HIV Risk Behavior and HIV Testing Among Heterosexually-Active Homeless Men in Skid Row

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Research supported by Grant R01HD059307 from the National Institute of Child Health & Human Development; PI: Suzanne Wenzel, PhD
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No relationships to disclose
HIV & Homeless Populations

- Rates of HIV among homeless persons are estimated at 3X those in the general population\(^1\)
- HIV/AIDS is increasingly a disease of impoverished persons
  - Why?
    - Subsistence living
    - Reduced access to services
  - Homeless persons have higher rates of alcohol and drug use\(^2,3\)
    - May increase HIV risk
- Heterosexual risk behavior & HIV:\(^4\)
  - Men account for 76% of new infections
  - 80% of women with HIV/AIDS were infected through sex with men
  - Heterosexual sex is the second leading cause of infection among men

(Credit: iStockphoto)
HIV Testing as Prevention

- HIV testing reduces HIV transmission\(^5\)
  - 1/5 of HIV is undiagnosed in the U.S.\(^6\)
    - Likely even higher among homeless populations\(^7\)
- Testing can combat poor HIV/AIDS health outcomes\(^4\)
  - Late diagnosis disproportionately common among homeless persons with HIV/AIDS\(^8\)

Why study heterosexually-active homeless men?

- Very little research on this population to date
- Homelessness and transience = severe social marginalization
- Cannot assume that the predictors of testing among non-homeless persons would apply equally well to this population
Correlates of HIV Testing in Homeless Populations

- Substance abuse and perceived susceptibility to HIV\textsuperscript{9-11}
- Having a regular source of medical care or more encounters with medical service providers\textsuperscript{9,12-14}
  - Homeless men may access health services via non-traditional avenues
    - Contact with shelters or other service providers in the immediate area
  - Incarceration
    - $\frac{3}{4}$ of inmates report having been tested for HIV in prison\textsuperscript{15}
    - Important venue for testing in vulnerable populations\textsuperscript{9,13,16}
  - Veteran status
    - Homeless veterans report more medical service encounters than their non-homeless counterparts\textsuperscript{17}
Skid Row

• 50 square block area of downtown Los Angeles
• Has the highest concentration of homeless persons in the city
  • 10% of the homeless population
• The homelessness capital of the U.S. since 1984
Participants

- Eligibility criteria:
  - Men aged 18 or older
  - Homeless past 12 months (i.e., stayed at least one night in a place like a shelter, abandoned building, vehicle, or outdoors because they didn’t have a home to stay in)
  - Vaginal or anal sex with a woman in past 6 months
- Recruited from 13 meal lines
  - Each line had a quota approximately proportional to size
- Sample size = 305 homeless men
- 338 eligibles out of 670 men screened (50.4% eligible)
- 320 eligibles agreed to be interviewed:
  - 7 left before the interview was completed or refused to complete
  - 4 could not complete network portion of interview
  - 4 were later found to be repeaters
- 6 additional men were excluded from multivariate analyses
  - Diagnosed with HIV more than 1 year ago
Structured Interviews

- IRB approved -- USC and RAND
- Conducted July through October 2010
- Computer-assisted personal interviews; EgoWeb software
- Interviews lasted 83 minutes on average
- Men were paid $30 for participation
Structured Interviews: Components

- Demographics
- Severity of homelessness
- Sexual partnering and risk/protective behaviors
- Substance use
- Mental health
- Social networks
- HIV testing and HIV status (self-report)
Demographic Characteristics (N=305)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean, sd)</td>
<td>45.6 (10.3)</td>
</tr>
<tr>
<td>Race/ethnicity (%)</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>71.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10.4</td>
</tr>
<tr>
<td>White</td>
<td>11.5</td>
</tr>
<tr>
<td>Other or multi-racial</td>
<td>6.3</td>
</tr>
<tr>
<td>Education (at least HS or GED) (%)</td>
<td>73.3</td>
</tr>
<tr>
<td>Employed full or part-time (%)</td>
<td>18.0</td>
</tr>
<tr>
<td>Currently married (%)</td>
<td>6.1</td>
</tr>
</tbody>
</table>
Homelessness (N=305)

