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# HIV Risk in African American Versus Other Urban Homeless Youth

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## Abstract

Homeless youth are at particular risk for HIV, due to histories of abuse, sexual behaviors while homeless, and barriers to accessing health care services. This paper addresses findings from a large computer-assisted survey of runaway and homeless youth (ages 12 through 25) in Los Angeles County. We examined the relationship between being African American (or not) and a) HIV testing, b) sexual risk behaviors, and c) service utilization. Overall, African Americans were more likely than other youth to have been tested for HIV within the last year. Lifestyle/gender subgroup analyses revealed that identifying as African American was associated with fewer lifetime male sexual partners among young men who have sex with men, a greater likelihood of consistent condom use for heterosexual males, and less likelihood of exchanging sex for goods or monies among young women. In addition, African Americans accessed a greater breadth of services from homeless youth agencies across the last year than did their non-African American peers. Implications for HIV prevention and connecting homeless youth to prevention and treatment services are discussed.

Keywords: HIV, African American, youth, urban, homeless

**V**ulnerability to HIV is a pressing reality for runaway and homeless youth in America (National Coalition for the Homeless, 2008). The myriad crises, dangers, and priorities that these adolescents face challenge service providers' attempts to ensure that their clients do not become HIV-infected. In this article, we address HIV risk behaviors and utilization of counseling and testing services among a sample of homeless youth in Los Angeles county, comparing those who identified themselves as African American with other youth in the study.

Half of all new HIV infections are thought to occur in young people under age 25. Over 148,000 young adults in the United States developed AIDS in their twenties (Centers for Disease Control and Prevention, 2006). The delay between HIV infection and the onset of AIDS means that most of these young people were infected with HIV as

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teenagers. The HIV/AIDS epidemic in Los Angeles is increasingly shifting to an epidemic among low income African Americans, particularly among low-income gay and bisexual men (HIV Epidemiology Program, 2008). Although African Americans made up only 9% of Los Angeles county's total population, they comprise 21% of all those living with AIDS as of December 31, 2007 (HIV Epidemiology Program, 2008). Minority youth are even more disproportionately represented in AIDS cases than their adult counterparts; more than 64% of the youth reported with AIDS are minorities, as compared with 49% of adults aged 30 and above (HIV Epidemiology Program, 2008).

## Homeless Youth

Between 1 million to 1.6 million youth per year are estimated to experience homelessness (National Alliance to End Homelessness, 2006). An estimated 1,682,900 youth under age 18 had a runaway episode in 1999, about two thirds of which were 15-17 years old, with 23% of the episodes lasting one week or longer. Many homeless young people have emerged from family environments characterized by conflict, including high rates of early child abuse and neglect (Finkelhor, Hammer, & Sedlak, 2002; Noel et al., 2001; Tyler, Cauce, & Whitaker, 2004). Research indicates that abuse and neglect often precipitate youth leaving home (Robertson & Toro, 1999; Warren et al., 1994). In addition, a significant number of homeless youth leave home environments over conflicts related to sexuality, sexual orientation or pregnancy (Cochran et al., 2002; Kipke et al.1995, Noel et al., 2001). Many homeless youth end up in out-of-home placement with either child protective services (CPS) or the juvenile justice system either before or after becoming homeless (Finkelhor et al., 2002).

Once on the streets these young people must find ways to survive. The options for employment and the ability to secure money for daily living are limited - they can take advantage of existing social services, including shelters and drop-in centers; they can panhandle (i.e., beg for money); or they can try to find work despite limited education and lack of skills. Risky alternatives to these options include involvement in the drug trade, petty crime, or exchange of sex for material needs and wants (Kipke et al., 1995). The combination of the lack of a safe environment, compelling survival needs, sexual risk behaviors, and high-risk drug behaviors can put these young people at extraordinarily high risk for HIV infection (Noel et al., 2001). Although the overall rates of HIV infection among homeless youth remain unknown, regional studies of HIV seroprevalence suggest that homeless youth are at greater risk for HIV infection than non-homeless youth (Roy et al., 2004).

