The HIV/AIDS Epidemic in Mississippi: What We Know, Challenges Ahead

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Outline

• The problem
• What we learned from Epi AID and other research studies
• What can we do and what are we doing to address the HIV epidemic in MS?
Snap Shot of Mississippi

• Mississippi’s population - 2,992,333 (est. 2015)
• 55% of population reside in rural areas¹
  – Geographic barriers to care as many PLWHA live far from nearest treatment location
• Highest percentage of residents living in poverty²
  (22.4% vs 15.3% nationwide)
• High rate of uninsured PLWHA (39%) or Medicaid only (14%)³
• Highest rates of gonorrhea and third highest rate of chlamydia⁴

3. MSDH - Single site sample of patients in-care MS Careware Data
HIV/AIDS in Mississippi

- Mississippi ranked 6th in the nation for HIV/AIDS prevalence in 2015
  - 80% of the new HIV cases documented in were African-American
  - HIV diagnosis increased 19% among 15-24 years old

- Jackson had the 4th highest HIV and highest AIDS diagnosis rates in 2015 of any US metropolitan statistical area (MSA) with a population 500,000 or greater
  - 39.9 % of MSM with HIV
  - 2013: 4.01% of HIV negative MSM were diagnosed with HIV
  - Nearly one-half of new HIV diagnoses in 2015 in Jackson were among African-American MSM

Cases of newly diagnosed HIV infection among black MSM aged 17–25 years, Jackson, MS, area*

*Hinds, Madison, and Rankin Counties

↑ 45%
Investigation Methods

Formative Components:
- Chart Review
- Rapid Assessment

Main Components:
- Case-Control Study
- Qualitative Assessment
- Network Analysis
- Phylogenetic Analysis

Objectives:
- characterize extent
- prep for main comp.
- understand risk behaviors
- determine sexual networks
What We learned!

- Missed opportunities for HIV testing in health care settings among young African American men who have sex with men: implications for the HIV epidemic. AIDS Patient Care STDs 2011;25:657–664
- Demographic but not geographic insularity in HIV transmission among young black MSM. AIDS 2011;25:2157–2165
- Role Flexing: How Community, Religion, and Family Shape the Experiences of Young Black Men Who Have Sex with Men. AIDS Patient Care and STDs 2012; 26(12): 730-737
- Network analysis among HIV-infected young black men who have sex with men demonstrates high connectedness around few venues. STDs 2012; 40(3):206-2012
### Risk Behavior Results: Multivariate Analysis

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Adjusted OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sex partners &gt;25 years</td>
<td>5.5</td>
<td>1.8-17.3</td>
</tr>
<tr>
<td>Unprotected anal intercourse with casual male partner(s)</td>
<td>6.3</td>
<td>1.8-22.3</td>
</tr>
<tr>
<td>If a partner wanted to have unprotected sex, would probably give in</td>
<td>5.0</td>
<td>1.2-20.6</td>
</tr>
<tr>
<td>In a long-term relationship with or married to a man</td>
<td>5.3</td>
<td>1.4-20.7</td>
</tr>
</tbody>
</table>

## Risk Behavior Results:
### Perception of Risk

<table>
<thead>
<tr>
<th>Lifetime chances of getting HIV</th>
<th>HIV+ cases (N=30)</th>
<th>HIV- controls (N=95)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlikely</td>
<td>16 (53%)</td>
<td>52 (55%)</td>
</tr>
<tr>
<td>Equally likely/unlikely</td>
<td>11 (37%)</td>
<td>39 (41%)</td>
</tr>
<tr>
<td>Likely</td>
<td>3 (10%)</td>
<td>4 (4%)</td>
</tr>
</tbody>
</table>

Preventive Care Results: Multivariate Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Adjusted OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported not having a primary care provider</td>
<td>3.5</td>
<td>1.04-11.4</td>
</tr>
<tr>
<td>Not Discussed sexual identity with healthcare provider</td>
<td>6.5</td>
<td>1.5-27.7</td>
</tr>
</tbody>
</table>

*Controlling for college enrollment, participant age, and report of seeing a healthcare provider during the recall period.