Months homeless in lifetime (m, sd) 64.6 (72.6)

Percent of the lifetime spent homeless (m, sd) 11.1 (11.3)

Ever spent night in street, abandoned building, garage, etc. (%) 94.5
**Substance Use Prevalence**
(past 6 months)

- Marijuana: 56%
- Crack: 40%
- Binge drinking: 38%
- Rx: 17%
- Cocaine: 12%
- Meth: 11%
- Heroin: 7%
- Other: 5%
HIV Testing/Risk Measures

- **Outcome:** Past 12 months HIV testing
  - CDC recommends yearly testing for high risk individuals\(^{18}\)
  - Better measure of effective early detection than lifetime testing
- **HIV risk behavior (past six months)**
  - Includes IDU
- **Service Access**
  - Services use in the past 30 days in the Skid Row area
  - Incarceration (jail, prison or parole in past 6 months)
  - Being a military veteran
HIV Risk Behavior (past 6 months)

- Any unprotected sex: 63%
- Any male partners: 7%
- Any sex trade: 57%
- IDU (lifetime): 20%
HIV Testing & Service Access

- HIV Test: 57%
- Incarceration: 46%
- Veteran: 19%
- Shelter: 72%
- Drop-In: 67%
- Subs. Abuse Tx: 22%
- Mental Health Tx: 26%
- Med/Dental: 34%
Analysis

• Bivariate logistic regression
  • All measures theoretically associated with HIV testing were assessed for statistically significant bivariate relationships
  • Variables associated at p<=0.10 were included in the multivariate model
  • Individual demographic characteristics retained as controls
• All models were weighted to account for differential probability of being included in the study
  • Based on meal line usage and homelessness duration
Table 2. Binary logistic regression models predicting HIV testing utilization in past 12 months (weighted), N=299.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Bivariate Results</th>
<th>Multivariate Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio (95% CI)</td>
<td>Odds Ratio (95% CI)</td>
</tr>
<tr>
<td><strong>Demographic characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>1.01 (0.99 - 1.04)</td>
<td>1.01 (0.98 - 1.04)</td>
</tr>
<tr>
<td>Race/ethnicity (white is omitted)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>1.09 (0.45 - 2.65)</td>
<td>0.84 (0.35 - 2.03)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.16 (0.36 - 3.72)</td>
<td>0.93 (0.28 - 3.08)</td>
</tr>
<tr>
<td>Other or multiracial</td>
<td>2.91 (0.68 - 12.55)</td>
<td>2.57 (0.58 - 11.44)</td>
</tr>
<tr>
<td>High school or more (vs. &lt;HS)</td>
<td>0.72 (0.40 - 1.32)</td>
<td>0.63 (0.33 - 1.22)</td>
</tr>
<tr>
<td>Married</td>
<td>1.11 (0.30 - 4.08)</td>
<td>1.51 (0.44 - 5.25)</td>
</tr>
<tr>
<td><strong>HIV Risk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Risk Behavior (past 6 months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any unprotected sex</td>
<td>0.98 (0.57 - 1.67)</td>
<td>---</td>
</tr>
<tr>
<td>Any male partners</td>
<td>2.65 (0.88 - 8.05)</td>
<td>1.99 (0.62 - 6.37)</td>
</tr>
<tr>
<td>Any sex trade</td>
<td>1.18 (0.69 - 1.99)</td>
<td>---</td>
</tr>
<tr>
<td>Total number of sex partners</td>
<td>1.05 (0.99 - 1.11)</td>
<td>---</td>
</tr>
<tr>
<td>Injection drugs (ever)</td>
<td>1.78 (0.86 - 3.67)</td>
<td>---</td>
</tr>
<tr>
<td>Perceived HIV susceptibility</td>
<td>0.98 (0.76 - 1.28)</td>
<td>---</td>
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<tr>
<td><strong>Service Access</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jail/prison/parole past 6 months</td>
<td>1.49 (0.88 - 2.53)</td>
<td>---</td>
</tr>
<tr>
<td>Military service</td>
<td>2.59 (1.30 - 5.14)**</td>
<td>2.10 (1.01 - 4.37)*</td>
</tr>
<tr>
<td>Service use (past 30 days Skid Row)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency/transitional shelter</td>
<td>0.83 (0.46 - 1.48)</td>
<td>---</td>
</tr>
<tr>
<td>Drop-in center</td>
<td>1.28 (0.72 - 2.27)</td>
<td>---</td>
</tr>
<tr>
<td>Alcohol and drug counseling</td>
<td>1.28 (0.67 - 2.44)</td>
<td>---</td>
</tr>
<tr>
<td>Mental health counseling</td>
<td>1.06 (0.59 - 1.90)</td>
<td>---</td>
</tr>
<tr>
<td>Medical/dental services</td>
<td>1.96 (1.13 - 3.39)*</td>
<td>1.91 (1.09 - 3.35)*</td>
</tr>
</tbody>
</table>