### *African American versus other Homeless Youth*

In many urban environments, African American children are disproportionately represented in the dependency (e.g., CPS) and the delinquency systems, both of which contribute significantly to the homeless youth population (Flaming, Burns, & Haydamack, 2004). Secondly, the lack of low income housing disproportionately affects minority families and youth, as African Americans in Los Angeles County have unemployment rates about twice that of the general population (Census of Population and Housing, 2000). In this paper, we examined data pertaining to three questions. First, are there differences between African American and non African American homeless youth in terms of HIV testing? Second, what are the differences between African American and non-African American homeless youth in HIV-risk related sexual behaviors? Third, are African American homeless youth, as compared with non-African American homeless youth, differentially accessing services, including sexual health services?

## Method

### *Participants*

Of the 642 prospective participants that were screened, 532 were eligible to be interviewed for the study and 413 completed the survey, yielding a response rate of 78%. Youth were eligible if they were between the ages of 12 through 25 and had been homeless (i.e., living in a shelter, transitional living program, park, squat, etc.) or precariously housed (i.e., living in a motel, couch-surfing) in the past year. Youth were assured that willingness to participate would have no influence on their ability to access services at homeless youth serving agencies.

### *Sampling and Procedures*

The study received approval from Childrens Hospital Los Angeles' Institutional Review Board. Three venue (location) types within the Hollywood area of Los Angeles were used to recruit youth. These included (1) residential and shelter service sites; (2) drop-in service sites; and (3) street sites where homeless youth were known to congregate. Seven separate shelter/residential program sites (i.e., residential transitional living and emergency shelters of two weeks duration), five street venues, and five drop-in centers were identified by service providers and youth as places where homeless youth could be found. All of these venue sites were first observed to identify specific days and times when higher numbers of eligible youth would be present. The sampling venue (location) type was not necessarily representative of the living circumstances of the youth. In other words, youth from residential programs may have been sampled at the street or drop-in venues, and vice versa.

In shelters and residential settings, a team of three project staff attempted to enroll all eligible participants, using sign up sheets and repeat visits. For drop-in sites, specific time frames were created based on high volume utilization periods at the site (between 15-30 clients). Project team staff approached youth for eligibility, acknowledging that a maximum of 6-8 youth could participate during any given 2 1/2 hour time frame. Street sites were identified street corners, highly populated blocks, parks, alleys, bars, and fast-food restaurants, identified by local service providers and observed by project staff to create venue-specific timeframes. A team of three project staff approached all youth they encountered within the time frame who appeared eligible to offer screening, and for those who were eligible, study participation.

In the case of residential venues, all eligible individuals living in the sites during the identified time periods were informed about the study and across two to three windows asked to participate in the study. Similarly, in the street locations, all eligible individuals approached and screened during the sampling windows were asked to participate. Very few eligible individuals were turned away due to the project staff's capacity to conduct interviews, and most of these individuals were encouraged to participate on the next sampling window for that location, day, and time. In the drop-in centers, youth were approached randomly and screened during the sampling windows. If eligible, they were asked to participate in the study in a side area or separate room at the agency. In the case of all venues, the number of interviews ranged from one to eight per sampling window. Only in the case of drop-ins were there occasions of having more numbers of eligible youth than could be accommodated within a given sampling window. However, across the four-month sampling frame, repetition of windows indicated that all three venue types were represented frequently enough in the sampling frame to become saturated over time. The way in which we sought to find representative homeless youth was to create a survey schedule that would result in approximately equal numbers of youth participating from each of these three sampling location types.

Youth were compensated $2 to complete a four-item screening instrument assessing study eligibility; age, birth year, homeless

status, and previous study participation. At service sites, eligible youth were verbally consented and surveyed in a private area within the agency. At natural street sites, eligible youth accompanied project staff to a nearby café or fast food restaurant to complete the consent and survey. Youth were given a $20 gift card, and set up with headphones and a laptop to complete the computer-assisted survey. Youth completed the survey within 45-60 minutes whereupon project staff provided youth with referrals to services.

