

WHAT WE HAVE LEARNED FROM THE AIDS EVALUATION OF STREET OUTREACH PROJECTS



A SUMMARY DOCUMENT



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THE AIDS EVALUATION OF
STREET OUTREACH PROJECTS

A SUMMARY DOCUMENT

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INTRODUCTION

The AIDS Evaluation of Street Outreach Projects (AESOP) was a 5-year study designed by the Centers for Disease Control and Prevention (CDC) in collaboration with researchers representing agencies at eight sites. This cooperative study, which included community-based organizations and health departments, was conducted from October 1991 through September 1996. Its purpose was to support studies to describe outreach services to injection drug users (IDUs) and youth in high-risk situations, calculate the costs of such services, and develop and evaluate enhanced on-the-street services for these populations. Collaborators at five of the eight sites (Atlanta, Chicago, Los Angeles, New York, and Philadelphia) focused on outreach to IDUs. At three sites (Los Angeles, New York, and San Francisco), the focus was youth.

METHODS

The research was conducted in several phases. During the **formative phase** of approximately 1 year, the sites conducted the community assessment process (CAP) to gain maximum information about the targeted community, including how services were delivered to these populations, and to develop specific enhancements to outreach that could be delivered on the street to the same populations. To assist the staff at the sites, CDC collaborated with LTG Associates, Inc., a private contractor, to adapt the community identification (CID) method. This method included interviews with groups of persons who interacted with the target population as well as interviews with members of the population themselves. A detailed description of CID can be found in Tashima, 1966. Using the formative research, sites developed interventions plus a design for evaluating them.

After the formative phase, AESOP entered the **evaluation phase**. A quasi-experimental design (a study and a comparison area) was used for each of the eight communities. Each area was to have adequate numbers of the target group and some ongoing level of street outreach. Cross-sectional, closed-ended surveys of the target populations in the control and comparison areas were conducted

before and after the development and implementation of intervention enhancements. These surveys measured risk behavior, exposure to outreach, and readiness for behavioral change. Staff at each site conducted at least two preenhancement rounds of interviews at intervals of approximately 3 months between January and August of 1993 and two postenhancement rounds between 1994 and 1995, once the enhancements had been fully implemented for at least 3 months.

Sampling of IDUs and youth was conducted so that it would be as representative as possible; interviews were conducted at locations frequented by these populations. Researchers in each city identified and defined primary sampling units (PSUs) within the study and comparison areas. The PSUs could be of two types: fixed sites (shelters, meal programs, drop-in centers) and on-the-street sites (congregating areas; drug-buying, or "copping," areas; shooting galleries). The PSUs were observed at multiple times of the day to determine the relative number of potential respondents at each site. The number of interviews to be obtained from each PSU was set to be proportional to this measure of size. If the sample contained fixed sites (e.g., drop-in centers, shelters) and on-the-street locations, a predetermined percentage of interviews were set for fixed and on-the-street domains. Interviewing within PSUs was systematically scheduled by time of day and day of week so that all relevant times would be represented. Within PSUs, respondents were selected by using systematic methods, such as selecting every n^{th} potential respondent by predetermined counting.

Once persons were selected, a screening questionnaire was administered to determine eligibility, and the complete questionnaire was administered to those who were eligible.

ENHANCEMENTS

AESOP enhancements differed by site because of the diversity of participating outreach programs, geographic diversity, and the inclusion of youth and IDUs. Enhancements were focused on the outreach workers and encompassed a wide range of strategies: increased training (e.g., training in stages of change, training in the finger-stick method for HIV testing); additional resources such

as a storytelling model with pictures for engaging the clients in risk assessment (see article by Long et al. in this monograph), referral tracking cards and incentive packages; a mobile van; improved direct supervision; improvements in recordkeeping of the delivery of outreach services and referrals; coordination of outreach services with other agencies at a particular site; expanded services, including the addition of specialized staff such as a referral specialist; a storefront location for more comprehensive services to youth (see article by Gleghorn et al. in this monograph); changes in selection criteria for hiring outreach workers or supervisors; and social and emotional support to minimize burnout. Three to seven enhancement strategies were developed at each site. Quality assurance procedures were developed for on-the-street monitoring of outreach workers to ensure that enhancements were being delivered as intended.

Eligible IDUs were defined as persons within the geographical boundaries of the study areas who had injected illegal drugs in the past 3 years. At three sites with lower numbers of IDUs—Atlanta, Los Angeles, and Philadelphia—up to 30% of the sample were allowed to be persons who had used crack cocaine within the past month. Eligibility for youth was based on age (12 to 23 years) and lack of permanent residence (recurrently without shelter during the past year or without permanent shelter during the past 2 months) or use of the street economy for support (drugs, prostitution, panhandling, crime).

BEHAVIORAL EPIDEMIOLOGY

KEY FINDINGS

1. The initial rounds of survey research indicated that the AESOP populations engaged in much higher levels of sexual risk behavior than the levels found in general population surveys.
2. After AESOP enhancements, the percentages of those who had used condoms during their most recent intercourse ranged from 57.9% to 71.8% for casual partners. Those percentages approach the year 2000 health objectives: 50% for unmarried sexually active persons, 60% for sexually active women aged

15 to 19 years, 75% for sexually active men aged 15 to 19 years, and 60% for IDUs. Rates for steady, or main, partners remained low.

3. Among the high-risk populations studied, the highest rate of condom use was observed for anal sex, followed by vaginal and oral sex.
4. Outreach workers from a variety of agencies reached a sizeable percentage of IDUs in their communities and supported them in seeking medical care, especially in seeking counseling and testing for HIV and treatment for drug use. One third to two thirds of respondents who had seen an outreach worker from any program in the preceding 6 months reported having received referrals for these two services. One third to one half of respondents reported that they then sought these services.
5. In addition to sexual practices, street youth are at risk through high rates of drug use that includes sharing of syringes.
6. Youth in contact with street outreach are much more likely to have sought health care, HIV counseling and testing, or treatment for a sexually transmitted disease (STD) or for substance use than are youth who are not in contact with street outreach.
7. Among street youth, a history of STD is significantly associated with current substance use and having multiple sex partners.
8. Homelessness and crack use are associated with lower levels of stage of change for not sharing needles.
9. IDUs are more likely to report safer drug behavior than safer sex behavior and tend to be at a higher level of stage of change for not sharing needles than for condom use.

IMPLICATIONS FOR RESEARCHERS

1. Cross-sectional data on street populations do not reveal the time frame or process by which persons become acculturated to and integrated into the street economy, which includes trading of sex and drugs. The degree to which clients are

acculturated and the length of time they have been on the street may influence their willingness or ability to change their behaviors.

2. Research should be planned separately for street populations of youth and IDUs (e.g., separate goals for interventions, separate questionnaires, and separate intervention enhancements).
3. Many factors can affect the delivery of services to street populations – weather, police activity, riots, changes in laws, urban relocation because of special events, even the death of a cultural icon, such as Jerry Garcia of the Grateful Dead band. After Garcia’s death, large numbers of youthful *Deadheads* disappeared from the San Francisco street scene. These factors should be recorded as they happen, and they should be considered in data analysis.
4. Surveys of target populations frequently measure only the elimination of risk behaviors (e.g., ceasing substance use) and often do not consider reductions in risks (e.g., not injecting in shooting galleries) or preparations to change (e.g., intention to buy bleach). Including such gradations of change in surveys can provide more sensitivity in measuring behavior change at the community level.
5. The effects of dosage or number of exposures to outreach and of rates at which innovations diffuse in communities are important variables to measure in community-level interventions.
6. Measures of reduced risk can become outmoded during a study (e.g., guidelines for bleaching needles changed during AESOP), and research methods should be flexible enough to allow for this.
7. In studying homeless populations, investigators should include length of time homeless as a variable.

IMPLICATIONS FOR SERVICE AGENCIES

1. High percentages of street populations reported contact with outreach workers, although many reported continued high-risk behaviors. For many persons, street outreach may not be sufficient for behavioral change.

2. Among street youth, substance use and having multiple sex partners are significantly associated with a history of STD; therefore, in a clinical setting, an STD diagnosis for a person from this population may be a marker for other high-risk sex and drug-using behaviors.

OUTCOME EVALUATION

KEY FINDINGS

1. Theory-based street outreach approaches can be used by trained indigenous outreach workers.
2. Evaluation of street outreach programs is inherently difficult and requires multiple approaches.
3. There are several types of street outreach, ranging from brief contacts to more in-depth encounters between workers and clients.
4. Street outreach can be an effective mechanism for referring high-risk persons to treatment.
5. Street outreach distribution programs can affect condom use by high-risk populations.
 - a. Having a condom at the time of interview was the strongest and most consistent predictor of condom use at most recent intercourse.
 - b. Obtaining condoms from outreach workers was indirectly associated with condom use because this factor was strongly related to carrying a condom.
 - c. Higher level of stage of change (consideration or intention) for condom use by persons who do not use condoms is linked to outreach exposure.
6. Costs of street outreach can be measured: at the AESOP sites, the costs, relative to the medical costs of AIDS cases, were low. If 2 of 10,000 contacts reduced their high-risk behavior so as to avoid HIV transmission, outreach would yield a net benefit.

7. Among the AESOP sites, the average cost of outreach contact for high-risk youth was nearly twice that for IDUs. Much of the increased cost was for facilities (e.g., drop-in centers) and materials (e.g., food, travel vouchers, hygiene kits).
8. Outreach workers from a variety of agencies reach a sizeable percentage of IDUs in their communities and support them in seeking medical services, especially in seeking HIV counseling and testing and drug treatment.