Missed opportunities for HIV testing in health care settings among young African American men who have sex with men: implications for the HIV epidemic. AIDS Patient Care STDs 2011;25:657–664
# Perceived Discrimination

<table>
<thead>
<tr>
<th></th>
<th>Total (n=122)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt discriminated against because of race or same-sex behavior</td>
<td></td>
</tr>
<tr>
<td>- Because of race</td>
<td>19 (28%)</td>
</tr>
<tr>
<td>- Because of same-sex behavior</td>
<td>40 (59%)</td>
</tr>
<tr>
<td>- Because of race and same-sex behavior</td>
<td>31 (34%)</td>
</tr>
<tr>
<td>I have tried to stop being attracted to men</td>
<td>47 (39%)</td>
</tr>
<tr>
<td>if someone offered me the chance to become completely straight, I would accept it</td>
<td>19 (28%)</td>
</tr>
</tbody>
</table>

Role Flexing: How Community, Religion, and Family Shape the Experiences of Young Black Men Who Have Sex with Men. AIDS Patient Care and STDs 2012; 26(12): 730-737
## Faith and the Religious Community

<table>
<thead>
<tr>
<th>Category</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious/spiritual person</td>
<td>88 (73%)</td>
</tr>
<tr>
<td>Attend religious services at least once a month</td>
<td>84 (69%)</td>
</tr>
<tr>
<td>Felt that would not be accepted by religious community if aware of same-sex behavior</td>
<td>60 (50%)</td>
</tr>
<tr>
<td>--Among those who attend religious services at least once a month</td>
<td>37 (44%)</td>
</tr>
</tbody>
</table>

*Role Flexing: How Community, Religion, and Family Shape the Experiences of Young Black Men Who Have Sex with Men. AIDS Patient Care and STDs 2012; 26(12): 730-737*
Qualitative Findings
Faith Community

• Relationships with faith and the faith community
  – Faith leaders as sources of homophobia, although they should be promoting acceptance/tolerance
  – Hypocrisy (all sins not treated equal)
  – Few noted that they “respect” the discriminatory beliefs

Role Flexing: How Community, Religion, and Family Shape the Experiences of Young Black Men Who Have Sex with Men. AIDS Patient Care and STDs 2012; 26(12): 730-737
Where Sex Partners Were Met

- Cases
- Web/Chat line
- Bars/Clubs
- Cruising Area
- Mall
- College

[Diagram showing the locations where sex partners were met with different symbols for each category.]
# Travel

<table>
<thead>
<tr>
<th></th>
<th>HIV+ cases (n=30)</th>
<th>HIV- controls (n=95)</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traveled for sex</td>
<td>7 (23%)</td>
<td>17 (18%)</td>
<td>1.4</td>
<td>0.4-4.1</td>
</tr>
<tr>
<td>Within MS</td>
<td>6 (20%)</td>
<td>14 (15%)</td>
<td>1.4</td>
<td>0.4-4.6</td>
</tr>
<tr>
<td>Outside of MS</td>
<td>5 (17%)</td>
<td>10 (11%)</td>
<td>2.4</td>
<td>0.4-6.1</td>
</tr>
</tbody>
</table>
Summary: Networks, Venues, and Travel

- Sexual networks are demographically similar but geographically dispersed
- Most young black MSM meet partners on the Internet and in gay bars/clubs
Phylogenetic Analysis:

• Of 1848 persons reported with HIV in MS from Jan 2005 to April 2008,
  – 799 (43%) had sequences available and met eligibility criteria
  – 794 (99%) subtype B, 3 (0.4%) subtype A, and two (0.3%) were of distinct circulating recombinant forms (CRF02-AG and CRF10-CD)
  – 130 from young black MSM (according to HARS data)