***Survey Construction***

A scientific panel of research professors in criminology, social work, adolescent medicine, and psychology reviewed the content and constructs, in addition to Dr. Leslie Clark, a social psychologist with 15 years experience in HIV AIDS research. An expert panel of youth service providers including social workers, executive directors, physicians, clinicians, and case management supervisors also assisted in the development of the survey through contribution of practical experience and knowledge of the homeless youth population.

The survey was constructed in the following manner. First, a network of homeless youth agency providers, Dr. Clark and co-authors met weekly to discuss the literature, the objectives of the grant and study measures. Survey questions regarding homelessness sleeping in the street, and engagement in sex exchange were adopted from work by researchers in youth homelessness from Kipke et al. (1995). Survey questions on sexual risk behaviors, including condom use and number of sexual partners, were adopted from Sumartojo et al. (2008). Finally, questions about use of services by youth were constructed for this project based on existing services for homeless youth, needs of homeless youth and domains of interest to service providers (e.g., housing, employment, sexual health, service utilization). All questions were then vetted with youth providers, the scientific panel and the expert panel. The survey instrument was piloted with eight youth at a variety of venues and administered through a audio-computer assisted survey instrument using laptops with ear phones in which survey questions and response options were verbalized by the computer and youth touched screens to indicate their responses.

***Survey Measures***

The 120-item computer assisted survey included questions about housing history, sexual behaviors, experience of violence, mental health and substance abuse, and service utilization. Demographic questions assessed age, self-identified race/ethnicity (white/Caucasian, Black/African American, Latino/Hispanic, Asian/Pacific Islander, American Indian/Alaskan Native), and gender (male, female, transgender male to female, transgender female to male, unsure, other). Every question in the survey offered a response of “Refuse to Answer” or “Don’t Know” in the event that participants were uncomfortable or could not remember an event.

***Homeless experience*** **–** Having slept on the street within the last 30 days was determined using a list of locations that respondents could check and was converted to a yes/no response. Engagement in the street economy was determined as a positive response to questions about receiving money through participation in any of the following: asking strangers (panhandling), shoplifting, drug sales, sexual favors/trading sex, or pimping.

***Trading Sex*** – Binary responses (Yes/No) were recorded for the question, “Have you ever exchanged sex for money, goods, a place to stay, etc.?”

***Consistent Condom use*** - Consistent condom usage was assessed with the question, "When you have sex, how often do you or your partners use a condom or rubber to protect you from catching something?" Response options to this question were "Never," "Rarely," "Less than Half the Time,” "About Half the Time,” "More than Half the Time,”

and "Always." Consistent usage of condoms was re-categorized into a binary variable with participants who indicated "Always" as being "consistent users" and all other respondents being "inconsistent users."

***HIV Testing Experience*** **–** Youth were asked, "Have you ever taken an HIV test?" If they responded "Yes," they were then asked, "Have you been tested in the last year?," which allowed for a yes/no response. The question, "Have you been tested or treated for a sexually transmitted infection (STI)?" also allowed for a yes/no response.

***Local Service Utilization*** **-** Total types of services utilized and number of types of sexual health services utilized in the last year were summed. Sexual health services included: HIV/AIDS testing, HIV/AIDS treatment, receiving condoms, receiving birth control or contraceptives, testing for other STIs, treatment for other STIs, and receiving emergency contraception. Including the sexual health services previously listed, a response category of "total services utilized" was constructed that included: employment, training, education, transportation, chronic or acute illness testing and treatment, sexual health, crisis management, and legal advice. Each 'yes' response was tallied.

