Social Context of Risk Among Heterosexually-Active Homeless Men in Skid Row, Los Angeles

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National Institute of Child Health and Human Development (R01 HD059307)
Suzanne Wenzel, P.I. (USC), Joan Tucker, P.I. (RAND)
Significance

• Men’s heterosexual behavior plays a key role in the HIV epidemic
  – 80+ % of women with HIV/AIDS infected thru sex with men

• Homeless persons are at higher risk of HIV/AIDS
  – HIV/AIDS: increasingly a disease of impoverished persons
  – Higher rates of risky behaviors due to subsistence living and reduced access to services

• Homeless persons have higher rates of alcohol and drug use
  - Substance use is a risk factor for HIV/AIDS
Significance

• Gaps in understanding substance use among homeless men
  – Social contexts: characteristics of homeless men’s social networks
  – Mental health (depression and PTSD)

• Gaps in understanding heterosexual risk and protective behaviors among homeless men:
  – Behaviors in addition to condom use
  – Social contexts
  – Mental health and substance use
Overview of larger project

• Qualitative (examples)

• Quantitative (examples)
  – Tucker, J.S. et al. Understanding heterosexual condom use among homeless men
  – Golinelli, D. et al. Serostatus differences: Results from propensity score weighting in a probability sample of homeless men
Team members

Ryan Brown
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Sam Wertheimer
Annie Zhou
RAND Survey Research Group
Methods

• We focused on Los Angeles’ Downtown Central City East (Skid Row)
Central City East (Skid Row)


Downtown, Los Angeles
Methods

• Probability sampling to achieve representative samples of heterosexually active adult homeless men
  
  – **Phase 1**: Qualitative/semi-structured exploratory - Selection of three shelters and three meal lines; random selection of men across sites (N=30 men)
  
  – **Phase 2**: Quantitative/structured - Selection of 13 meal lines: 5 breakfasts, 4 lunches, 4 dinners served at 5 different organizations (N=305 men)
Participants

• Eligibility criteria:
  – age 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
  – able to complete an interview in English

• 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
Structured Interviews

• IRB approved -- USC and RAND

• Conducted July through October 2010

• Computer-assisted personal interviews; EgoWeb software (http://egoweb.github.com)

• 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
- Depression, PTSD
- Social networks
- HIV testing and HIV status (self-report)
## Demographic Characteristics (N=305)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (mean, sd)</strong></td>
<td>45.6</td>
</tr>
<tr>
<td><strong>Race/ethnicity (%)</strong></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><strong>Education (at least HS or GED) (%)</strong></td>
<td>73.3</td>
</tr>
<tr>
<td><strong>Employed full or part-time (%)</strong></td>
<td>18.0</td>
</tr>
<tr>
<td><strong>Currently married (%)</strong></td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Jail/prison/parole past 6 months (%)</strong></td>
<td>37.3</td>
</tr>
<tr>
<td><strong>Military service (%)</strong></td>
<td>18.6</td>
</tr>
</tbody>
</table>
# Homelessness (N=305)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months homeless in lifetime (m, sd)</td>
<td>64.6 (72.6)</td>
</tr>
<tr>
<td>Portion of lifetime spent homeless (%)</td>
<td>11.1</td>
</tr>
<tr>
<td>Ever spent night in street, abandoned building, garage, etc. (%)</td>
<td>94.5</td>
</tr>
</tbody>
</table>
HIV Status of the 305 Men

1. Has a doctor, nurse, or health worker ever told you that you have HIV or AIDS?
   If ‘No:’
2. Do you have reason to believe that you might have HIV or AIDS?
Presentation of two studies:

-- *Substance use*

-- *Concurrent sexual partnering*
The Social Context of
Homeless Men’s Substance Use

H. Rhoades, S.L. Wenzel, J.S. Tucker, D. Golinelli,
D.P. Kennedy, H.D. Green, A. Zhou
Homeless Men & Substance Use

• Substance abuse rates 2-8x higher
• Street life may worsen effects
  – Riskier patterns of substance use
  – High rates of health problems and hospitalization
• Homeless men are more likely to be drug- and alcohol-dependent than homeless women
Social Context of Substance Use

• Knowing other substance users may increase use
  • Tangible support (i.e. paraphernalia)
  • Supportive social norms

Mental Health & Substance Use

• PTSD and depression rates high among homeless men
  • May be associated with stressors of street life
• Substance use may be a form of self-medicating
Social Network Measures

• Egocentric – personal network
  – Respondents provided first names of 20 individuals that they knew, who knew them, and that they had contact (face-to-face, by phone, mail, internet) with in past year.
  – Respondents were asked questions about each of their network members (also called “alters”):
    • Types: sex partners, relatives/family, etc.
    • Behaviors: drink, use drugs, engage in risky sex, provide support to the respondent
    • Alter-to-alter contact (network structure)
  – Variables: Percent of network having a given characteristic, persons of a given type, density, etc.
Mental Health & Substance Use Measures

