic regression modeling
  – Screened for multicolinearity
  – Variables entered in 2 blocks
  – Bonferroni correction
  – Effects considered significant if $p < 0.025$
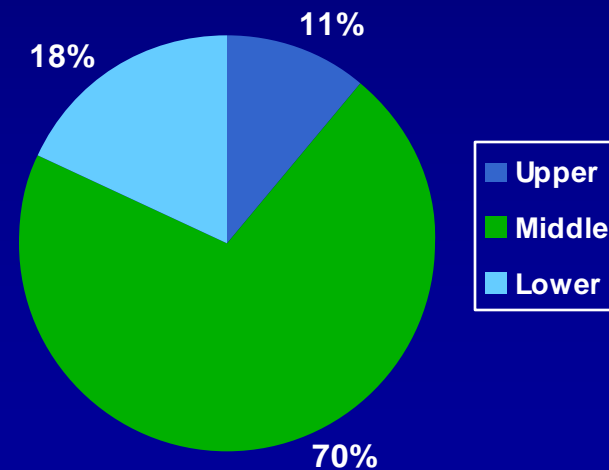
# **Results** (n=310):
## *Demographic Information*

- **Mean Age**: 20.3 years (range16-24; SD 2.4)
  - 54% under age 21; 27% were age 16-18
- **Sexual Orientation**: 82% gay; 16% bisexual
- **HIV+:** 14%

### **Race/Ethnicity**

11%
30%
26%
33%

White
Black
Latino
Other

### **Socioeconomic Status**

11%
18%
70%

Upper
Middle
Lower

# Results (n=310):
## *Sexual Risk and Substance Use*

| Risk Behavior | N | % |
|---|---|---|
| Viagra Use (12 mo) | 20 | 6 |
| Commercial Sex | 76 | 25 |
| Public Sex – Bathhouse or Sex Club | 79 | 26 |
| Sex with Internet Partner | 130 | 42 |
| Anal Sex with Older Partner (>10 years) | 95 | 31 |
| Multiple Anal Sex Partners (3mo) | 124 | 40 |
| Methamphetamine Use (12 mo) | 39 | 13 |

# **Results**:
## *Patterns and Consequences of Meth Use*

- Strongly assoc. with age, race/ethnicity, HIV status
  - 3.6% 16-18; 11.7% 19-21; 21.2% YMSM age 22-24
  - White > Latino > Black YMSM
  - 3X more likely in HIV+ YMSM ($\chi^2$**=5; p=0.02; OR=2.8)**
- Compared to other YMSM who use illicit drugs (N=172), methamphetamine users were 3-7X more like to (p<0.05):
  - Have memory failures (OR=3.4)
  - Fail to do day-to-day activities (OR=5.0)
  - Have unsafe sex while high (OR=7.3)
  - Use drugs due to partner pressures (OR=5.8)

# Results (n=310):
## *Correlates of YMSM Methamphetamine Use*

|  | Risk Ratio | 95% C.I. | p-value |
|---|---|---|---|
| • UAI-12mo | 6.5 | (2.7-15.9) | <0.001 |
| • Mult. Anal Sex Part | 4.3 | (2.6-7.4) | 0.003 |
| • Commercial Sex | 5.1 | (2.3-11.2) | <0.001 |
| • Older Partners | 3.8 | (1.8-8.0) | <0.001 |
| • Internet Sex | 2.4 | (1.0-5.5) | 0.05 |
| • Bathhouse/Sex Club | 4.7 | (2.2-12.7) | <0.001 |
| • Psych. Distress | 1.1 | (1.0-1.1) | 0.02 |
| • Romantic Loneliness | 1.3 | (0.9-1.6) | 0.11 |
| • Self-Esteem | 2.0 | (1.1-3.9) | 0.03 |

# Results
## *Hierarchical Logistic Regression*

### Methamphetamine Use in Past 12 Months (n=310)

|  | OR | p-Value |
|---|---|---|
| **Step 1** | | |
| Age | 1.28 (1.08-1.52) | 0.005 |
| Black race/ethnicity | 0.19 (0.05-0.69) | 0.01 |
| HIV + | 1.97 (0.76-5.07) | 0.16 |
|  | **Nagelkerke $R^2$ = 0.16 | |
| **Step 2** | | |
| UAI – Past 12 mo | 3.90 (1.32-11.30) | 0.01 |
| Bathhouse/Sex Club | 3.20 (0.99-7.02) | 0.05 |
| Commercial Sex | 3.35 (1.32-8.49) | 0.01 |
|  | **Nagelkerke $R^2$ = 0.43 | |

# Limitations:

- Cross-sectional survey
  - Meth use $\longrightarrow$ **?** $\longrightarrow$ High risk behaviors
- Convenience sample
- One geographic area
- Self-report
- Only asked about general sexual activity:
  - Unable to examine risky sex within specific social contexts

# **Conclusions/Implications**:
## *Methamphetamine and YMSM*

1. Significant and potentially devastating effects of meth use among YMSM

2. Need to understand the broader social and psychological context of meth use

   – Particularly initiation patterns

   – Complex social milieu in which YMSM develop

3. Develop substance use and HIV prevention programs targeting the unique mechanisms of risk of YMSM

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?? Focus on Methamphetamine

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