***Age of Consensual Sex Initiation*** – Respondents were asked their age of consensual sexual initiation. Answers were then categorized into under 13 and 13 and over. The question regarding age of first consensual sex emphasized either vaginal or anal intercourse or both. Those indicating initiation under the age of 8 were removed from analyses concerning this variable.

***Number of Sexual Partners*** – Respondents were asked, "In your lifetime, how many different male partners have you had sex with?" A similar format was used to ascertain the number of different female partners. Respondents also were asked, "How many male partners did you have sex with in the past 90 days, that is since [90 days prior to day of survey]?" A similar format queried the number of recent female sex partners. Outliers (greater than 20% from the next highest value) were reset to that next highest value to prevent skewing of the data and means.

## Results

Independent sample *t*-tests and Pearson chi-square tests were used to identify statistical significant difference for race/ethnicity across and within sexual lifestyle/gender categories. Each analysis was conducted for the overall sample and separately for participant-indicated sexual lifestyles/genders (homosexual males [MSM], females, and heterosexual males). (For the purpose of this paper, transgender youth were not considered.) Responses that were missing, refused, unknown, or skipped were removed from the respective analyses. Finally, the type of site was entered as a covariate for all of the analyses, but it did not appear as a significant predictor for any of the variables examined as outcomes in this manuscript.

### *Demographic Variables and Homelessness*

Table 1 indicates the demographics of the study's participants by race/ethnicity. Sixty percent (60%, $n$ = 233) of the sample identified as male and 32% ($n$ = 123) as female. Youth surveyed ranged in age from 12 through 25, with 25% ($n$ = 96) of the total sample under 18 years of age. Eighty-four percent (84%, $n$ =3 27) of youth surveyed were of racial or ethnic minorities, with African American youth representing 42% ($n$ = 165) of the sample, Latino/Hispanic youth representing 24% ($n$ = 93), Asian/Pacific Islander youth 3% ($n$ = 10), Native American/Alaskan Native 3% ($n$ = 10), and Multi-racial/Other Ethnicity youth 10% ($n$ = 45). A number of participants identified themselves as sexual minority youth, including 23% ($n$ = 83) as gay or lesbian. For the purposes of this paper, we have categorized youth as either African American

*Table 1.* **DEMOGRAPHICS BY RACE/ETHNICITY**

| Variable | African American | Non-African-American | Total |
|---|---|---|---|
| | Frequency (Percentage) | | |
| **Gender** | | | |
| Male | 97(56) | 136(63) | 233(60) |
| Female | 58(35) | 65(30) | 123(32) |
| Transgender Male to Female | 10(6) | 9(4) | 19(5) |
| Transgender Female to Male | 2(0) | 0(0) | 2(0) |
| Unsure/Still Questioning/Other | 6(3) | 6(3) | 12(3) |
| **Sexual Identity** | | | |
| Straight (Heterosexual) | 102 (63) | 122 (59) | 224 (60) |
| Gay or Lesbian (Homosexual) | 34 (21) | 49 (24) | 83 (23) |
| Bisexual | 18 (11) | 28 (14) | 46 (13) |
| Not Sure/Undecided | 7 (4) | 9 (4) | 16 (4) |
| ***Gender/Sexual Identity**** | | | |
| MSM | 17 (12) | 44(23) | 61 (18) |
| Females | 58 (41) | 65 (34) | 123 (37) |
| Heterosexual Males | 67 (47) | 85 (44) | 152 (45) |
| **Interview Location Service Type*** | | | |
| Drop-In Center | 73 (42) | 65 (30) | 138 (36) |
| Shelter | 27 (16) | 39 (18) | 66 (17) |
| Residential Program | 37 (21) | 53 (25) | 90 (23) |
| Street Outreach | 29 (17) | 56 (26) | 85 (22) |
| Other | 7 (4) | 3 (1) | 10 (3) |
| ***Location Prior to Homelessness*** | | | |
| Los Angeles County | 95 (62) | 103 (51) | 198 (51) |
| Other California | 25 (16) | 40 (20) | 65 (18) |
| Other U.S. State | 32 (21) | 52 (26) | 84 (24) |
| Outside of U.S. | 1 (1) | 8 (4) | 9 (3) |
| **Age** | | | |
| 17 Years Old and Younger | 50 (29) | 46 (21) | 96 (25) |
| 18 Years Old and Older | 123 (71) | 170 (79) | 293 (75) |
| **Slept At Least One Night On Streets (Last 30 Days)*** | 75 (43) | 121 (56) | 196 (50) |
| **Tested for HIV/AIDS (Ever)** | 66 (40) | 80 (39) | 146 (39) |
| **Tested for HIV/AIDS (Within Last Year)*** | 61 (91) | 64 (80) | 125 (85) |