IMPLICATIONS FOR SERVICE AGENCIES

1. Street outreach can be expanded to include a variety of services, including HIV counseling and testing on the street, the use of varied theory-based interventions (e.g., staging clients for risk-reduction messages), even advocacy.
2. Since the interpersonal dynamics of steady and casual sexual partnerships are different, condom promotion messages should be tailored to the type of sexual relationship the client has.
3. After-care referrals, such as support groups and drug counseling services, need to be emphasized to accommodate the high numbers of IDUs exiting drug treatment.

FUTURE RESEARCH QUESTIONS

1. Is street outreach more effective with certain types of drug users (e.g., on the basis of consumption method or drug of choice)?
2. What types of sex take place at different venues (e.g., vaginal sex at crack houses, oral sex at adult bookstores, anal sex at parks)?
3. Which is the antecedent: drug use or prostitution? Does the antecedent differ by ethnicity, age, or sex?

Reference

Tashima, N., Crain, C., O'Reilly, K.R., & Sterk-Elifson, C. (1966).
The community identification (CID) process: A discovery
model. *Qualitative Health Research*, 6, 23-48.

ANNOTATED BIBLIOGRAPHY

BEHAVIORAL EPIDEMIOLOGY (FINDINGS FROM BASELINE INTERVIEW DATA)

Anderson, J.E., Cheney, R., Clatts, M., Faruque, S., Kipke, M., Long, A., Mills, S., Toomey, K., & Wiebel, W. (1996). HIV risk behavior, street outreach and condom use in eight high-risk populations. AIDS Education and Prevention, 8(3), 191-204.

The populations surveyed engaged in high levels of sexual risk behavior: 20% to 46% reported two or more sex partners in the past month. Most of the injection drug users and high-risk youth were at risk through unprotected sex with main partners; 56% to 75% reported protected vaginal sex with casual partners. Of this group, 58% to 84% had been tested for HIV infection, compared with 25% of the national adult population. Having a condom at time of interview was the most consistent predictor of condom use during most recent intercourse. A variable percentage of injection drug users had shared needles in the past month (10% to 53%). Many respondents had been in contact with street outreach programs and had received condoms, bleach, and other materials from workers.

Anderson, J.E., Cheney, R., Faruque, S., Long, A., Toomey, K., & Wiebel, W. (1996). Stages of change for HIV risk behavior: Injecting drug users in five cities. Drugs and Society, 9(1/2), 1-17.

Respondents from the street-based samples interviewed at the five AESOP sites that were focused on injection drug users had a very high level of risk for HIV, in terms of sex and drug-using risk behavior. The level of stage of change for condom use was higher for casual partners than for main partners. Having a condom at interview was the most consistent predictor of respondent's level of stage of change for condom use. Homelessness and crack use were associated with lower level of stage of change for not sharing needles. Program staff need to be aware of the predominant level of readiness to change in order to design and implement effective programs.

CDC. (1993). Assessment of street outreach for HIV prevention—Selected sites, 1991-1993. MMWR, 42 (45), 873, 879-880.

This report is a description of the first 2 years of the AESOP project and includes results from the initial round of closed-end interviews. Results indicated that 17% to 65% of injection drug users and 23% to 46% of youth in high-risk situations (YHRS) reported talking with an outreach worker; 14% to 58% of IDUs and 11% to 26% of YHRS had received HIV prevention literature; 16% to 58% of IDUs and 22% to 39% of YHRS had received free condoms; and 13% to 55% of IDUs and 7% to 10% of YHRS had received bleach kits from outreach workers. These findings suggest that IDUs and YHRS can be identified and reached through outreach programs; will talk with outreach workers about HIV prevention; and will accept HIV prevention literature, materials, and referral services from outreach workers.

Clatts, M.C., Bresnahan, M., Davis, W.R., Springer, E., & Backes, G. (1997). The harm reduction model: An alternative approach to AIDS outreach and prevention for street youth in New York City. In P. Ericson et al. (Eds.), Harm reduction: A new direction for drug policies and programs. Toronto: University of Toronto Press.

The authors provide a demographic and behavioral profile of street youth in New York City and discuss the history of AIDS prevention services for these young people. A network of outreach programs developed for AESOP, the Youth At Risk Cooperative, and the foundation for the network's training program for outreach workers in the harm reduction model are described. Case study material from staff who integrated the model into case management activities provides a constructive demonstration of the potential of the harm reduction model as a service-delivery strategy for street youth.

Clements, K., Gleghorn, A., Garcia, D., Katz, M., & Marx, R. (1997). *A risk profile of street youth in northern California: Implications for gender-specific human immunodeficiency virus prevention. Journal of Adolescent Health, 20(5), 343-353.*

Most of the youth were heterosexual, white, male, and without stable housing. Of the total, 60% had had vaginal sex in the past 30 days; only 44% had used a condom during their most recent sexual encounter. One third of the sample reported having injected drugs. Compared with males, females were equally likely to use injection and noninjection drugs but were more likely to be sexually active, to have been given a diagnosis of a sexually transmitted disease, and were less likely to report consistent condom use. Females without stable housing were less likely to have used condoms during their most recent vaginal intercourse. These findings suggest an urgent need for gender-specific prevention efforts and increased housing options for youth.

Gleghorn, A.A., Marx, R., Vittinghoff, E., & Katz, M. (in press). *Association between drug use patterns and HIV risks among homeless, runaway, and street youth in Northern California. Drug and Alcohol Dependence.*

The drug use and HIV risk behaviors of homeless, runaway, and street youth were compared. Youth who were using any heroin, speed, or cocaine exhibited more sexual risks than did youth who were not using; primary stimulant users and those who used a combination of heroin and stimulants showed greatest sexual risk. Those who injected combinations of heroin and stimulants engaged in higher levels of risky injection practices, including frequent injections and back-loading syringes, than did primary heroin or primary stimulant injectors. HIV prevention interventions should be tailored to drug-use patterns, because youth who use combinations of heroin and stimulants may require more intensive services.

Kipke, M.D., O'Connor, 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(May), 513-519.

Of the youths, 70% were sexually active (average of 11.7 sex partners during past 30 days). High-risk sex and drug-using behaviors were prevalent and interrelated in this sample of urban street youth. Substance-using youth were 3.6 times more likely to use drugs during sex, 2.2 times more likely to engage in survival sex, and 2.5 times more likely to report a sexually transmitted disease. Youth with multiple partners were more likely to report a previous sexually transmitted disease and survival sex. New and innovative educational promotions and prevention interventions for this population are needed.

Kipke, M.D., Palmer, R.F., LaFrance, S., & O'Connor, S. (1997). Homeless youths' descriptions of their parents' childrearing patterns. Youth and Society, 28, 415-431.

No one parenting style was associated with homelessness among the sample. An equal percentage of youth reported having supportive or emotionally available and having intrusive or emotionally unavailable parents or caretakers. However, most of the youth enrolled in this study did report having parents or caretakers who could be described as intrusive, emotionally unavailable, detached, and who had problems with substance use or the law. Gaining a better understanding of family conflict and its relationship to homelessness and the behaviors of homeless youth is critically needed to develop effective prevention interventions as well as appropriate services.

Kipke, M.D., Unger, J., O'Connor, S., Palmer, R.F., & LaFrance, S.R. (1997). *Street youth, their peer group affiliation and differences according to residential status, subsistence patterns and use of services. Adolescence, 32(127), 655-669.*

Five street youth groups were identified: *punks* and *skinheads*, *druggies*, *hustlers*, *gang members*, and *loners*. The results demonstrated unique patterns with respect to places where they stayed or slept, their means of support, and use of services according to peer group affiliation.

Martinez, T.E., Gleghorn, A., Marx, R., Clements K., Boman, M., & Katz, M.H. (1998). *Psychosocial histories, social environment, and HIV risk behaviors of injection and noninjection drug using homeless youths. Journal of Psychoactive Drugs, 30 (1), 1-10.*

Injection drug use is a common risk behavior for HIV infection among homeless, runaway, and street youth. Youth who injected drugs were more likely than youth who did not inject drugs to report traumatic psychosocial histories, including parental substance use and forced institutionalization, use of alcohol and other noninjection drugs, a history of survival sex, and the use of abandoned buildings as shelter. These findings underscore the need for multifaceted service and prevention programs to address the varied needs of these high-risk youth.

ENHANCEMENTS

Cheney, R., & Merwin, A. (1995). *Integrating a theoretical framework with street outreach services: Issues for successful training. Public Health Reports, 110(Suppl. 1), 1-5.*

The authors discuss three key components necessary to integrate a behavioral research perspective (in this instance, the stages-of-change model) into the design of outreach programs: (a) training for successful service delivery, (b) training for a theory-guided intervention, and (c) feedback and evaluation. The third component measures the benefits of staff training to the outreach workers and to their ability to apply in the field what they have learned.

Valentine, J., & Wright-DeAgüero, L. (1996). Defining the component of street outreach for HIV prevention - The contact and the encounter. Public Health Reports, 111(Suppl. 1), 69-74.

The discussion suggests techniques for enhancing the encounter between outreach workers and clients by using the conceptual framework of the social-work helping relationship. Five elements of the encounter are defined and developed: screening, engagement, assessment, service delivery, and follow-up. The encounter represents an enhancement of the traditional street outreach interaction and a more systematic approach to promoting the behavioral change goals of AESOP.

