

Sexual and drug-using risk behaviors among HIV-infected African American and white male prisoners

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May 22, 2007

Background

Ongoing “epidemic” of incarceration

- 2005 – 7 million under correctional system jurisdiction, nearly 4-fold increase since 1980, primarily due to the “war on drugs” (2005)
 - 2 million in jail / prison
 - 4 million on probation / parole
- 11 million released annually from jails / prisons
- CDCR: 172,000 incarcerated; 123,000 parole
- 2004-5 prison population increased 2.4% CA vs. 1.7% US

African Americans are over-represented among the incarcerated

California

- Estimated 1 in 16 African American men are serving time in a state prison (? Jails)
- 29% of CA state prison inmates African American vs. 6.7% of population (4.3x)

US

- Estimated 1 in 3 African American men either in jail/prison or on probation/parole
- 44% of state and federal prison inmates are African American vs. 12.3% of population (3.6x)

African Americans are over-represented among HIV-infected inmates

California

- 1999 OA/CDCR blinded seroprevalence study (J. Ruiz)
- 6 CDCR reception centers

| | Men (%) | Women (%) |
|------------------|---------|-----------|
| African American | 2.3 | 2.8 |
| Hispanic | 0.6 | 1.1 |
| White | 1.3 | 0.4 |

US

- 2004 DOJ survey of inmates
- 287 state and 39 federal prisons

| | Men (%) | Women (%) |
|------------------|---------|-----------|
| African American | 1.9 | 3.4 |
| Hispanic | 1.8 | 2.7 |
| White | 1.1 | 0.5 |

Urgent need to characterize HIV risk behaviors among the incarcerated

- Scant in-custody HIV risk behavior data, HIV prevalence and transmission rates
- Estimated 25% adults living with HIV/AIDS released from a correctional facility each year
- Jails and prisons concentrate high-risk and minority individuals
 - Difficult to reach in the free community
 - Limited access to health care

Understanding HIV risk behaviors to better target prevention

- Majority HIV-infected inmates likely acquired infection in free community
- Period of incarceration provides opportunities for prevention and treatment
 - Improve health status of inmates and communities to which they are released
 - Prevent spread of HIV within jails/prisons

Methods

California Medical Facility (CMF)

- CMF
 - ~3200 adult male inmates
 - Housing unit / clinics designated for HIV-infected inmates (~410)
 - HIV-infected inmates with other medical / mental health conditions may be housed in other specialty units
- CDCR
 - HIV testing voluntary, upon inmate request
 - Inmates known to be HIV infected usually transferred to a designated HIV prison facility (case-by-case basis)

Study design / sampling

- Case /control
 - Known to be HIV-infected
 - Recently documented HIV-negative test at CMF
- Inclusion: self-identified African American/black or Caucasian/white inmate
- Exclusions: major mental illness, developmental disability, hospice, psychiatric or general hospital in-patient, administrative segregation
- Sampling
 - Cases: randomly selected from HIV unit
 - Controls: enrollment offered to all African American and white inmates testing HIV negative (1/1/06 to 11/7/06)

Interviewer-administered questionnaire

- **Individual level risks:** Sexual and drug-using risk behaviors; Hepatitis C; STIs; self-identified sexual orientation; mental illness
- **Interpersonal level risks:** Partner characteristics; concurrent sexual partners; HIV status/sexual orientation disclosure; concordance between sexual orientation and behavior
- Differentiating between times incarcerated and free
- **Social contextual level risks:** education; support; incarceration history; where last arrested; reason for HIV test; where/how believe infected, family/friends with HIV; opinions on HIV origin, treatment, who at risk, condom availability in jails/prisons

Confidentiality

- IRB approved
- Written informed consent
- NIH Certificate of confidentiality
- Survey administered by outside project staff
- Confidential interview space
- Surveys identified with unique study ID only
- Surveys and consent forms removed from CMF at conclusion of interview sessions

Results

Preliminary analysis

- Data collection completed March 2007
- Results using data collected through Feb 2007
- 43 HIV-infected participants
 - 25 African American
 - 18 white