*$p < .05$ – statistically significant for race/ethnicity differences

or non-African American (i.e., Latino, Caucasian, Asian, Native American, and Multiracial).

The proportion of African American youth identifying as MSM was significantly lower (12%, $n$ = 17) than the proportion of non-African American youth identifying as MSM (23%, $n$ = 44; Chi square = 6.591, $p$ = .037). In addition, African American youth were more likely to be enrolled at drop-in agency sites than were youth of other racial or ethnic groups (Chi-square = 11.048, $p$ < .026). Moreover, African American youth (43%, $n$ = 75) were less likely to have slept at least one night in the streets within the last 30 days than non-African American youth (56%, $n$ = 121) (Chi-square = 6.165, $p$ = .009).

### *Demographic Variables, Sexual Risk Behavior, and Service Utilization*

Although ethnicity was not related to differences for ever being tested for HIV (see Table 1), African American youth (91%, $n$ = 61) were more likely to have been tested for HIV within the last year than were youth of other race/ethnicities (80%, $n$ = 64), with a chi-square value = 3.495 ($p$ = .049). Among the lifestyle/gender subgroups there were no significant differences for either HIV testing variable.

Regarding HIV sexual risk behavior variables (see Table 2), among the MSM, African Americans reported a significantly lower number of lifetime male sexual

*Table 2*: **SEXUAL BEHAVIOR BY RACE/ETHNICITY FOR EACH SUBSAMPLE**

| | African American | Non-African American | Total | Significance |
|---|---|---|---|---|
| | Frequency (Percentage) | | | *p* value |
| **MSM** | | | | |
| **Exchanged Sex for Goods/Money (Ever)** | 7 (58) | 17 (53) | 24 (55) | 0.514 |
| **Consistent Condom Use (Ever)** | 2 (22) | 7 (41) | 9 (35) | 0.302 |
| **Age of Sexual Initiation** | | | | |
| Under 13 years old | 7 (36) | 6 (23) | 10 (27) | 0.328 |
| 13 years old and over | 7 (64) | 20 (77) | 27 (73) | |
| **Females** | | | | |
| **Exchanged Sex for Goods/Money (Ever)** | 3 (8) | 10 (22) | 13 (15) | 0.055 |
| **Consistent Condom Use (Ever)** | 12 (43) | 10 (31) | 22 (37) | 0.254 |
| **Age of Sexual Initiation** | | | | |
| Under 13 years old | 4 (11) | 7 (16) | 11 (14) | 0.372 |
| 13 years old and over | 32 (89) | 36 (84) | 68 (86) | |
| **Heterosexual Males** | | | | |
| ***Exchanged Sex for Goods/Money*** | 4 (9) | 6 (10) | 10 (10) | 0.551 |
| **Consistent Condom Use (Ever)** | 15 (60) | 14 (33) | 29 (43) | 0.026 |
| **Age of Sexual Initiation** | | | | |
| Under 13 years old | 10 (25) | 14 (25) | 24 (25) | 0.592 |
| 13 years old and over | 30 (75) | 72 (75) | 72 (96) | |

partners ($M$ = 15.0), as compared with non-African American MSM ($M$ = 31.4; $t$ = -2.127, $p$ < .041). Although statistically non-significant, a trend was noted regarding the association between sex exchange for items or money among females (chi-square value = 3.543, $p$ = .055), with African American females (8%, $n$ = 3) being less likely to report trading sex than non-African American female youth (22%, $n$ = 10). African American heterosexual male adolescents (60%, $n$ = 15) were more likely to report being a consistent condom user than non-African American male youth (33%, $n$ = 14), chi-square = 4.867 ($p$ = .026).