• 228/799 (29%) sequences in clusters
  – 82 clusters (2 to 10 sequences)
    • 34 clusters included at least one black MSM
    • 10 clusters included one white or Latino MSM
Phylogenetic Analysis Results: Demographics

- 21 clusters with young black MSM

- Of the 69 people in these 21 clusters:
  - All were male
  - 96% were black
  - 88% were known to be MSM (in HARS)
  - 80% were aged 16-25
Phylogenetic Analysis: Geography

21 clusters with young black MSM
- 10 single region
- 11 > 1 region/states

TDRM:
17% total
15% of clustered
29% of YBMSM clusters

K103N and L90M
Depiction of members of phylogenetic clusters of HIV-infected persons in Mississippi by sex, race/ethnicity, and transmission category.
Phylogenetic Analysis: Summary

• Clusters involving young black MSM similar with respect to:
  – Sex
  – Race
  – Risk category
  – Age

• Suggests that transmission of HIV between young black MSM and other groups is limited

• Clusters diverse with respect to geography

• Transmitted drug resistance is common in this group
Investigation Take-Home Messages

• Reinforce condom use with all partners
• Given early onset of risk behavior and sexual activity, interventions should begin early
• Improve utilization of care for HIV/STD prevention, testing, and treatment
• Collaborate to address stigma and discrimination, which impact HIV prevention
• Large-scale approaches important given geographic diversity of sexual networks
<table>
<thead>
<tr>
<th>Site-Infection</th>
<th>HIV Pos (133) n (%)</th>
<th>HIV Neg (341) n (%)</th>
<th>RR$^1$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethral CT</td>
<td>9 (6.8)</td>
<td>21 (6.2)</td>
<td>1.1</td>
<td>.81</td>
</tr>
<tr>
<td>Pharyngeal CT</td>
<td>11 (8.3)</td>
<td>12 (3.5)</td>
<td>2.37</td>
<td>.03</td>
</tr>
<tr>
<td>Rectal CT</td>
<td>31 (23.3)</td>
<td>54 (15.8)</td>
<td>1.47</td>
<td>.06</td>
</tr>
<tr>
<td>Multi-site CT</td>
<td>9 (6.8)</td>
<td>13 (3.8)</td>
<td>1.79</td>
<td>.17</td>
</tr>
<tr>
<td>Any site CT</td>
<td>41 (30.8)</td>
<td>71 (20.8)</td>
<td>1.48</td>
<td>.02</td>
</tr>
<tr>
<td>Urethral GC</td>
<td>6 (4.5)</td>
<td>16 (4.7)</td>
<td>0.96</td>
<td>.93</td>
</tr>
<tr>
<td>Pharyngeal GC</td>
<td>18 (13.5)</td>
<td>30 (8.8)</td>
<td>1.53</td>
<td>.12</td>
</tr>
<tr>
<td>Rectal GC</td>
<td>29 (21.8)</td>
<td>33 (9.7)</td>
<td>2.25</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Multi-site GC</td>
<td>13 (9.8)</td>
<td>16 (4.7)</td>
<td>2.09</td>
<td>.04</td>
</tr>
<tr>
<td>Any site GC</td>
<td>39 (29.3)</td>
<td>59 (17.3)</td>
<td>1.69</td>
<td>.004</td>
</tr>
<tr>
<td>Urethral CT/GC</td>
<td>14 (10.5)</td>
<td>33 (9.7)</td>
<td>1.08</td>
<td>.78</td>
</tr>
<tr>
<td>Pharyngeal CT/GC</td>
<td>25 (18.8)</td>
<td>39 (11.4)</td>
<td>1.65</td>
<td>.035</td>
</tr>
<tr>
<td>Rectal CT/GC</td>
<td>50 (37.6)</td>
<td>77 (22.6)</td>
<td>1.66</td>
<td>.001</td>
</tr>
</tbody>
</table>

$^1$ Rate Ratio (HIV + Prevalence/HIV – Prevalence)