- Depression: 3-item screener for past 12-month depressive disorder, based on DIS and CES-D

- PTSD: 4-item Primary Care PTSD Screen

- Drug use past 6 months
Substance Use Prevalence
(past 6 months)

Marijuana: 56%
Crack: 40%
Binge drinking: 38%
Rx: 17%
Cocaine: 12%
Meth: 11%
Heroin: 7%
Other: 5%
# Descriptive Statistics – Mental Health

<table>
<thead>
<tr>
<th>Variables</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>46.36</td>
</tr>
<tr>
<td>PTSD</td>
<td>42.85</td>
</tr>
</tbody>
</table>
# Descriptive Statistics – Social Networks

<table>
<thead>
<tr>
<th>Variables</th>
<th>%</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Network composition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Type of alter</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative (non-partner)</td>
<td>~~~</td>
<td>0.22</td>
<td>0.23</td>
</tr>
<tr>
<td>Sex partner</td>
<td>~~~</td>
<td>0.15</td>
<td>0.17</td>
</tr>
<tr>
<td>Peer</td>
<td>~~~</td>
<td>0.58</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>How (non-relative alter was met):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At a shelter</td>
<td>~~~</td>
<td>0.12</td>
<td>0.17</td>
</tr>
<tr>
<td>At employment or school</td>
<td>~~~</td>
<td>0.11</td>
<td>0.17</td>
</tr>
<tr>
<td>On the street</td>
<td>~~~</td>
<td>0.19</td>
<td>0.23</td>
</tr>
<tr>
<td>At bar or club (binary)</td>
<td>22.21</td>
<td>~~~</td>
<td>~~~</td>
</tr>
<tr>
<td>Alter has regular employment</td>
<td>~~~</td>
<td>0.48</td>
<td>0.29</td>
</tr>
<tr>
<td><strong>Perceived behavior of alters in past 6 mos</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drank alcohol to intoxication</td>
<td>~~~</td>
<td>0.32</td>
<td>0.29</td>
</tr>
<tr>
<td>Used drugs</td>
<td>~~~</td>
<td>0.30</td>
<td>0.29</td>
</tr>
<tr>
<td>Engaged in risky sex</td>
<td>~~~</td>
<td>0.20</td>
<td>0.27</td>
</tr>
<tr>
<td><strong>Quality of relationship with alters past 6 mos</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional closeness to alter</td>
<td>~~~</td>
<td>0.32</td>
<td>0.28</td>
</tr>
<tr>
<td>Received tangible support or advice</td>
<td>~~~</td>
<td>0.36</td>
<td>0.32</td>
</tr>
<tr>
<td>Frequency of contact with alters</td>
<td>~~~</td>
<td>2.07</td>
<td>0.81</td>
</tr>
</tbody>
</table>
Individual Correlates of the Most Prevalent Substances

• Younger men =
  – more likely to **binge drink** (OR=0.96; 95% CI=0.94, 0.99)
  – and use **marijuana** (OR=0.95; 95% CI=0.92, 0.98)

• White men:
  – More likely to use **marijuana** than Af-Am men (OR=0.31; 95% CI=0.10, 0.97), Hispanic (OR=0.19; 95% CI=0.05, 0.72) or other/multiracial men (OR=0.20; 95% CI=0.05, 0.86)

• Hispanic men had much greater odds of using crack (OR=7.76; 95% CI=1.16, 52.11)

• Incarceration = increased crack use (OR=4.94; 95% CI=2.43, 10.02).

• Symptoms of PTSD = increased crack use (OR=3.27; 95% CI=1.55, 6.89).
Social Network Correlates

• Substance-using alters:
  – Alters met at a bar or club = binge drinking (OR=2.23; 95% CI=1.07, 4.63)
  – Knowing more drug users = marijuana (OR=7.53; 95% CI=2.30, 24.66)

• ‘Pro-social’ alters associated with decreased crack use:
  – Family members in network (OR=0.04; 95% CI=0.00, 0.48)
  – Alters met at a job or school (OR=0.03; 95% CI=0.00, 0.44)
  – Employed alters (OR=0.30; 95% CI=0.09, 0.96)
Summary

• Younger age associated with more substance use.
• White men most likely to use marijuana; Hispanic men most likely to use crack.
• Incarceration and PTSD associated with increased crack use.
• Substance-using networks associated with alcohol and marijuana use.
• Pro-social network influences decrease the risk of crack use.
Discussion

• Homophilous network selection vs. attitudinal influence
• Pathways of influence may vary by substance
• General social support not a factor
• Mental health: PTSD
  – Important to address mental health and substance use together
  – Appropriate mental health care may reduce substance use
• Access to care may be key
  – Homeless persons still face many barriers to both substance abuse and mental health treatment
  – Providing these services in tandem may increase utilization and retention
Concurrent Sexual Partnering: Mental Health, Substance Use, & Social Normative Influence

Concurrent sexual partnering

- Increased risk for HIV and other STIs
  - facilitates more rapid disease transmission than monogamous, sequential sexual relationships
  - individuals in such relationships are often unaware of partner’s concurrency
  - many of those engaging in sexual concurrency report having unprotected sex with their partners
Concurrent Measure

• Determined through elicitation of sex partners they had during the previous 6 months (female or male; sex = vaginal or anal)

• For the four most recent sex partners: “Around the time that you last had sex with [first name], were you also having sex with any other people?”