As indicated in Table 3, African American MSM reported significantly higher use of sexual health services than did non-African American MSM ($t$ = 2.281, $p$ =. 026). In addition, African American females also reported a greater breadth of total services used than did non-African American females ($t$ = 2.789, $p$ =. 006). For the heterosexual male subgroup, African Americans used more types of sexual health services ($t$ = 2.517, $p$ = .013) and more types of total services over past year ($t$ = 1.970, $p$ = .05) than did their non-African American counterparts.

## Discussion

African American youth are more highly affected by HIV infection than other youth. However, our study indicates that where differences occurred, African American homeless youth evidenced less risky behaviors (i.e., fewer male sex partners among young MSM, marginally less trading sex among young women, and more reporting of consistent condom use among heterosexual young men). In addition, African American homeless youth were more likely to report being HIV tested within the last year than other youth and accessed a greater breadth of services than other youth.

There are several possible explanations for these findings. First, the risk behaviors of homeless youth for HIV infection may be needle-sharing, serious drug use, and trading sex, which overall tended to be lower among African-American homeless youth in our sample than among the Caucasian homeless youth. Second, it is possible that African American homeless youth are less likely to admit risk behaviors due to fear of stigma. We know that involvement in dependency and delinquency systems correlates with higher risk of homelessness as adolescents and young adults; African American youth may become involved in these institutions more likely as a function of poverty or racism, rather than as a function of drug or other risk behaviors. It is also possible that systems involvement was in some ways protective for African American youth; perhaps they had better access to HIV testing, sexual health care and other needed services while in group home settings or incarcerated and were more exposed to HIV prevention messages in these environments. Third and finally, it is possible that the non-African American youth who become homeless have much riskier behaviors than non-homeless youth or become involved in social networks on the streets with other non-African American homeless youth that have more drug-use, needle-sharing, and risky sexual behaviors. All of these issues await further research.

Overall, homeless youth represent a vulnerable population for HIV infection. Once on the streets, runaway and homeless young people encounter a social environment and confront compelling survival needs that can put them at high risk for HIV. With no job skills, poor education and barriers to accessing traditional health and social services, many young people engage in unprotected sexual activity with multiple partners for necessities or for comfort. They encounter more serious drug use, including injection drug use, and become victims of physical and sexual assault (Cochran et al, 2002; Ensign, 2003; Noel et al., 2001; Ryan et al., 2000, Stewart et al., 2004; Thompson, McManus, & Voss, 2006; Tyler, 2001, 2004), making condom use more difficult or in the case of abusive relationships, and impossible in the case of sexual assault.