METHODS

Clatts, M.C., Davis, W.R., & Atillasoy, A. (1995). Hitting a moving target: The use of ethnographic methods in the development of sampling strategies for the evaluation of AIDS outreach programs for homeless youth in New York City. In E.Y. Lambert, R.S. Ashery, & R.H. Needle (Eds.), Qualitative methods in drug abuse and HIV research (NIDA Research Monograph 157, NIH Publication No. 95-4025). Rockville, MD: National Institute on Drug Abuse.

This chapter shows how ethnographic methods that include participant observation and life history interviews were used as a sampling strategy and a means of obtaining less accessible information. Interviews included how youth met everyday needs and consequently how they participated in the street economy. In addition to identifying important geographic and temporal gaps in services, the data provided useful information about a population of youth about whom little is known.

OUTCOME

Gleghorn, A.A., Clements, K.D., Marx, R., Vittinghoff, E., Lee-Chu, P., & Katz, M. (1997). *The impact of intensive outreach on HIV prevention activities of homeless, runaway, and street youth in San Francisco: The AIDS Evaluation of Street Outreach Project (AESOP)*. *AIDS and Behavior*, 1(4), 261-271.

The authors evaluate the impact of an HIV prevention intervention combining street outreach, storefront prevention services, and subculture-specific activities for street youth in intervention and comparison sites before and during implementation of the intervention. Youth at both types of sites reported high rates of risky sex and drug-using behaviors. The intervention did not affect HIV risk behaviors but was independently associated with increased contact with outreach workers and increased referrals for services. Higher levels of contact with outreach workers were associated with following through with HIV-related referrals and using new syringes. Youth-oriented needle exchange increased the use of new syringes.

Greenberg, J., MacGowan, R., Neumann, M.S., Long, A., Fernando, D., Cheney, R., Sterk, C., & Wiebel, W. (under review). *The relationship between street outreach referrals and accessing medical services by injecting drug users*. *Health & Social Work*.

This analysis, from 3,237 structured interviews conducted with injection drug users (IDUs) at five sites between January 1994 and October 1995, examines contact with outreach workers, the most common medical referrals received and acted on as a result of this contact, and whether more frequent contact was associated with increased acting on medical referrals. Of the IDUs interviewed, 42% to 67% had talked with an outreach worker in the past 6 months and reported referrals to a number of medical services, especially HIV counseling and testing and drug treatment. IDUs with more than three contacts with outreach workers during the past 6 months were more likely to seek services. To maximize the effect of outreach on acting on referrals, training for outreach workers should address techniques for follow-up with referred IDUs; identifying and overcoming barriers to

seeking medical services, especially those for minority clients; after-care referrals for clients exiting drug treatment programs; and the importance of treatment for sexually transmitted diseases in reducing risk for HIV infection.

MacGowan, R.J., Sterk, C.E., Long, A., Cheney, R., Seeman, M., & Anderson, J.E. (1998). *New needle and syringe use and use of needle exchange programmes by street recruited injection drug users in 1993. International Journal of Epidemiology, 27, 302-308.*

Street-recruited injection drug users were interviewed in five U.S. locations in 1993. Most (75% to 95%) reported that it was easy to get a new syringe. For their most recent injection, 45% to 77% had used a new syringe, and 2% to 18% had used a syringe previously used by another injector. The use of needle exchange programs (NEPs) ranged from 8% to 16% in Chicago, Philadelphia, and Los Angeles County. Factors associated with NEP use differed across sites, which suggests that the dispersion of NEPs and the removal of legal barriers that restrict access to sterile syringes may be more important to increasing the use of sterile syringes and NEPs.

Wright-DeAgüero, L.K., Gorsky, R.D., & Seeman, G.M. (1996). *Cost of outreach for HIV prevention among drug users and youth at risk. Copublished in Drugs and Society, 9 (1/2), 185-197; and in T. Trotter II (Ed.), Multicultural AIDS prevention programs. Binghamton, NY: Harrington Park Press.*

The authors present the results of a cost analysis at eight sites that provide outreach services to injection drug users and street youth. They assessed the potential benefit of HIV prevention through outreach services by comparing outreach costs with the costs of treating an HIV-infected person. The average cost of outreach services was \$13.30 per contact. Costs per contact were 78% higher for street youth than for drug users. Comparing cost per contact with HIV treatment, if only 2 in 10,000 outreach contacts reduce their risky behavior to avoid the transmission of HIV, these programs compare favorably with other HIV prevention strategies in terms of cost.

A PROBABILITY SAMPLING FOR ASSESSING THE EFFECTIVENESS OF OUTREACH FOR STREET YOUTH

Michele D. Kipke^{}, Susan O'Connor^{*}, Burke Nelson^{*},
and John E. Anderson[†]*

In 1991, the Division of Adolescent Medicine of Children's Hospital Los Angeles received funding from the Centers for Disease Control and Prevention (CDC) as part of the cooperative agreement for the AIDS Evaluation of Street Outreach Projects (AESOP) (CDC, 1993). The purpose of this project was to conduct research to characterize street youth and their involvement in HIV risk-related sex and drug-using behaviors and to develop, implement, and evaluate the enhancement of street outreach interventions for this population.

Few studies have evaluated the sex and drug-using behaviors of urban street youths, and no attempt has been made to systematically evaluate the effectiveness of outreach activities for this population. Furthermore, studies have largely relied on convenience sampling, which may underestimate the degree to which these youth are engaging in the kinds of behaviors that put them at risk for HIV infection. For example, runaway or homeless youth have been recruited from shelters and drop-in centers (Anderson, Freese & Pennbridge, 1994; Rotheram-Borus & Koopman, 1991; Rotheram-Borus et al., 1992).

Convenience sampling can identify only the youth who are using services; thus, the findings from these studies can be generalized only to youth who are willing to use such services, not the estimated 65% of runaway or homeless youth who are living on the streets and not using services (Kipke, O'Connor, Palmer & LaFrance, 1993). Although probability sampling methods have

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been used to survey homeless adults (Burnam & Koegel, 1988; Robertson, Westerfelt & Irving, 1991), little effort has been made to apply these sampling methods to homeless youth. To evaluate the effectiveness of street outreach activities, it was essential to develop probability sampling methods that enable researchers to better describe youth, particularly out-of-school and out-of-home youth who spend most of their time on the streets.

OBJECTIVES AND OVERVIEW OF SAMPLING DESIGN

Our objective was to recruit a sample representative of the target population (i.e., to develop a method for selecting homeless youth such that homeless youth at each site would have an equal or a known probability of being selected for the sample). Numerous researchers have relied on shelters for their sampling frame. However, there are several problems with this practice. First, although some youth stay in shelters, many others move around frequently and use shelters infrequently, if at all. Second, it is estimated that there may be 2,000 homeless youth in Los Angeles County at any time and that 10,000 homeless youth may be on the streets of Los Angeles during any one year (United Way Planning Council, 1981). In Los Angeles, approximately 140 shelter beds are available for this population. Thus, the size of the population exceeds the size of that shelter system. Finally, there are other services, such as drop-in and meal services, that are used by a greater proportion of the homeless youth population and with greater frequency than are shelter services. Although shelters and drop-in services have different biases, adding the latter to a sampling frame would nevertheless be expected to increase the percentage of the total population covered.

We understood, however, that constructing a sampling frame that comprised only shelter and drop-in service locations would pose similar problems. Perhaps the most important bias is that homeless youth who do not use services would be excluded. Thus, street and natural hangout locations would need to be included in the sampling frame in order to identify the homeless youth who were not using services. Although it is impossible to establish a sampling frame that would include every homeless youth, we

developed a sampling frame that included both service agency and street locations in an effort to minimize bias and maximize our ability to survey a wide spectrum of youth who were representative of the target population.

SAMPLE POPULATION AND TARGET COMMUNITIES

The target population were youth who were 12 to 23 years of age and who (a) had been living on the streets without their families for 2 or more consecutive months or (b) were fully integrated into the "street economy." By definition, youth integrated into the street economy meet their subsistence needs through one or more of the following survival strategies: prostitution or survival sex (defined as the exchange of sex for money, food, a place to stay, clothes, or drugs), pornography, panhandling, stealing, selling stolen goods, mugging, dealing drugs, or engaging in scams or cons.

A cross-sectional survey was conducted in two communities where runaway or homeless youth were known to congregate: the Hollywood area of Los Angeles (the study community, where the enhanced outreach interventions were introduced) and the downtown area of San Diego (the control community). In both communities, comparable sampling frames and recruitment strategies were used to identify and survey street youth for the purpose of evaluating the effectiveness of enhanced interventions for street outreach. In this paper, we focus on the Hollywood sampling frame and sampling units.

CONSTRUCTION OF SAMPLING

The sampling frames were constructed by using information obtained during the community assessment process (CAP) and from systematic field observation. The goal of this phase was to identify high-volume locations and high-frequency times of the day and days of the week for surveying the target population. Information from the community assessment and field observations yielded (a) lists of street corners where the target population

is known to hang out, (b) other locations where the target population could be found (e.g., parks, alleys, restaurants), and (c) agencies that provide shelter and drop-in services.

All service sites for runaway or homeless youth in Hollywood, including two shelters and five drop-in centers, were included in the “fixed” sampling frame. Drop-in centers included agencies that provide day and night drop-in services to street youth in Hollywood. During a 2-month period, field staff observed and recorded the number of youth using these services according to the day of the week and time of day.

Outreach workers and research interviewers conducted open-ended interviews with street youth and observed street activity in order to locate street hangouts with the highest number of homeless youth and to determine the times and days when the volume was highest. Along the boulevards of Hollywood, these staff first identified 104 street corners or alleys, 4 parks, and 3 fast-food restaurants as potential sampling sites. Large segments of the main boulevards were broken into 3-block segments. Thus, the number of natural sites was reduced to 73 street corners, 4 parks, and 3 fast-food restaurants. Once hangouts were defined, field staff noted street youth activity at these locations throughout the day.