CT: Chlamydia trachomatis
GC: Neisseria gonorrhoeae
Correlates of Extra-genital Chlamydia Infection and Extra-genital Gonorrhea Infections Among YBMSM Without Urethral Infections

<table>
<thead>
<tr>
<th></th>
<th>Extra-genital Chlamydia(^1)</th>
<th>Extra-genital Gonorrhea(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Age</td>
<td>.92</td>
<td>.84-.99</td>
</tr>
<tr>
<td>Concurrent sex partners</td>
<td>1.56</td>
<td>.87-2.82</td>
</tr>
<tr>
<td>5 or more total sex partners</td>
<td>1.20</td>
<td>.66-1.91</td>
</tr>
<tr>
<td>HIV +</td>
<td>2.24</td>
<td>1.31-3.683</td>
</tr>
<tr>
<td>Sex partners 5+ years older</td>
<td>.57</td>
<td>.30-.1.09</td>
</tr>
<tr>
<td>Sex with females</td>
<td>.88</td>
<td>.42-1.85</td>
</tr>
</tbody>
</table>

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1. 86 cases of 485 (17.7%) included in this regression model
2. 79 cases of 485 (16.3%) included in this regression model
Policy, Practice and Ongoing Efforts Regarding HIV Infection among Black MSM in Mississippi
Theoretical Model of an “HIV Neutral” Continuum of Care


a. Theoretical model.
Access to Health Care Services

- Among African Americans, 26% are uninsured compared to 14% of whites and 37% of uninsured adults are between the ages of 19 and 29.
- Barriers to healthcare utilization by AAMSM include fear of the lack of confidentiality, judgmental medical staff, and lack of health insurance.
- Inadequate access to and underutilization of preventive health care may lead to missed opportunities for provider counseling and routine screening for HIV.

Locations of free HIV testing services, including Ryan White clinics (green points) and County Health Departments (blue points), that receive support for HIV screening from the Mississippi State Department of Health, 2014.
Mississippi Continuum of Care, overall population
Diagnosed 2008-2012 and living through 2009-2013

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated HIV infected (diagnosed &amp; undiagnosed)</td>
<td>9,228</td>
<td>9,607</td>
<td>9,942</td>
<td>10,375</td>
<td>10,760</td>
</tr>
<tr>
<td>Cases diagnosed &amp; reported</td>
<td>7,690</td>
<td>8,006</td>
<td>8,285</td>
<td>8,646</td>
<td>8,967</td>
</tr>
<tr>
<td>at least 1 care visit</td>
<td>2,264</td>
<td>2,542</td>
<td>2,638</td>
<td>2,901</td>
<td>4,157</td>
</tr>
<tr>
<td>2 or more care visits 3 months apart</td>
<td>1,474</td>
<td>1,513</td>
<td>1,616</td>
<td>1,712</td>
<td>2,419</td>
</tr>
<tr>
<td>Virally suppressed-Overall population (NHAS)</td>
<td>1,337</td>
<td>1,408</td>
<td>1,476</td>
<td>1,782</td>
<td>2,468</td>
</tr>
</tbody>
</table>

Source: Kendra Johnson (MSDH)
Improving Access to Preventive Care Services

• Crossroads clinic protocol for gay, bisexual men, and other MSM
  – More frequent screening for high risk individuals, motivational counseling, extragenital GC/CT screening

• Open Arms Healthcare Center First LGBT Wellness Center opened in 2/2013 and offers PrEP and PEP for PMAR

• National LGBT Health Education Center, MSPCA, AETC, MSDH
  – Provide culturally-sensitive training for healthcare providers to normalize discussions on sexual identity and risk behaviors for HIV infection
HIV Care Cascade - Established Patients

Open Arms Healthcare Center (9/2017)

- Active: 100%
- On HAART: 92.14%
- Suppressed (Viral Load <200): 80.71%

Source: Courtney Sims (UMMC)
Crossroads STD Clinic (Five Points Clinic)