*p>.10, *p<.05, **p<.01
Results: HIV Testing Rates

• High rates of HIV testing
  • Nearly 60% were tested for HIV in the past 12 months
    • National past year HIV rate is 19% among adults 18-65\textsuperscript{20}

• LA County: 30.3% of men were tested in the past two years\textsuperscript{21}
  • 75.2% of the men in the current study reported an HIV test in the same time two-year time period

• County-wide HIV testing rates were the highest among African-American men, at 56.2% in the past two years\textsuperscript{21}
  • 77.3% among African-American men in this study were tested in the past two years
Results: Risk Behavior

• Sexual risk behavior not associated with past year HIV testing
• Men reported high levels of HIV risk behavior in this study:
  • 62% had engaged in unprotected sex
  • 42% in sex trade in the past six months
• 43% of those reporting HIV risk behavior had not been tested in the past year
  • Sizable number of men at high risk for HIV who are not utilizing HIV testing
    • May be because they are not accessing other services that put them into contact with testing
    • Potential for high rates of undetected HIV infection
    • Missed opportunities for HIV prevention
Results: Testing Correlates

Associated with HIV testing:
• Medical/dental services in the Skid Row area (past 30 days)
  • 91% increased odds
• Being a military veteran
  • More than 2X the odds
Limitations

• Limited generalizability
  • Particularly to other populations at high risk for HIV, such as MSM
  • 6.8% of the analytic sample was MSM/W; not representative of the MSM population
• The Skid Row area is “home” to a very marginalized homeless population
  • Chronically homeless
  • Mentally ill
  • Substance abusing
• These data are cross-sectional
  • Does risk behavior come before testing?
  • Might testing negative increase risk behavior in this population?
Conclusions

• Positive: High rates of HIV testing
• Not-so-positive: Many at risk for HIV are not being tested regularly
• HIV testing not associated with HIV risk behavior in this population
  • Associated with access to services and veteran status
  • Access to care may = testing utilization, regardless of risk and/or risk indicators
    • May reduce stigma?
Recommendations

• Encourage general medical service access
  • Universal testing should be a priority
• Employ evidence-based practices to reduce sexual risk behaviors within programs that serve homeless men
  • 60% of LA shelters for women provide NO HIV prevention services
    • The other 40% do not employ EBIs
  • Likely to be similar for men
  • Should exist in a wide variety of settings that serve this population
    • Especially settings with low barriers to access
• Other research has shown that HIV risk behaviors are reduced when housing status improves\(^2^2\)
  • Safe, permanent, supportive housing is important for this population
Future Research

- How housing impacts sexual risk behavior and HIV testing
  - Pilot study is in progress
  - Proposing larger study to follow homeless persons over 18 months as they transition into PSH
  - Social network features
References

References cont’d.


Many thanks to my co-authors!

Suzanne Wenzel, PhD
Joan S. Tucker, PhD
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Any questions?
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