Additional field observation was conducted, by the field research team and outreach workers from service agencies for youth, in order to further refine the street sampling frame. (Sample Street Observation and Summaries of Service Use are in Appendix A.) Given our broader definition of street youth (i.e., integrated into the street economy) and the literature, which has largely relied on samples recruited from shelter and drop-in centers, we chose to oversample youth from natural and hangout sites by recruiting 70% of the sample from natural sites (thereby oversampling by 20% from these sites) and 30% from fixed sites.

SAMPLING ASSIGNMENTS

A computer program was developed to randomly select and order locations for interviewing teams (comprising 2 to 4 members). This program took into account two important aspects of the sam-

pling design. First, with evidence that nearly 65% of street youth are not using services, the selection was weighted to ensure that a larger proportion of street locations were chosen (70%), thereby increasing the probability of recruiting youth who were not using services. Second, all fixed and natural locations in the pool of potential sampling sites were proportionally weighted on the basis of the number of youth that typically congregated at that location. Thus, locations with a higher volume of youth had a greater probability of being selected by the computer random selection program than had locations with lower volumes. Assignments also were made according to high-frequency times of the day and days of the week. Assignments were generated weekly.

SAMPLING UNITS AND SELECTION OF RESPONDENTS

FIXED SITES

Consistent with probability sampling methods used in surveying homeless adults (Burnam & Koegel, 1988; Robertson, Westerfelt & Irving, 1991), the overall sampling design for the fixed sites involved estimating the relative proportions of the homeless youth population that passed through the shelters and drop-in centers in a month. These estimates were used to determine the relative weighting for each agency. Sampling assignments to fixed sites were weighted according to the type of service and the estimated proportion of the study population that used the service in a month (e.g., 13% of the street youth population are believed to use sheltering services). Thus, in our study the probability of selection was proportional to the estimated unduplicated number of youth who used each service in a month. In Hollywood, three shelters and five drop-in centers were identified.

For respondent selection at each of the fixed sites, interviewers first reviewed the agency's sign-in roster to determine how many youth were in the agency. Interviewers then randomly selected potential respondents from the agency sign-in sheet. They used a predetermined random start number and began selecting respondents by using a sampling fraction (i.e., the number of youth to count off, beginning with the random start-numbered youth on the agency list). Going down the list, interviewers then selected

additional youth on the list according to the sampling fraction. The sampling fraction was determined by dividing the number of youth signing into the agency by the number of interviewers; the number of youth selected equaled the number of interviewers (see the Sampling Fraction Table, Appendix B).

Interviewers then asked the intake worker to introduce them to the selected respondents. If a potential respondent declined to participate in the study, a new respondent was selected by choosing the next consecutive youth on the list after the one who declined. Replacement continued in this manner until all appropriate respondents were selected and agreed to be interviewed.

NATURAL SITES

During the initial community assessment, teams compiled an exhaustive list of natural street locations and hangouts along five boulevards within a 12-square mile area of Hollywood. In selecting respondents, interviewer teams first determined the number of potential respondents at a site specified by the sampling assignment (i.e., in a block segment, on the street corner, in the alley or park) by counting the number of youth who seemed to be 12 to 24 years of age at the location. They then determined the sampling fraction by looking at the sampling fraction table and locating the fraction that corresponded with the total number of youth counted at that site. For example, if there were two interviewers and 10 potentially eligible youth at the site, the sampling fraction would be 1/5. Youth were "counted out" (from left to right), starting from a predetermined random start number and selected according to the sampling fraction (see Appendix B). If the number of potential respondents was equal to or fewer than the number of interviewers, all youth were approached and asked to complete a screening instrument. As in sampling in fixed sites, a youth who refused to participate in the study was replaced by the next consecutive youth after the one who declined. On the street, this means selecting the youth nearest and to the right of the refuser. Youth who entered the sampling site after the initial selections were not approached for recruitment.

DISCUSSION

There are a number of advantages and disadvantages in using a probability sampling design for street-based epidemiologic research. Perhaps one of the greatest disadvantages is the cost associated with developing and implementing such a design. A community assessment of service agencies is required to estimate accurately the number of youth who are using services. Extensive, systematic field observations are required to initially identify natural sites. Relative weightings are then constructed on the basis of population estimates. Ongoing observations are then required to monitor the field to ensure that new hangouts are added and that low-volume sites are continually dropped from the sampling frame. Finally, this sampling design requires a greater amount of time for recruitment and interviewing than would be required by convenience sampling.

There are, however, clear advantages in using probability sampling. Research involving representative samples of runaway or homeless youth, particularly youth who are not using services, has been greatly needed. These results can be generalized to the larger street youth population of a study area. Probability sampling is perhaps the best method for obtaining samples representative of the target population, hence for accurately estimating population characteristics.

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APPENDIX A

SAMPLE STREET OBSERVATION AND
SUMMARIES OF SERVICE USE**STREET OBSERVATION SUMMARY
Hollywood Boulevard**

	10:00am	11:00 am	Noon	1:00 pm	2:00 pm	3:00 pm	4:00 pm	5:00 pm	6:00 pm	7:00 pm	Totals
Sycamore	2	2		0	1	0	3				8
Orange	0	0		2	0	1	0				3
Orchid	0	4		0	3	2	0				9
Hillcrest	0	0		0	0	0	6				6
Highland	3	5		2	0	0	5				15
McDonald's	2	4		0	3	5	4				18
McCadden	0	1		3	0	1	0				5
Las Palmas	0	7		0	0	1	8				16
Cherokee	0	0		0	0	4	7				11
Whitley	1	0		0	0	0	0				1
Tomy's	2	0		2	3	1	3				11
Hudson	0	2		0	3	1	7				13
Wilcox	0	0		0	4	0	6				10
Cahuenga	0	0		0	0	0	3				3
Ivar	2	2		1	0	2	0				7
Vine	0	5		0	0	0	3				8
El Centro	0	0		0	2	0	0				2
Gower	2	2		0	0	1	0				5
No. Sheets	3	4	0	1	3	2	3				
Totals	14	34	0	10	19	19	55				

**HOLLYWOOD DROP-IN CENTERS
SUMMARY OF HIGH-VOLUME TIMES AND DAYS**

Gay and Lesbian Community Services Center (GLCSC)

	9:00 am	10:00 am	11:00 am	Noon	1:00 pm	2:00 pm	3:00 pm	4:00 pm	5:00 pm	Totals
Thu 10/1	2	2	0	0	0	0	1	1	0	6
Fri 10/2	5	1	2	0	2	2	1	0	0	13
Mon 10/5	3	4	4	1	1	0	1	0	0	14
Tue 10/6	1	3	1	0	1	1	1	0	0	8
Wed 10/7	3	1	4	0	3	2	1	0	0	14
Thu 10/8	1	2	3	0	2	0	0	0	0	8
Fri 10/9	2	3	1	0	4	2	2	1	0	15
Mon 10/12	4	1	5	2	1	0	1	0	0	14
Tue 10/13	4	2	2	0	5	1	1	2	0	17
Wed 10/14	4	1	3	0	0	1	1	3	0	13
Thu 10/15	1	0	6	0	1	2	2	1	0	13
Totals	30	20	31	3	20	11	12	8	0	

NOTES: I called GSCSC at 1:30 on 10/22, and there were 3 youth in the agency. I was told that 2 to 5 had been in the agency all day. I suggest that we do not use GLCSC as a fixed site for interviewing.

Los Angeles Youth Network

	9:00 am	10:00 am	11:00 am	Noon	1:00 pm	2:00 pm	3:00 pm	4:00 pm	5:00 pm	Totals
Thu 10/8	15	4	6	4	5	3	2	0	0	39
Fri 10/9	13	5	4	3	2	3	4	0	0	34
Mon 10/12	18	3	7	2	2	6	2	4	0	44
Tue 10/13	12	7	5	2	3	1	2	5	0	37
Wed 10/14	18	1	2	6	4	2	5	5	0	43
Thu 10/15	13	1	2	3	6	2	3	2	0	32
Totals	89	21	26	20	22	17	18	16	0	

NOTES: I called LAYN at 2:00 on 10/22, and there were 10 youth in the agency. I was told that there had been many more earlier in the day but that most had gone to the YMCA. I suggest that we use LAYN as a fixed site interview location on Mondays and Wednesdays, any time between noon and 4:00pm.