Table 1. Age, education, and incarceration history

| <i>Mean ± SD or N(%)</i> | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|--|-------------------------|--------------|----------------|
| Age (years) | 46.5 ± 6.5 | 43.1 ± 5.0 | 0.08 |
| Years formal education | 11.0 ± 1.9 | 11.6 ± 2.2 | 0.40 |
| Incarceration history | | | |
| Juvenile hall | 12(48.0) | 9(50.0) | 0.90 |
| CA Youth Authority (CYA) | 7(28.0) | 3(16.7) | 0.48 |
| Times in jail | 5.5 ± 4.8 | 10.8 ± 10.9 | 0.07 |
| Times in prison | 2.4 ± 1.6 | 2.4 ± 1.9 | 0.95 |
| Years served this incarceration | 11.7 ± 8.6 | 4.9 ± 5.2 | 0.003 |
| Immediate family member(s) ever incarcerated | 13(52.0) | 6(33.3) | 0.22 |

Table 2. Relationship / marital status and self-identified sexual orientation

| | <i>N</i> (%) | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|-----------------------------|--------------|-------------------------|--------------|----------------|
| Currently in a relationship | | 7(29.2) | 9(50.0) | 0.17 |
| Married | | 5(20.0) | 5(27.8) | 0.55 |
| Heterosexual/straight | | 22(88.0) | 5(27.8) | <0.0001 |
| Homosexual/gay | | 1(4.0) | 5(27.8) | 0.07 |
| Bisexual | | 2(8.0) | 7(38.9) | 0.02 |

Table 3. History of Hepatitis C and sexually transmitted infections

| | <i>N</i> (%) | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|-------------|--------------|-------------------------|--------------|----------------|
| Hepatitis C | | 6(28.6) | 10(58.8) | 0.06 |
| Any STI | | 12(48.0) | 9(50.0) | 0.90 |
| Chlamydia | | 2(8.0) | 3(16.7) | 0.63 |
| Gonorrhea | | 9(36.0) | 4(22.2) | 0.50 |
| Syphilis | | 2(8.0) | 2(11.1) | 1.00 |

Table 4. Ever used / injected drugs while in a jail or prison

| | <i>N</i> (%) | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|------------------|--------------|-------------------------|--------------|----------------|
| Alcohol | | 12(48.0) | 9(50.0) | 0.90 |
| Marijuana | | 14(56.0) | 7(38.9) | 0.27 |
| Methamphetamines | | 1(4.0) | 4(22.0) | 0.14 |
| Heroin | | 2(8.0) | 6(33.3) | 0.05 |
| Injected drugs | | 2(8.0) | 6(33.3) | 0.05 |

| | | | | |
|---------------------|--|---------|----------|------|
| Injected drugs free | | 7(28.0) | 11(61.1) | 0.03 |
|---------------------|--|---------|----------|------|

Table 5. Sexual risk behaviors while in a jail or prison

| <i>N</i> (%) | <u>All</u> | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|---|------------|-------------------------|--------------|----------------|
| *Ever had sex in jail/prison | 21(48.8) | 12(48.0) | 9(50) | 0.90 |
| *Had ≥ 2 sexual partners in jail/prison | 10(23.3) | 4(16.0) | 6(33.3) | 0.18 |
| Sexual risks during past year in jail/prison | | | | |
| Sex with female | 0 | 0 | 0 | |
| Sex with male | 9(21.3) | 5(20.0) | 4(23.5) | 1.00 |
| Oral sex with male | 6(14.0) | 3 (12.0) | 3(16.7) | 0.68 |
| Anal sex with male | 8(18.6) | 4(16.0) | 4(22.2) | 0.70 |

*Includes male and female partners; oral, vaginal, or anal sex

Table 6. HIV testing history

| | <i>N</i> (%) | <u>All</u> | <u>African American</u> | <u>White</u> | <u>p-value</u> |
|---|--------------|------------|-------------------------|--------------|----------------|
| First ever HIV test result was positive | 28(66.7) | 17(68.0) | 11(64.7) | 0.82 | |
| First HIV-positive test in jail/prison | 27(63.0) | 20(80.0) | 7(38.9) | 0.006 | |