*Table 3*: **NUMBER OF SEX PARTNERS AND SERVICES USED**

| | African American | N | Non-African American | N | Significance |
|---|---|---|---|---|---|
| | Mean (Standard Deviation) | | | | t-value (*p*) |
| **MSM** | | | | | |
| No. of Male Partners (Ever) | 15.0 (15.8) | 10 | 31.4 (31.6) | 29 | -2.127 (0.041) |
| No. of Male Partners (Last 3 Months) | 8.9 (6.0) | 7 | 12.1 (7.1) | 16 | -1.059 (0.302) |
| # Sexual-Health Services Used (Past Year) | 3.1 (2.4) | 17 | 2.0 (1.3) | 44 | 2.281 (0.026) |
| # Total Services Used (Past Year) | 7.8 (5.9) | 17 | 6.8 (4.3) | 44 | 0.751 (0.456) |
| **Females** | | | | | |
| Number of Male Partners (Ever) | 5.6 (6.7) | 39 | 8.6 (10.4) | 44 | -1.550 (0.125) |
| Number of Male Partners (Last 3 Months) | 1.2 (0.8) | 27 | 1.8 (1.7) | 32 | -1.762 (0.085) |
| Sexual-Health Related Services Used (Past Year) | 2.5 (1.8) | 58 | 2.0 (1.6) | 65 | 1.654 (0.101) |
| Total Services Used (Past Year) | 9.2 (4.8) | 58 | 6.9 (4.2) | 65 | 2.789 (0.006) |
| Heterosexual Males | | | | | |
| Number of Female Partners (Ever) | 14.7 (17.1) | 40 | 19.7 (22.7) | 53 | -1.154 (0.251) |
| Number of Female Partners (Last 3 Months) | 3.7 (4.5) | 21 | 3.8 (4.7) | 40 | -0.067 (0.947) |
| Sexual-Health Related Services Used (Past Year) | 2.1 (1.4) | 67 | 1.5 (1.3) | 85 | 2.517 (0.013) |
| Total Services Used (Past Year) | 7.0 (4.1) | 67 | 5.6 (4.7) | 85 | 1.970 (0.051) |

Our study had a number of limitations, including reliance on one geographic area, which means that our results may not be representative of other homeless youth. In addition, we cannot be certain that our results on HIV testing, sexual risk behaviors, and service utilization were all from periods when youth were homeless, as we asked them to recall behaviors for a specific time period but did not stipulate that this was while homeless. Our use of computer-assisted survey technology, the comfort youth many have had with anonymous survey responses, and the credibility of agency sites among youth were strengths of our approach and suggest that such survey administration is feasible even for young, under-educated, and disenfranchised adolescents.

Because the survey-sampling frame engaged all the service and street venues where numbers of youth were found, we believe that only the very secluded or non-mixing street youth could have been systematically excluded. Our surveying of street venues and drop-in centers (low barrier access) represented attempts to reach the most representative and to invite the broadest inclusion of homeless youth within the Hollywood area of Los Angeles. Despite these efforts, there still exists the possibility of limited generalization of the findings to all homeless youth, even within the Hollywood area.

Service providers struggle with containing the spread of HIV among young people, including the problems of youth not returning to sites for results or confirmatory testing and the lack of standardized engagement and referral protocols for linking newly identified HIV positive youth with existing HIV care services. For homeless youth, these problems are exacerbated because they are more distrustful of and have greater difficulty accessing traditional service systems. Therefore, HIV testing and counseling and risk-reduction services need to be embedded within service systems that have demonstrated the ability to engage and serve these youth.

African American homeless youth in our study did not report higher sexual risk; in fact, they demonstrated less risk than other youth in the sample. These youth also accessed more types of services, suggesting that HIV prevention messages and services could reach them through agency venues where they are already accessing care. However, homeless youth present unique challenges to preventing HIV, identifying infection, and enrolling into care, including crises in youth's circumstances (drug use and violence), instability of housing and insecurity of income, reliance on risky behaviors (trading sex) for material needs and money, mental health problems, and youth's negative experiences with mainstream social systems that have adversely impacted them in the past. Given these issues, youth-centric agencies serving homeless youth may have the best chance at addressing the challenges of HIV prevention or treatment access among homeless youth.

## References

Census of Population and Housing, (2000). *Labor force status by race/ethnicity and sex, 16 years and older*, Retrieved from: http://www.calmis.ca.gov/file/demoaa/laLFRace2000.xls

Centers for Disease Control and Prevention [CDC]. (2006). Epidemiology of HIV/AIDS --- United States, 1981--2005. *Morbidity and Mortality Weekly Report, 55*, 589-592.

Cochran, B. N., Stewart, A. G., Ginzler, J. A., & Cauce, A. M. (2002). Challenges faced by homeless sexual minorities: comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *American Journal of Public Health, 92*, 773-777.