APPENDIX B

SAMPLING FRACTION TABLE

**AIDS Evaluation of Street Outreach Project
Children's Hospital of Los Angeles**

Street Locations			Agencies		
No. of Youth	No. of Intercepts	Fraction	No. of Youth	No. of Intercepts	Fraction
1	1	1/1	1	1	1/1
2	2	1/1	2	2	1/1
3	2	1/2	3	3	1/1
4	2	1/2	4	4	1/1
5	2	1/3	5	4	1/2
6	2	1/3	6	4	1/2
7	2	1/4	7	4	1/2
8	2	1/4	8	4	1/2
9	2	1/5	9	4	1/3
10	2	1/5	10	4	1/3
11	2	1/6	11	4	1/3
12	2	1/6	12	4	1/3
13	2	1/7	13	4	1/4
14	2	1/7	14	4	1/4
15	2	1/8	15	4	1/4
16	2	1/8	16	4	1/4
17	2	1/9	17	4	1/5
18	2	1/9	18	4	1/5
19	2	1/10	19	4	1/5
20	2	1/10	20	4	1/5
21	2	1/11	21	4	1/6
22	2	1/11	22	4	1/6
23	2	1/12	23	4	1/6
24	2	1/12	24	4	1/6
25	2	1/13	25	4	1/7

A STORYTELLING MODEL USING PICTURES FOR HIV PREVENTION WITH INJECTION DRUG USERS

Anna Long^{}, Judith Greenberg[†], Gladys Bonilla^{*},
and Ronald Weathers^{*}*

The importance of storytelling in the modeling of behavior and teaching people about their lives has been extensively addressed by the late Joseph Campbell, a foremost authority on mythology (most recently, Campbell, 1988). Empirical research in the self-help community also suggests the importance of personal stories. Rappaport (1993) compared the personal stories told during meetings of a mutual help group for mentally ill persons with the stories told by patients receiving professional care for mental illness. The first group saw themselves as a part of a “caring and sharing” community and as givers as well as receivers who hoped for positive change. By contrast, the patients’ stories “often revolve around learning to see one’s self as sick and dependent on medication to control behavior.” Similarly, the stories that people tell about their lives in groups such as Alcoholics Anonymous (AA) permit the members to take on the ideology of the group as part of their personal identities. Telling stories of “hitting bottom” and of recovery serve as testimony to the importance of the AA philosophy of sobriety (Bean, 1975).

Using this storytelling framework, investigators in Los Angeles County, one of eight AESOP sites, developed a unique outreach intervention strategy. Injection drug users (IDUs) were encouraged to tell their own stories about risk behaviors to outreach workers after looking at a series of abstract illustrations related to themes of risk and risk-prevention behaviors for acquiring HIV. These illustrations were produced by a local Los Angeles artist,

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whose grasp of the street drug culture was translated into drawings that were used to encourage people to discuss risky sex and drug-using behaviors.

CHOOSING THE STORYTELLING INTERVENTION

FORMATIVE RESEARCH

The AESOP project began with a two-part formative study to guide the identification of specific risk-reduction needs and corresponding interventions for IDUs in Los Angeles County. Using data from various sources (research on IDUs conducted in the county, epidemiologic and drug-use data), we described the IDU population, reported what was known about their risk behaviors, and specified the current outreach programs that addressed their HIV risk-reduction needs.

That initial overview revealed considerable variation in the number and the demographic characteristics of IDUs in the different parts of the county. The IDUs were as diverse in their cultural and ethnic backgrounds as the county's 4,083 square miles are in their geographic features. There were also variations in the programs that community-based organizations had developed to respond to the needs of IDUs in their particular communities.

The community assessment process (CAP) constituted the second part of the formative research. These activities focused on developing more current insight into the IDU population through in-depth interviews with IDUs themselves; outreach workers; agency representatives with knowledge of the IDU community, such as social service workers and law enforcement officers; and persons who interact with IDUs but are not part of the formal service delivery system, such as shopkeepers, taxi drivers, and hotel clerks. The interviews were focused on IDUs' knowledge, attitudes, and beliefs about HIV; sex and drug-using behaviors of IDUs and their risks for HIV infection; risk-reduction practices of IDUs; assessment of services used by IDUs; barriers and facilitators to service use; and ideal intervention strategies.

The CAP revealed the range of risk behaviors of the target population. It showed that (a) despite considerable knowledge about HIV, most IDUs required additional information and strategies that would help them consistently practice appropriate risk-reduction behaviors; (b) uniformity was lacking in attitudes toward and intentions to reduce their risk for HIV; and (c) IDUs would not change their risk behaviors, regardless of the information they had about HIV, until they were ready. The notion of readiness that echoed in many of the CAP interviews was a key factor in our selecting the stages-of-change model from behavioral theory (Prochaska & DiClemente, 1986, 1992; Prochaska, DiClemente & Norcross, 1992) to help us develop the interventions. Finally, outreach workers and IDUs indicated a need for materials that would be suitable for the prevention needs of different groups.

Overall, the formative research revealed that the proposed interventions should be (a) adaptable to the ethnic, cultural, and linguistic diversity of Los Angeles County IDUs; (b) inexpensive and reproducible enough to maximize the possibility of adoption by outreach programs that serve IDUs; (c) comprehensive enough to address the needs of IDUs across a spectrum of HIV awareness and risk-reduction practices; (d) accessible enough to facilitate HIV counseling and testing on-site; and (e) able to provide feedback on whether IDUs sought the services to which they were referred.

Using the formative research, we designed an intervention with three components: (a) *storytelling* allowing the outreach worker to help the IDU recognize personal HIV risk behaviors and learn about or reinforce intentions to reduce risk behaviors; (b) a *referral tracking system* to help outreach workers follow up on the IDUs' use of the services to which they were referred; and (c) an *outreach worker-administered HIV testing program* that facilitated fingersticks on the street to enable outreach workers to test a target population reluctant to seek this service in clinical settings.

RATIONALE FOR STORYTELLING

During the formative research, we routinely observed the setting in which outreach workers delivered their services to IDUs. One observation, consistent throughout the county, concerned the use

of pictures as a common method of communicating ideas in the communities where outreach was conducted. In many communities, particularly communities of color, murals, usually painted by local artists, adorned the walls of public and private buildings, cinder-block fences, and freeway overpasses. These murals tended to be colorful, highly complex, and symbolic. Thus, the use of visual art in the communities where outreach was conducted was viewed as an important consideration in designing the intervention. The fact that many IDUs mentioned the need for new materials or for materials that better reflected their communities also influenced the design and format of the visuals. The need for HIV interventions with an emphasis on cultural appropriateness has been documented (Stevenson, McKee & Josar, 1995; Weeks, Schensul, Williams, Singer & Grier, 1995). It was determined that the required pictures needed to be complex enough to engage the viewer, to stimulate introspection, and to span the ethnic and cultural diversity of Los Angeles County IDUs. We excluded written messages from the visuals so that the outreach worker and IDU dyad could work together to develop a story for each picture.

In contrast to the generic role-model stories used in CDC's community demonstration projects for HIV prevention (McAlister, 1997), storytelling allowed the IDUs, assisted by outreach workers, to generate their own stories from a set of illustrations. The IDUs' stories often told of specific risk behaviors that the IDU might have been engaging in, the consequences of these behaviors, and risk-reduction strategies to be reinforced by the outreach worker. The outreach worker would begin by asking the IDU what was happening in a particular picture. Three key sentences were used to help the IDU: "Tell me what is happening in the picture." "What are the people doing?" "What are they saying?"

RELATIONSHIP OF THE STORYTELLING MODEL TO LEVEL OF STAGE OF CHANGE

The storytelling also allowed the project to incorporate the theoretical foundation of the stages-of-change model. Outreach workers used the storytelling as a prelude to questions that specified each of the five stages of change through which people typically progress when changing behaviors: precontemplation, contempla-

tion, ready-for-action, action, or maintenance. (See Fishbein and Rhodes [1997] for how the stages-of-change model can be applied in HIV prevention.) Once the clients had been placed in one of the five stages, a clear and succinct risk-reduction message appropriate for that stage was given.

DEVELOPING THEMES FOR STORYTELLING ILLUSTRATIONS

Because the formative research showed that condoms and bleach continued to be used inconsistently, we designed the illustrations to address three specific risk-reducing behaviors: (a) consistent use of condoms, (b) consistent use of new injection equipment, and (c) consistent bleaching of shared injection equipment. A multistage process, drawing on the in-depth interviews with IDUs in the second part of the formative research, was used to produce the illustrations: (a) determining the IDUs' view of the behaviors that placed them at risk of contracting HIV; (b) identifying themes in IDUs' open-ended responses associated with risk-taking behaviors; (c) rating these themes for importance and applicability to IDUs, by a sample of IDUs and outreach workers; (d) selecting risk-behavior themes on which to focus the illustrations; (e) identification of an appropriate artist; (f) repeatedly testing sketches with IDUs and then refining the illustrations; (g) producing final illustrations; (h) training outreach workers to use the illustrations; and (i) implementing and evaluating the intervention (see List 1).

Using the information from the CAP in-depth interviews with IDUs, we selected 40 narrative themes. Many were the verbatim statements of active IDUs. A convenience sample of 20 IDUs from two communities closest to where the AESOP research would be conducted and the outreach staff (10 in all) at two agencies serving these communities were asked to rate each of the 40 narrative themes on three scales: (a) the degree to which the theme was applicable to their community of IDUs; (b) the degree to which the theme was important to their community; and (c) whether or not the theme should be included in new materials. Feedback from outreach workers was important because of their expertise in working with the target population. On the basis of this review, sex and drug themes were prioritized for inclusion in the illustrations.

LIST 1 DEVELOPING ILLUSTRATIONS FOR INTERVENTION
<p>Characteristics of Ideal Intervention</p> <ol style="list-style-type: none">1. Adaptable to multiple cultures and languages2. Flexible to address clients' range of needs and preparedness3. Inexpensive and easy to reproduce
<p>Steps in Appropriate Interventions</p> <ol style="list-style-type: none">1. Collect formative information on clients' needs and current interventions.2. Use the comprehensive baseline report of HIV epidemiology and drug use.3. Conduct a community assessment of IDUs and service agencies.
<p>Development of Visuals</p> <ol style="list-style-type: none">1. Survey IDUs to determine their perceived HIV risk behaviors.2. Recognize themes from IDUs open-ended responses.3. Rate IDU themes by IDUs and outreach workers.4. Select major risk-behavior themes.5. Select and orient an artist.6. Repeat field testing and refine illustrations.7. Produce final illustrations.8. Train outreach workers.9. Implement and evaluate.