Table 7a. Where / how believe infected among those diagnosed in a jail or prison

| First HIV-positive test in jail/prison (N=27) <i>N(%)</i> | <u>African American</u> (N=20) | <u>White</u> (N=7) |
|--|--|------------------------------|
| Negative before first positive during same incarceration (4(15.4%)): | 3(15.8) | 1(14.3) |
| Where believe infected | | |
| Jail/Prison | 3(100) | 1(100) |
| Free Community | 0 | 0 |
| How believe infected | | |
| Sex with female | 0 | 0 |
| Sex with male | 1(33.3) | 1(100) |
| Sharing needles | 0 | 0 |
| Tattoo | 2(66.7) | 0 |

Table 7b. Where / how believe infected among those diagnosed in a jail or prison (cont.)

| First HIV-positive test in jail/prison (N=27) N(%) | <u>African American</u> (N=20) | <u>White</u> (N=7) |
|---|-----------------------------------|-----------------------|
| <u>No</u> negative before first positive during same incarceration (22(84.6%)): | 16(84.2) | 6(85.7) |
| Where believe infected | | |
| Jail/Prison | 3(18.8) | 1(16.7) |
| Free Community | 12(75.0) | 5(83.3) |
| Don't Know | 1(6.25) | 0 |
| How believe infected | | |
| Sex with woman | 6(42.9) | 0 |
| Sex with man | 2(14.3) | 3(50.0) |
| Sharing needles | 5(35.7) | 3(50.0) |
| Tattoo | 1(7.1) | 0 |

Table 8. Where / how believe infected among those diagnosed in free community

| First HIV-positive test in free community (N=16) <i>N(%)</i> | <u>African American</u> (N=5) | <u>White</u> (N=11) |
|--|--|--------------------------------------|
| Where believe infected | | |
| Jail/Prison | 0 | 0 |
| Free Community | 5(100) | 11(100) |
| Don't Know | 0 | 0 |
| How believe infected | | |
| Sex with woman | 5(100) | 0 |
| Sex with man | 0 | 5(45.5) |
| Sharing needles | 0 | 4(36.4) |
| Blood transfusion | 0 | 1(9.1) |
| Don't know | 0 | 1(9.1) |

Conclusions

Ongoing sexual and drug-using risk behaviors among HIV-infected inmates

- African American and white inmates reported similar alcohol and marijuana use
- White inmates more likely to report methamphetamine, heroin, injection drug use
- No racial differences observed for sexual risks during past year incarcerated
- Twice as many white inmates reported having at least two sexual partners while incarcerated

HIV testing

- HIV-infected African Americans were twice as likely to receive their first HIV-positive result while incarcerated (80% vs. 39%)
 - Access to health care / HIV testing
 - Rhode Island – AA more likely to be diagnosed in correctional setting (Desai 2002)
- Possible that up to 19% were infected with HIV while in a jail or prison
 - CDC / GA state prison system estimated ~10% (MMWR 4/21/06)

Role of incarceration

- African Americans reported longer current sentences
- More African Americans reported time in CYA, incarceration of close family member
- African Americans more likely to identify as heterosexual, yet fewer married or in a relationship
- Growing consensus that high rate of incarceration among African American males contributes to HIV epidemic among African Americans, particularly women

Acceptance of survey

- Demonstrated feasibility of in-custody risk-assessment
- 90% of inmates offered enrollment accepted
- Survey well-received among participants with many offering experiences and opinions related to HIV risks and prevention within jails/prisons
- Additional measures to protect confidentiality likely encouraged participation
 - Survey administered by outside staff
 - NIH Certificate of Confidentiality

Prevention and surveillance opportunities

- Impossible to prevent every HIV risk event
- Approaches worthy of evaluation include:
 - Condoms, bleach
 - Substance abuse treatment, methadone maintenance
 - Inmate classification / housing assignments
 - Educational programs for correctional staff
 - Increase staff/prisoner ratio, decrease overcrowding
- Inmate peer education

Prevention and surveillance opportunities

- Improve HIV testing outreach to African Americans in free community
- Peer education and individual counseling programs targeting African American inmates
- Increase HIV testing in jails/prisons
 - Increase number that know HIV status
 - Early treatment
 - Reduce HIV transmission
- Couple intake procedures or HIV testing with data collection

Limitations

- Self-reported data
- Not representative of entire prison population
 - CMF houses majority of inmates known to be HIV-infected separately
 - CMF is a correctional medical facility

Future directions

- Complete analyses
- Repeat survey in prison facility without HIV designated housing
- Design survey for female inmates
- Expand to include other race/ethnicities

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