- Located in Jackson, MS, at the Jackson Medical Mall

- Open Monday, Wednesday, Thursday, and Friday 8 AM - 5 PM
  Open Tuesday 8 AM - 7 PM

- Walk-in clinic

- Funded primarily through federal funds; few salaries are paid from state funds

- Free clinic—bill Medicaid/Medicare

- Provides STD/HIV services
Crossroads STD Clinic (Jackson, MS)

9,796 patients
- 93.4% Black
- 53.3% Female
- 15.5% MSM
- 11.6% YBMSM
- 95.3% STD Screening

<table>
<thead>
<tr>
<th>Age</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18</td>
<td>1</td>
</tr>
<tr>
<td>18-27</td>
<td>50.3</td>
</tr>
<tr>
<td>28-36</td>
<td>28.3</td>
</tr>
<tr>
<td>37+</td>
<td>20.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>14.2</td>
</tr>
<tr>
<td>GC</td>
<td>6.6</td>
</tr>
<tr>
<td>RPR Reactive</td>
<td>4.9</td>
</tr>
<tr>
<td>HIV (all)</td>
<td>1.9</td>
</tr>
<tr>
<td>HIV (YBMSM)</td>
<td>11.9</td>
</tr>
</tbody>
</table>
PrEP Education

- Flyers about PrEP
- Educational Programs:
  - Healthcare Providers
  - Healthcare Professionals and advocates
  - STD clinic staff and DIS
  - Consumers
- 1-800-Yes-PrEP
  - Push Cards
  - Social Media Posts
  - Wrist bands with phone number
PrEP Referrals

Open Arms Healthcare Center

- STD Clinics
- PEP Programs
- Outpatient Doctors
- Research Studies
- Self/Friends
PrEP Referrals (cont’d)

STD Clinics

PEP Programs

Outpatient Doctors

Research Studies

Self/Friends

PrEP Referrals
PrEP: Recruitment and Linkage to Care in Jackson, MS

Open Arms Healthcare Center

Crossroads (STD Clinic)

Screen for risk behaviors

First PrEP Appointment

HIV/STD testing

First Clinical Eval and Rx

Discuss PrEP

Q3 month follow up
Total Patients on PrEP

Total Initiated on PrEP

Legend

Zip Code Boundaries
- Clients
- 1 - 3
- 4 - 7
- 8 - 10
AAMSM age 18-24 years who were prescribed PrEP through 8/31/16 and given up to 3/31/17 to follow-up (allows 7 month window to follow up for 6 months)
CHALLENGES IN HIV PREVENTION AND CARE IN THE SOUTH

- **RURACITY**: large distances & shortage of health care providers
- **RACE**: Increased proportions of African Americans & racial disparities in health care
- **POOR HEALTH INFRASTRUCTURE**
- **DISTRUST OF HEALTH CARE SYSTEM**
- **HIV STIGMA & “AGGRESSIVE HOMOPHOBIA”**
- **INADEQUATE FEDERAL FUNDING**
- **LACK OF EDUCATION**
- **UNDERESTIMATION OF PERSONAL RISK FACTORS**
- **ANTI-IMMIGRANT POLICIES**
- **HEALTH-RELATED IMMIGRANT BILLS**

Need to Address More than HIV Testing

- **Test**
  - HIV negative
  - HIV positive
  - Risk assessment
  - PrEP, adherence counseling

- **Linkage to care**
  - Positive prevention

- **Enroll in care**
  - ART initiation
  - Retain
  - Adherence to ART

**Address concomitant concerns:** depression, substance use, relationship dynamics, structural/social issues, STI

**Decrease in HIV transmission**

**Maintain viral suppression**
Do something... do more... do better

• If institutions have very little in place in terms of policies on HIV screening “some” action matters

• Where policies do exist, they can be strengthened to achieve universal HIV screening, identification and immediate linkage to care of those infected or at substantial risk

• There is scope to do better in those institutions that are able

Adopted and modified from Sir Michael Marmot
Questions?

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