PRIORITY THEME FOR SEXUAL BEHAVIOR

The sex theme given highest priority by IDUs and outreach workers was "My woman would be offended if I started talking about condoms." This theme had been a consistent issue not only for male but also for female IDUs and may have been related to the lack of condom use during vaginal sex with main partners that was consistently recorded in the Los Angeles AESOP survey data. Conversations with IDUs and outreach workers had indicated that (a) male IDUs were frequently concerned about using condoms with their main partners because their partners might become suspicious about their fidelity; (b) female IDUs were not always in control of the decision to use condoms with main partners, although they might have more control in using condoms with casual partners; and (c) both men and women were concerned about their partner's possible reaction to their request to use condoms. Possibilities for addressing this theme in the storytelling intervention were (a) increasing men's and women's awareness that their partners may be equally concerned about the other's perceptions of suggestions to use condoms and (b) modeling skills used to discuss and negotiate condom use.

PRIORITY THEME FOR INJECTION BEHAVIOR

The injection theme that received the highest priority rating from IDUs and outreach workers was "I use my own outfit [injection equipment] most of the time." The baseline survey data supported this statement. Data indicated that most respondents had used a brand-new outfit for their most recent injection or one that had not been used by anyone else. However, 21% reported using a shared needle "sometimes," "almost every time," or "every time" they injected. Two of the remaining five priority themes related to the availability of bleach or new injection equipment were "When I'm sick, I can't waste time looking for bleach or a new outfit" and "What do you do when there is no bleach around?"

Providing users with strategies for dealing with the theme of using one's own outfit most of the time was an important focus of the storytelling model. The strategies included (a) reinforcing sole use of an outfit; (b) reinforcing the desire to avoid situations in which outfits are used by a group; and (c) examining other situations

related to sharing, specifically, sharing when experiencing symptoms of withdrawal and sharing when one's outfit is blocked or otherwise nonfunctional, and developing strategies to avoid injecting in those situations.

PRODUCING ILLUSTRATIONS

SELECTING THE ARTIST

The intervention required the services of an artist who could produce illustrations similar to the indigenous art produced throughout the county and who could visually represent the complexity of the messages selected for focus. Once an artist whose work generated a similar feeling of depth, complexity, and engagement had been found, the next challenge was to explain to the artist the need for the materials and the messages to be conveyed.

We took him through a process to increase his understanding of the risk behaviors that the target population engaged in and of the barriers to risk reduction that IDUs faced. First, a session was held to familiarize the artist with the statistics on Los Angeles County IDUs. This included a discussion of the diversity of the target population, variation in risk behaviors, and the critical problems of the IDUs contacted during outreach. Second, written stories based on the two priority themes were provided to the artist to help him understand the narrative themes.

Several sketches were produced for the "I Don't Share" message. It was determined that the needle-sharing message would require three pictures to convey its complexity. The artist, using information about risk behaviors and barriers to reduction, developed three sketches.

INVOLVING THE TARGET POPULATION AND FINE-TUNING THE ILLUSTRATIONS

The rough black-and-white sketches were taken into the field for testing with current IDUs. Two sites afforded a setting amenable to in-depth interviews with the IDUs. IDUs were shown one

sketch and asked to tell the interviewer what was happening in the picture. Stories and explanations by the IDUs were analyzed for content by members of the AESOP staff. The three injection-related illustrations generated stories that were surprisingly close to the messages that had been selected for focus. From the preliminary sketches, the artist painted watercolor versions to be tested in the field.

Testing the watercolors indicated a need to adjust the colors, not only for emphasis of specific aspects of the illustration but also to reflect the multicultural setting in Los Angeles. Several flesh tones were thus used for the people in the pictures. Some figures were presented as neither male nor female to allow outreach workers to use the illustrations to depict individuals of either sex and of any ethnicity (see Figures 1, 2, and 3).

Although completing the three illustrations that addressed different aspects of the "I don't share message" was relatively simple, it proved difficult to make an appropriate illustration to address sex-related risk behaviors. The initial sketches presented to AESOP staff members were either too broad or did not focus on HIV. One sketch presented to the target population, although it addressed the complexity of sex-related risk behaviors, did not focus sufficiently on HIV. A second sketch, much closer to the original "Not with my man or woman" story, still did not focus attention on HIV. Despite the initial intention to exclude text from the visuals, it was determined that the word *HIV* needed to be added to the final sketch. With the addition of *HIV*, the message became very clear to the IDUs who tested the illustration (see Figure 4).

Figure 1.



Figure 2.



Figure 3.

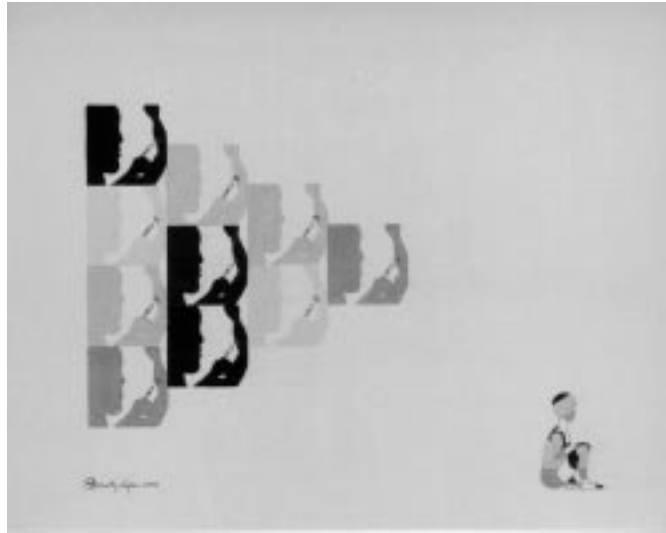


Figure 4.



Source for illustrations: Michael Taylor, Los Angeles, copyright 1994

TRAINING OUTREACH WORKERS TO USE STORYTELLING AND ILLUSTRATIONS

Several factors were considered in designing the outreach worker training. It was clear from the field observations and formative research data that some outreach workers were reluctant to use new methods to reach clients. Many outreach workers had been in the forefront of responding to the HIV/AIDS crisis early in the epidemic and considered their background and experience in providing street outreach services to IDUs more applicable than the interventions developed by researchers. There was a strong concern that research-based interventions simply "would not work" in the field. It was clear that the training would need to build upon workers' current wealth of knowledge rather than attempting to supplant their tools and talents with new interventions.

Moreover, to move from the storytelling model to staging clients for risk-reduction messages, outreach workers required working knowledge of the theoretical foundation of the interventions. Thus, outreach workers needed to be trained to use the pictures on the street, both to elicit risk-behavior information and to teach and reinforce risk-reduction behaviors. It was decided that two training sessions would be held—the first on the use of the illustrations and the second on staging clients for readiness to adopt three risk-reduction behaviors (see List 2).

During the first training session, trainers introduced outreach workers to the purpose and the use of the illustrations in assessing the client's needs and current risk behaviors and to the stages-of-change model. They presented drafts of the illustrations and gave outreach workers the opportunity to practice using the materials with one another through role playing. The emphasis during the first session was on outreach workers' becoming comfortable with using the illustrations in a variety of contexts.

During the first training session, some outreach workers, especially many of the veteran staffers, expressed apprehension about using the illustrations. Some stated that they would feel "silly" or "stupid" showing people pictures and asking them "a lot of questions." Others expressed concern that it would be too time consuming to use all four illustrations during every one of their

LIST 2
CONTENT OF TRAINING SESSIONS FOR
OUTREACH WORKERS

Session 1: Teaching and Reinforcing Risk-Reduction Skills with Illustrations

- Purpose of illustrations
- Review draft illustrations
- Assessing client needs and risk behaviors
- Providing risk-reduction messages and strategies
- Introduction to stages-of-change model
- Using illustrations to get information
- Using illustrations as a teaching tool
- Role-playing exercise
- Questions and discussion

Session 2: AESOP Stages-of-Change Training

- Review of illustration-using intervention
- Review of stages-of-change model
- Review of risk behaviors and risk-reduction behaviors
- Steps in staging clients
 - screening the client
 - assessing the risk behavior
 - assessing intentions
- Exercises
 - identifying client's level of stage of change
 - obtaining additional information

outreach contacts and encounters. It was explained that the illustrations were designed for intensive work with clients and that not all illustrations would be used during each encounter. The initial training session included discussions on selecting specific clients and situations in which to use the intervention and on selecting appropriate illustrations to use with specific clients. Outreach workers were encouraged to practice using the draft illustrations with one another until the second training session.

The second session focused on formalizing the client staging procedure. Once the storytelling model had been implemented, outreach workers learned to use standard questions and forms to specify and record clients' levels of stage of change. Outreach workers were given an opportunity to practice staging clients with one another, and their proficiency was assessed.

IMPLEMENTATION

Final, full-color illustrations were printed on 4" × 5" cards. Before distributing the cards, AESOP staff members personalized the cards for each outreach team by adding a label bearing the name, address, and phone number for the outreach program. The cards and staging sheets were then delivered to the outreach team. AESOP staff members accompanied each outreach team as the outreach teams began using the cards. Staff members observed outreach workers' use of the card, judged whether outreach workers had determined the correct stage, and spoke briefly with the outreach worker's client. Members of the AESOP staff reviewed initial interactions with the outreach worker and provided feedback to try to maximize outreach workers' effectiveness in implementing the intervention.