Ensign, J. (2003). Ethical issues in qualitative health research with homeless youths. *Journal of Advanced Nursing, 43*, 43-50.

Finkelhor, D., Hammer, H., & Sedlak, A. (2002). Runaway/thrownaway children: National estimates and characteristics. *National incidence*

*studies of missing, abducted, runaway, and thrownaway children.*

Flaming D., Burns P., & Haydamack B. (2004). *Homeless in LA: Final research report for the ten year plan to end homelessness in Los Angeles county*. Los Angeles: Economic Roundtable.

Kipke, M. D., O'Conner, S., Palmer, R., & MacKenzie, R. G. (1995). Street youth in Los Angeles. Profile of a group at high risk for human immunodeficiency virus infection. *Archives of Pediatric and Adolescent Medicine, 149*, 513-519.

HIV Epidemiology Program. (2008). *HIV/AIDS semi-annual surveillance summary – January 2008*. Los Angeles: County of Los Angeles Department of Public Health.

National Alliance to End Homelessness. (2006). *Youth homelessness series, brief no. 1: Fundamental issues to prevent and end youth homelessness* Washington, DC.

National Coalition for the Homeless. (2008). *HIV/AIDS and homelessness, NCH Fact Sheet #9*. Retrieved from http://www.nationalhomeless.org/publications/facts/HIV.pdf

Noel, J., Rohde, P., Seeley, J., & Ochs, L. (2001). Childhood sexual abuse, adolescent sexual coercion and sexually transmitted infection acquisition among homeless female adolescents. *Child Abuse and Neglect, 25*, 137-148.

Robertson, M. J., & Toro, P. A. (1999). Homeless youth: Research, intervention, and policy. In L. B. Fosburg & D. B. Dennis (Eds.), *Practical Lessons: The 1998 National Symposium on Homelessness Research*: U.S. Department of Housing and Urban Development, the U.S. Department of Health and Human Services.

Roy, E., Haley, N., Laeclerc, P. Sochanski, B., Boudreau, J., & Boivin, J. (2004). Mortality in a cohort of street youth in Montreal. *JAMA, 292*, 569-574.

Ryan, K. D., Kilmer, R. P., Cauce, A. M., Watanabe, H., & Hoyt, D. R. (2000). Psychological consequences of child maltreatment in homeless adolescents: Untangling the unique effects of maltreatment and family environment. *Child Abuse-Neglect*, 24, 333-352.

Stewart, A. G., Steiman, M., Cauce, A. M., Cochran, B. N., Whitbeck, L. B., & Hoyt, D. R. (2004). Victimization and posttraumatic stress disorder among homeless adolescents. *Child and Adolescent Psychiatry, 43*, 325-331.

Sumartojo, E., Lyles, C., Guenther-Grey, C., Choi, K., Clark, L.F., Collins, C., Lin, L., Peterson, J. (2008). Predictors of HIV testing in a US national sample of men who have sex with men. *AIDS Care, 20*, 1-14.

Thompson, S. J., McManus, H., & Voss, T. (2006). Posttraumatic stress disorder and substance abuse among youth who are homeless: Treatment issues and implications. *Brief Treatment and Crisis Intervention, 6*, 206-217.

Tyler, K. A., Hoyt, D. R., Whitbeck, L. B., & Cauce, A. M. (2001). The impact of childhood sexual abuse on later sexual victimization among runaway youth. *Journal of Research on Adolescence, 11*, 151-176.

Tyler, K. A., Cauce, A. M., & Whitbeck, L. B. (2004). Family risk factors and prevalence of dissociative symptoms among homeless and runaway youth. *Child Abuse and Neglect, 28*, 355-366.

Warren, J. K., Gary, F., & Moorhead, J. (1994). Self-reported experiences of physical and sexual abuse among runaway youths. *Perspectives in Psychiatric Care, 30*, 23-28.