HIV Prevention in MSM: Lessons Learned to Fuel Future Progress

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Presentation Goals

To address three main questions:

- Does HIV prevention reduce risk among MSM in research trials?
- Are HIV prevention efforts reducing risk among American MSM in community settings?
- How can HIV prevention efforts among MSM be made more effective?
Diagnoses of HIV Infection among Adult and Adolescent Males, by Transmission Category, 2005–2008—37 States and 5 U.S. Dependent Areas

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. Data from 37 states and 5 U.S. dependent areas with confidential name-based HIV infection reporting since at least January 2005. All displayed data have been estimated. Estimated numbers resulted from statistical adjustment that accounted for reporting delays and missing risk-factor information, but not for incomplete reporting.

* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

b Includes hemophilia, blood transfusion, perinatal exposure, and risk-factor not reported or identified.
### Diagnoses of HIV Infection among Adult and Adolescent Males, by Transmission Category, 2008—37 States and 5 U.S. Dependent Areas

<table>
<thead>
<tr>
<th>Transmission category</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male-to-male sexual contact</td>
<td>22,810</td>
<td>72.2</td>
</tr>
<tr>
<td>Injection drug use</td>
<td>2,825</td>
<td>8.9</td>
</tr>
<tr>
<td>Male-to-male sexual contact and injection drug use</td>
<td>1,173</td>
<td>3.7</td>
</tr>
<tr>
<td>Heterosexual contact</td>
<td>4,677</td>
<td>14.8</td>
</tr>
<tr>
<td>Other</td>
<td>111</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31,595</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

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*Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.*

*Includes hemophilia, blood transfusion, perinatal exposure, and risk-factor not reported or identified.*

*Because column totals for estimated numbers were calculated independently of the values for the subpopulations, the values in each column may not sum to the column total.*
Winning the fight against AIDS in the United States depends on our ability to find better ways to prevent new infections among men who have sex with men.
Does HIV Prevention Work Among MSM in Research Trials?

- 2 recent meta-analyses of published RCT trials

- Herbst (2005) review reported a:
  - 23% decrease in unprotected anal sex
  - 15% decrease in numbers of sex partners
  - 61% increase in protected anal sex

Conclusion: HIV Behavioral Interventions Reduce Risk

- Interventions worked better if:
  - Theory based
  - Group discussions
  - Multiple (4+) message delivery methods
  - Interpersonal skill building
  - Greater intervention exposure

- HIV interventions can work if they are well supported and carefully fielded.
Are HIV prevention efforts reducing risk among American MSM in community settings?
Weighted Mean Incidence Rates among MSM in the US, 1995-2005

- Community-Based Samples
  2.39% (95% CI 2.2, 2.6)

- HIV Test Site Samples
  2.45% (95% CI 2.1, 2.8)

- STD Treatment Samples
  3.84% (95% CI 3.2, 4.5)
At a 2.39% incidence rate, what percentage of HIV negative MSM now aged 18 will be HIV positive by the time they reach the age of 40?
HIV Prevalence by Age
US MSM Community Samples, HIV Incidence at 2.39%
HIV Prevalence by Age
US and African-American MSM; 2.39% incidence among MSM, 4% for African American MSM
HIV Prevalence by Age
US MSM Community Samples, HIV Incidence
at 2.39%

Even relatively low HIV incidence rates can result in very high proportions of MSM becoming HIV positive MSM over decades of time.
Are HIV prevention efforts working for MSM in the United States?

- Not as well as anyone would like.
How can HIV prevention efforts among MSM be made more effective?
Partial Explanations for Higher Infection Rates Among African American MSM; Millett, et al., 2007

Higher rates of sexual risk early in the epidemic

Higher rates of untreated sexually-transmitted diseases

Undiagnosed HIV infection

Lower ART use

Combination HIV Prevention: A Strategy for Future Progress in Fighting HIV among MSM

- HIV treatment as prevention
- Lowering community viral load
- Biomedical approaches to preventing HIV transmission (PrEP, PEP, microbicide, vaccine development)
- Continued work to improve effectiveness of behavioral risk reduction strategies