As the outreach workers used the cards, it became clear that much of the initial intent in the planned design of the visual had been realized. According to extensive observations by the research team, the storytelling intervention was engaging and held the attention of target populations longer than standard outreach did. The illustrations stimulated the IDUs to examine their HIV risk behaviors, and IDUs began to relate their own stories of risk behavior to the pictures. Outreach workers became adept at using

the cards to engage clients who were reluctant to discuss their HIV risk behaviors or to focus the attention of a client on a particular consequence of that client's. One unanticipated effect of the visuals was the promotion of group discussions in the field. Once one IDU would become engaged with the picture, peers would become curious and join in the conversation. At times, three or four clients engaged in group discussions regarding possible interpretations of the illustrations, frequently pointing out different aspects of HIV risk behaviors as well as methods of prevention.

CONCLUSIONS

The cultural and social diversity of the Los Angeles County IDU population required a strategy that was adaptable, inexpensive, and portable to sites and segments of the target population throughout the county. The advantage of the storytelling approach was that it could be presented in a variety of outreach settings, could be implemented with persons at various literacy levels, and could be easily adapted to the cultural needs of each segment of the target population. It was also a natural lead-in to staging clients for risk reduction.

The development of any risk-reduction intervention requires careful consideration of the target population's needs as well as of the settings in which learning and behavior change take place. Programs considering the storytelling model are cautioned to work carefully with the target community, outreach workers, and other service providers during each step of development and implementation. It is important to remember that the messages, illustrations, and format of the illustrations must be consistent with the needs of the target population.

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ELEMENTS OF AN
INTENSIVE OUTREACH PROGRAM
FOR HOMELESS AND RUNAWAY STREET YOUTH IN
SAN FRANCISCO

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In 1991, the Centers for Disease Control and Prevention (CDC) initiated the AIDS Evaluation of Street Outreach Projects (AESOP), a program designed to evaluate the effectiveness of intensive HIV prevention outreach programs for high-risk populations. Nationally, AESOP comprised three youth sites and five sites for injection drug users. Details of the overall AESOP project are provided elsewhere (Anderson et al., 1996). The San Francisco Department of Public Health–AIDS Office contracted with the Haight-Ashbury Free Medical Clinics to develop ongoing HIV prevention outreach programs tailored to the youth subcultures and many marginalized youth who congregate in that neighborhood.

Before the implementation of AESOP, no consistent outreach efforts were specifically targeting youth in the Haight-Ashbury neighborhood of San Francisco. Therefore, AESOP presented the opportunity to design a comprehensive HIV prevention program for homeless and runaway street youth. The result was an innovative set of community-level interventions that developed from needs and ideas expressed by the youth. We describe the multifaceted intervention developed by the Haight-Ashbury Youth Outreach Team (HAYOT) and the AESOP staff. Although HAYOT continues to provide services to youth, the intervention period was September 1993 through October 1995 (the AESOP study period).

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THE INTERVENTION

The intervention included traditional street outreach (CDC, 1993), a youth center developed to provide HIV prevention services, and youth subculture-specific prevention activities and educational materials. Although elements of each of these three components were present throughout the study period, the program focus differed over time to meet the needs and interests of youth. The initial emphasis of the intervention was basic street outreach. As youth attendance at youth center activities increased, staff time on the streets decreased. Youth involvement in the development of subculture-specific activities and materials (Schein, Yeager, Young, Shapiro & Gleghorn, 1996; Slotnick & Daly, 1996) changed according to youth interest.

STREET OUTREACH ACTIVITIES

Staff outreach. Street outreach was conducted by community health outreach workers (CHOWs) and peer health educators. CHOWs went out on the streets to contact youth with another CHOW or a trained peer. All outreach staff attended outreach worker training sponsored by the City and the County of San Francisco. Peers did not go out without a CHOW. During the initial 3 months of the project, CHOWs typically spent 30 hours per week doing street outreach; during later phases of the intervention, staff spent approximately 15 hours per week doing outreach on the streets.

Contact locations. Outreach activities took place in a six-block area of Haight Street and in two parks that border this area. Sites where youth frequently congregated included street corners, parks, and outside local businesses. Sites were specified in preliminary research.

Contact target. CHOWs visually assessed youth in contact locations to determine which youth might be part of the target population of homeless or runaway youth or youth involved in the street economy. Target youth were typically distinguished by the condition of their clothing, particularly shoes, and poor hygiene. Youth who were panhandling were also targeted.

Contact restrictions. CHOWs did not approach youth who seemed to be actively involved in a drug transaction, youth participating in a violent action, youth interacting with the police, or youth involved in any situation that made the CHOW feel unsafe. Youth who seemed under the influence of drugs or youth with active psychosis were not approached if the CHOW did not feel safe. CHOWs offered information on the center's services to youth who panhandled in lieu of handouts.

Basic street contact. Basic street contact was defined as a brief (usually 30 seconds) interaction between the CHOW and target youth in street locations. Following the model of basic street outreach (CDC, 1993), the interactions typically had four elements: (a) introduction—the CHOW told the youth his or her name and introduced himself or herself as an outreach worker from the HAYOT; (b) check-in—the CHOW asked how the youth was doing and whether the youth needed anything; (c) information—the CHOW told the youth the location of the youth center and gave the youth a schedule of services (showers, meals, women's time); and (d) distribution of materials—the CHOW gave the youth condoms and bleach kits. Since the beginning of outreach activities, CHOWs have distributed information sheets on needle exchange locations. CHOWs began distributing a referral sheet, a flyer with information on services for youth in the Haight, in October 1994. Although condoms were distributed, a basic street contact generally did not involve discussion of sexual behaviors unless initiated by the youth. On the basis of the conversation, CHOWs would encourage a youth who seemed to need more extensive contact to come to the HAYOT center at the youth's convenience to talk with an outreach worker. Occasionally, the CHOW accompanied the youth to the center for an immediate extended session (described in later section). Also on rare occasions, the CHOW would give a youth referral information on the street, without an extended session.

HAYOT YOUTH CENTER ACTIVITIES

The Youth Center is centrally located in the target area, one level above the street, in a renovated Victorian house that also houses other offices. The Youth Center has several offices, a kitchen, shower facilities, a small room for individual counseling, a larger room for group discussions, a hall with displays of resource

materials and youth art, and an outdoor deck and eating area. The center offers HIV prevention services and limited youth-support services. The Youth Center, developed to provide outreach services for youth for AESOP, is officially a branch of the Haight-Ashbury Free Medical Clinics, Incorporated. The center is staffed by a coordinator, two to four CHOWs, and two to three peer outreach workers. One intern from a local university has also worked at the center.

Extended sessions. The most common prevention service at the Youth Center was extended sessions, which were defined as any discussion of center services or a youth-identified problem between CHOWs and a youth at the center. These contacts lasted from 10 minutes to 1½ hours. The issues raised by youth most commonly involved medical concerns, HIV or sexually transmitted disease (STD) issues (including testing), housing, drug use and treatment, and legal problems. Extended sessions were usually initiated by youth who came to the center for assistance. Approximately 80% of those who came to the center for support services (described later in this section) and approximately 50% of youth who had had a basic street contact also had an extended session. During the extended session, CHOWs typically tried to address the youth's immediate needs first (e.g., overdose issues, medical care, housing, and employment) and then discussed HIV prevention in terms of sex and drug-using behaviors. If necessary, CHOWs demonstrated how to use a condom or use bleach to clean drug equipment. Such demonstrations were often used to initiate discussion.

Referrals. Approximately 75% of youth were given referrals during extended sessions. Referrals were made for services provided by agencies other than the center. Most commonly, the CHOW made the appointment for the youth (if appropriate) and wrote the location, phone number, and appointment time on an appointment card. Most referrals were for medical services, STD testing or treatment, obstetrics and gynecology, HIV testing, drug treatment, housing, and employment. All referrals included appointments unless the agency was closed at the time of the extended session or the agency had drop-in hours only. Most referrals were to agencies in close proximity to the Haight neighborhood. Bus tokens were commonly given to help the youth keep the appointment; sometimes incentives such as T-shirts were given later if the youth could prove that he or she had kept the appointment.

Very rarely, the CHOW took a youth to the referral appointment, but this was not encouraged by HAYOT.

Harm-reduction groups. In October 1994, the center began conducting harm-reduction groups. Youth were offered incentives (usually pizza) to be part of a small working group that was responsible for creating educational materials. Youth first listed the topics that were important to them, and then they chose the topic that they wanted to work on during a particular session. Topics have included abscess care, needle exchange, safer shooting practices, safer sex, alcohol abuse, and overdose. After choosing a topic, youth worked together to come up with the information that they wanted to include on a harm-reduction educational card. After the cards were planned, HAYOT staff were responsible for producing the harm-reduction cards. Staff tried to have the card ready within 2 days after the harm-reduction group meeting. Completed cards were placed in the center with the other educational materials, and CHOWs distributed them on the streets while doing outreach. CHOWs made a special attempt to find youth who had participated in the creation of the cards to show them the end product and get their feedback. If youth were interested, CHOWs gave them a stack of cards to distribute to their peers. Twelve harm-reduction cards were developed and distributed during the study. Every card bore the HAYOT address and phone number, and youth were encouraged to hold onto as many cards as possible. Community events were planned at which youth were given prizes for possessing harm-reduction cards.

Women's groups. In September 1995, the center began conducting prevention groups for young women. Female HAYOT staff recruited young women to develop education-information cards specifically for their female peers. During the study, four cards were developed by these groups. The topics included pregnancy and local prevention services for women. The procedure for the development and distribution of the women's cards was the same as that for the harm-reduction cards.

Educational materials. Two types of educational materials were available at the center. Informational pamphlets from local agencies offering a variety of services were displayed, and youth could take these with them. In addition, the 12 harm-reduction cards

and 2 of the women's cards created by and for youth were available at the center.

