

# HIV prevention beyond anal sex: Predicting HIV sexual risk reduction practices in a sample of Massachusetts MSM



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# Collaborators

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# Background

- ❑ Men who have sex with men (MSM) continue to bear a disproportionate HIV and STD burden
  
- ❑ In 2007, MSM constituted 61% of new HIV/AIDS infections among men in the U.S. (CDC, 2009)
  
- ❑ Among Massachusetts men:
  - 13% increase in HIV diagnoses among MSM (from 40% in 1999 to 57% in 2006)
  - 46% of the 266 infectious syphilis cases reported in 2007 were MSM co-infected with HIV and syphilis (MA Department of Public Health, 2008)

# Background

- ❑ Unprotected anal sex (UAS) remains the riskiest sexual transmission behavior for HIV among MSM
- ❑ HIV prevention public health efforts and research have focused on examining factors associated with UAS
- ❑ Associated with UAS across studies of MSM:
  - **Drug use during sex** (Colfax et al., 2005; Drumright et al., 2007; Koblin et al., 2003, 2006; Mimiaga et al., 2008; Plankey et al., 2007; Stall et al., 2003)
  - **Alcohol use during sex** (Koblin et al., 2006; Salomon et al., 2008; Reisner et al., 2009; Stall et al., 2001)

# Is anal sex all there is?

- ❑ MSM engage in a wide variety of sexual practices
- ❑ HIV research has generally not focused alternate sexual behaviors as a risk reduction outcome
- ❑ HIV prevention fatigue among MSM
- ❑ Focusing on factors associated with sexual risk reduction practices may have implications for designing and tailoring sexual health prevention interventions for MSM
- ❑ Strengths-based approach

# Objectives

- ❑ Explore the frequency of alternative sexual behaviors that would not transmit HIV among a sample of MSM in the greater Boston, Massachusetts area
- ❑ Rimming, mutual masturbation, digital penetration, sex toys, and 100% condom use
- ❑ Examine the demographic, psychosocial, and behavioral factors associated with using any of these behaviors as a risk-reduction strategy

# Hypothesis

- ❑ Abstaining from drug and alcohol use during sex would be significantly associated with decreased HIV risk behaviors and increased alternative sexual behaviors among MSM

# Methods

- ❑ Participants and procedures
  - 189 MSM, March 2006-May 2007
  - Convenience sample
  - Eligibility: (1) male, (2) age 18 or older, (3) Massachusetts resident, and (4) sex with men in past 12 months
  - Informed consent process
  - Interviewer-administered survey, 1 hour
  - Compensated \$40
  
- ❑ All study activities took place at Fenway Community Health (FCH) and were IRB approved
  
- ❑ Funded by MA Department of Health
  
- ❑ Secondary analysis of dataset examining partner notification experiences (Mimiaga et al., 2009)



# Measures

- Demographics - age, race, sexual identity, “out” about being MSM
- Sexual behavior in past 12 months - UAS, # male partners, # female partners, where met sex partners
- HIV status and STD history - self-reported
- Sex while drinking alcohol - 5+ drinks of alcohol
- Sex while using drugs - at least monthly use of crystal methamphetamine, ecstasy, marijuana, or poppers during sex
- Depressive symptoms - CES-D screener

# Primary outcome: Risk reduction

- ❑ ***In the past 12 months, did you engage in any of the following sexual activities?***
  - Rimming - oral-anal contact
  - Mutual masturbation - masturbating with partner
  - Digital penetration - inserting finger(s) in the anus
  - Using sex toys - using dildos, butt plugs, etc.
  - 100% condom use - using condoms all the time, every time

# Primary outcome: Risk reduction

- ❑ “Some people think that engaging in these practices decrease risk of transmitting or acquiring HIV. ***Did you engage in any of these practices specifically to reduce your risk of HIV acquisition or transmission?***”
- ❑ Participants answering “yes” were considered to be “risk reducers”; those reporting “no” to all of these were considered “non-risk reducers”

# Data analysis

- ❑ SAS version 9.1.3 (Cary, NC) statistical software
- ❑ Statistical significance at  $p < 0.05$  level
- ❑ Chi-square global tests of independence
- ❑ Independent t-test statistics (mean differences)
- ❑ Bivariate and multivariable logistic regression procedures examined the association between drug and alcohol use and sexual risk reduction behaviors in past 12 months
- ❑ Controlled for age, race/ethnicity, and education

# Results: Risk reducers

- ❑ Overall, one in five Massachusetts MSM reported having engaged in specific sexual behaviors in the prior 12 months with intent to reduce their HIV risk (20% or 38/189)
  - 100% condom use (20%)
  - mutual masturbation (17%)
  - rimming (8%)
  - using sex toys (5%)
  - digital penetration (3%)