• Concurrent sexual partnering during the past 6 months = “yes” (1) if any, vs. “no” (0)
## Rate of Concurrency

<table>
<thead>
<tr>
<th>Concurrent sexual partnering during the past 6 months (%)</th>
<th>39.2</th>
</tr>
</thead>
</table>
Other Information on Sex Partnering

| Total number of sex partners past 6 months (mean, se) | 3.7 (.29) |
| Any male sex partners during the past 6 months (%) | 7.26 |
Substance Use & Mental Health

• Sexual concurrency is more prevalent among those who use alcohol and other substances

• Depression and PTSD are associated with sexual risk
  – Depressed young adults are more likely to have multiple sex partners
  – PTSD symptoms (detachment, perceiving foreshortened future) associated with unprotected sex and sex trade among low-income women and OEF/OIF veterans
Social Normative (Social Network) Influence

• Social norms theory: The perceived behaviors of persons in one’s social network may influence one’s own behaviors

• Risky behaviors perceived in the social network have been associated with risky behaviors of homeless women, homeless youth
Mental Health & Substance Use Measures

- Depression: 3-item screener for past 12-month depressive disorder, based on DIS and CES-D
- PTSD: 4-item Primary Care PTSD Screen
- Binge drinking: 5 or more drinks within 2 hours, past 6 months
- Hard drug use past 6 months
- Injection drug use, lifetime
Descriptives: Mental Health, Substance Use, Networks (N=305)

<table>
<thead>
<tr>
<th>Mental health (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>42.8</td>
</tr>
<tr>
<td>Depression</td>
<td>46.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance use past 6 months (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Binge drinking</td>
<td>38.1</td>
</tr>
<tr>
<td>Hard drug use</td>
<td>48.4</td>
</tr>
<tr>
<td>Injection drug use (ever)</td>
<td>19.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Networks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Any alters engage in risky sex (%)</td>
<td>68.3</td>
</tr>
<tr>
<td>Alters who drink, use drugs (mean, se)</td>
<td>2.2 (0.21)</td>
</tr>
<tr>
<td>Total network density (mean, se)</td>
<td>0.13 (0.01)</td>
</tr>
<tr>
<td>Risky sex ingroup density (mean, se)</td>
<td>0.06 (0.01)</td>
</tr>
<tr>
<td>Substance use ingroup density (m, se)</td>
<td>0.08 (0.01)</td>
</tr>
</tbody>
</table>
# Multivariate binomial logistic regression (N=305)

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mental health</strong></td>
<td></td>
</tr>
<tr>
<td>PTSD</td>
<td>2.3 (1.0-5.1) *</td>
</tr>
<tr>
<td>Depression</td>
<td>0.9 (0.4-2.0)</td>
</tr>
<tr>
<td><strong>Substance use past 6 months (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Binge drinking</td>
<td>0.8 (0.4-1.7)</td>
</tr>
<tr>
<td>Hard drug use</td>
<td>2.4 (1.1-5.6) *</td>
</tr>
<tr>
<td>Injection drug use (ever)</td>
<td>2.4 (0.9-6.5)</td>
</tr>
<tr>
<td><strong>Networks</strong></td>
<td></td>
</tr>
<tr>
<td>Any alters engage in risky sex</td>
<td>3.7 (1.5-9.3) *</td>
</tr>
<tr>
<td>Alters who drink, use drugs</td>
<td>1.0 (1.0-1.1)</td>
</tr>
</tbody>
</table>

Variables selected for regression were those associated with concurrency at p < .10 in bivariate analyses. Multivariate analyses controlled for background characteristics.

* Significant at  p < .05
Summary

• PTSD is associated with concurrency -- to our knowledge, this is the first study to report this association

• Hard drug use is associated with concurrency, consistent with research in other populations

• Risky sex in the network is associated with concurrency, consistent with social norms theory
Conclusions

• Addressing both mental health and substance use disorders among homeless men is a critical aspect of HIV prevention

• Employ evidence-based practices to reduce sexual risk behaviors within programs that serve homeless men

• Perhaps integrate HIV prevention in a wider variety of settings

• Larger social context surrounding homeless men is important
Conclusions

• Persons entrenched in poverty have limited options for changing their social or physical surroundings

• Qualitative research documents the challenges of having intimate relationships while homeless

• Other research has shown that HIV risk behaviors are reduced when housing status improves

• Safe, permanent, supportive housing may be key

2. www.weingart.org/image_galleries

Bibliography