# Snapshot of risk reducers

- ❑ Mean (SD) age: 40 (11)
- ❑ Non-white: 61%
- ❑ Some college, college degree, or graduate degree: 66%
- ❑ Gay self-identified: 66%, bisexual or other: 34%
- ❑ HIV-infected: 47%

# Mean number of sexual partners in past 12 months: Risk reducers vs. non-risk reducers

- ❑ Lower mean number of male sex partners
  - 9 vs. 15
  
- ❑ Lower mean number of anonymous male sex partners
  - 4 vs. 9
  
- ❑ Higher mean number of female sex partners
  - 4 vs. 2

all  $p < 0.05$



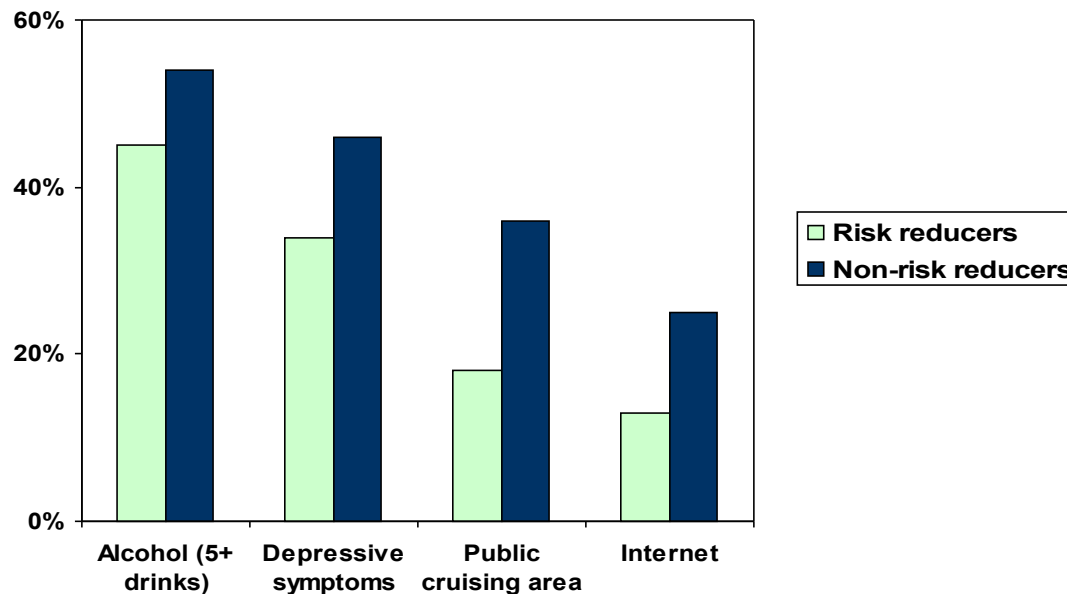
# Association of demographic and behavioral variables to risk reduction (unadjusted OR)

- ❑ Associated with greater likelihood of risk reduction:
  - “out” about MSM (OR=3.64)
  - oral sex with a condom (OR=4.85)
  
- ❑ Associated with decreased odds of risk reduction:
  - depressive symptoms (OR=0.48)
  - history of STDs (OR=0.40)
  - met partners at public cruising areas (OR=0.32)
  
- ❑ Approached significance:
  - sex while drinking alcohol (OR=0.62)
  - met partners via Internet (OR=0.38)

# Association of demographic and behavioral variables to risk reduction (adjusted OR)

□ Associated with decreased odds of risk reduction:

- sex while drinking alcohol (AOR=0.33)
- depressive symptoms (AOR=0.30)
- met sex partners at public cruising areas (AOR=0.30)
- met sex partners via Internet (AOR=0.12)



# Summary

- ❑ Abstaining from drug use during sex was not significantly associated with risk reduction practices
- ❑ MSM who abstained from excessive alcohol use during sex were more likely to have intentionally engaged in behaviors to protect their sexual health
- ❑ MSM with depressive symptoms and those who had met sex partners at public cruising areas and via the Internet were less likely to practice risk reduction behaviors

# Limitations

- ❑ Cross-sectional (associations, not causality)
- ❑ Convenience sample (biases, reduced generalizability)
- ❑ Small sample size
- ❑ About half were patients at FCH (higher HIV prevalence, may be more “out” compared to MSM in Massachusetts)

# Conclusions

- ❑ Risk reduction behaviors may be important to consider in designing effective HIV prevention interventions for MSM
- ❑ Educating MSM about alternate, safer-sex behaviors may normalize a range of sexual practices and desires that pose less HIV risk than unprotected anal sex
- ❑ Reinvigoration of HIV prevention messages to combat prevention fatigue
- ❑ Additional research incorporating a strengths-based approach to behavioral change efforts with MSM is warranted

# Thank you!

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