Educational videos. The center also showed educational videos when youth were waiting for an extended session or other services. If HAYOT staff members believed a youth would benefit from a particular video, they had that youth watch the video before or after an extended session. Eight videos dealing with street life, drug use, or safer sex were available at the center. Also available was an educational video made for HAYOT by the rock group, the Grateful Dead, targeting Deadhead youth (described in Materials for Youth Subcultures). During the rainy season, HAYOT staff occasionally rented a movie that addressed youth-relevant topics, such as drug use, and showed it to a larger group of youth. Discussion groups with staff, which focused on issues raised by the movie, typically followed the screening.

Drug treatment. Because few youth-oriented drug-treatment services were available, the center offered limited drug-treatment services for youth trying to terminate drug use. Services through the center included discussions with youth about drug use and drug treatment issues, and a structured, 21-day nonmethadone medical drug-treatment program conducted in conjunction with Haight-Ashbury Free Medical Clinics, Inc. If youth were 18 years of age and interested in a methadone program, they were referred to another program (Haight-Ashbury Free Clinics does not offer methadone programs).

Youth interested in the HAYOT drug-treatment program scheduled an intake appointment with a senior staff member. These intake appointments took approximately 1½ hours and were limited to two per week. The intake consisted of information for admission to the clinic program. After the intake, center staff accompanied youth to the Haight-Ashbury Free Medical Clinic, where they received a physical exam, saw a psychiatrist, and were given medication to ease withdrawal symptoms. By seeking drug-treatment services through HAYOT, youth were able to skip the usual waiting list for treatment. After youth were enrolled in the drug-treatment program, they checked in at the center at noon each day. Youth had a brief counseling session at the center before going to the clinic to pick up their medication. Youth who arrived more than 15 minutes late were not able to get medications that

day. Youth enrolled in the program could receive center support and prevention services at any time during center hours. If they needed more extended counseling, center staff helped them get an appointment with a psychiatrist at the Haight-Ashbury Free Medical Clinic.

After 21 days, a youth who was drug-free could continue to come to the center for counseling and assistance with housing and employment. Youth who relapsed during the 21-day period could continue the clinic program throughout the 21-day period. After 21 days, a youth who had relapsed or was still using could not reenter the program for an additional 30 days. Youth also were encouraged to attend Alcoholics Anonymous or Narcotics Anonymous meetings as well as other counseling. Support groups were attempted at the center but were discontinued because of a lack of interested youth and a lack of adequate staff.

General merchant contact. When the project was initiated in September 1993, general contact was begun. Most of the merchants on Haight between Masonic and Stanyan were contacted in person by CHOWs and given information about the location and the services offered to youth through HAYOT. Selected merchants whose businesses were patronized by youth had ongoing relationships with the project. Twenty merchants allowed the HAYOT to put HIV posters targeting Deadhead and punk youth in their stores. Two merchants gave food coupon vouchers to HAYOT, which distributed them as incentives (e.g., for participation in harm-reduction groups). Five merchants assisted the project by distributing condoms supplied by HAYOT in their stores. Two of these merchants also began supplying bleach to youth as of January 1994. As of August 1995, an estimated 250 bottles of bleach and 12,000 condoms had been distributed to neighborhood merchants.

Community events. Six community events took place during the study period. These events had HIV prevention themes and targeted youth, local merchants, or youth service providers.

Event 1, held in January 1994, targeted youth. The main focus of the event was the Grateful Dead HIV prevention video that was developed for the project (described in Materials for Youth Subcultures). Youth were invited to come to the center for a premiere

showing (60 youth came). A local merchant donated 60 coupons for free ice cream, and the Grateful Dead donated 12 concert tickets for a raffle that accompanied the event. Food and refreshments were followed by an introduction to the video and then a showing. After the video, there was time for comments from the youth.

Event 2, held in July 1994, also targeted youth. Youth were invited to come to the center for food and to pick up socks (30 came). Youth were separated into different rooms to discuss different issues related to youth services, drug use, and living in squats. The information was recorded and used in the development of a zine (described in Materials for Youth Subcultures) targeting punk or squatter youth.

For *Event 3*, held in September 1994, merchants were invited to the center (5 came). Food was offered, and HAYOT staff showed them the Grateful Dead and punk posters (described in Materials for Youth Subcultures). Although only 5 merchants came to the event, 20 merchants in the community agreed to put the posters in their place of business.

Event 4, also held in September 1994, targeted service providers. Other community-based organizations that work with youth were invited to the center for an open house (40 people came). Food was served, and HAYOT raffled program T-shirts. The main purpose of the event was to network and keep referral relationships with other agencies strong.

Event 5, held in September 1995, targeted service providers. This event was similar to Event 4; its primary goal was strengthening referral networks. Forty providers attended the event, at which food was served and T-shirts were raffled.

Event 6, also held in September 1995, targeted youth. The purpose of the event was for youth to complete an open-ended survey to evaluate HAYOT and the services they received there. Fifty youth attended the event and completed the surveys. Incentives for youth consisted of T-shirts, food, and socks.

YOUTH SUPPORT SERVICES

Limited support services were offered at scheduled times during regular center hours. These services—showers, meals, and women's time—were provided, unless otherwise noted, on a first-come, first-served basis.

Showers. Services, scheduled on separate days for males and females, included access to the shower and the provision of shampoo, soap, and a towel. Showers were offered in 2-hour blocks four times a week—twice for women, twice for men. The center can accommodate approximately five youth per hour for showers.

Meals. Meals were provided 2 days per week for 1 hour. They consisted of food obtained from the food bank that week. In order to serve as many youth as possible, youth were encouraged to take portable food (for example, soft drink cans, sandwiches, and fruit) with them, rather than eating all food on the premises. To maintain center security, meal admission was limited to 10 youth inside the center at a time. The center typically served 30 youth per meal.

Women's time. To facilitate contact with young women, the center initiated a special time for women to visit the center and discuss their concerns. Women's time ran for 3 hours once a week and overlapped with one of the women's shower times. All women who came to the center for women's time were admitted. Two female staff members (one peer and one CHOW) were available during women's time; male staff remained out of sight during these hours. Services included conversations with staff, snacks, showers, and OB/GYN information and referrals.

MATERIALS FOR YOUTH SUBCULTURES

Preliminary ethnographic research distinguished two predominate youth subcultures in the study area: *hippie* or *Deadhead* youth and *punk* or *squatter* youth. Approximately half of the youth in AESOP identified with one of these two groups. Each group has distinctive value system, norms for appearance, artistic and musical preferences, and acceptance of different types of drug use. Because of these subcultural differences, HIV prevention materi-

als were developed for each group. A variety of products were produced for each subculture. The Grateful Dead band cooperated in the production of two products for hippie and Deadhead youth: a video and a condom cover. Posters were developed from focus groups of youth from each subculture. A core group of punk or squatter youth developed zines and a referral card oriented to their peers. We used the following seven steps in developing these materials:

1. Gained an understanding of the community
2. Focused on a subculture
3. Organized a core group from the subculture
4. Supported the core group's development and production of activities or materials
5. Supplied the core group with the necessary resources
6. Evaluated the finished product
7. Developed new products

Deadhead video. AESOP staff collaborated with HAYOT and the Grateful Dead to produce a 5-minute video promoting condom use and safe needle hygiene among the band's followers. The AESOP coordinator, working with the Grateful Dead's publicist, secured an interview with band member Bobby Weir to discuss HIV risk behaviors and prevention strategies, which would serve as the centerpiece of the video. Before the interview, AESOP and HAYOT staff held focus groups with Deadhead youth living on the street to formulate questions for Mr. Weir. Project staff interviewed Mr. Weir and then shot footage of Deadhead youth before a Grateful Dead concert in discussion about their own risk behavior. The resultant footage was shown to another focus group, and the youth selected the segments they thought would have the most effect. The final video integrated concert footage, clips of young Deadheads talking about their risk for HIV, and Bobby Weir discussing HIV prevention strategies. A major community event was held before the premiere of the video at the HAYOT Center, and a number of tickets to the next Grateful Dead concert (donated by the Grateful Dead) were raffled to youth. To take part in the raffle, the youth had to complete a short HIV questionnaire and then dis-

cuss their answers with the outreach workers. The video was also shown at the center to interested youth. As of November 1995, 150 youth had seen the video.

Deadhead condoms. AESOP worked in coordination with the Grateful Dead's publicist to secure the use of their "Steal Your Face" logo on condom packets. The condom packets bore the logo and included instructions for condom use and referral numbers for HAYOT, the California Youth Crisis Line, and the National AIDS Hotline. A total of 10,000 condom covers were produced. By the end of the study period, 5,000 condoms had been distributed by HAYOT.

Posters and T-shirts. Hippie, Deadhead, punk, and squatter youth worked with community artists and AESOP and HAYOT staff to produce two HIV prevention education posters. A series of focus groups were held separately with youth from each subculture group. In the focus groups, youth actively participated in creating slogans and designs that would appeal to their peers. Community artists were recruited to donate their time to design images. The tentative poster designs were reviewed in youth focus groups and one-on-one interviews, and suggested changes were incorporated. Five hundred posters and 200 T-shirts were produced and distributed to youth and community merchants in 1994 and 1995.

Dope Productions. The zines and referral cards described in the next two sections were produced by a core group of punk and squatter youth who organized and named themselves Dope Productions. Dope Productions grew out of a series of focus groups designed to elicit input from youth about materials development. Youth expressed a desire to continue this type of work and suggested forming an informal production company committed to creating educational materials by youth for other youth. The name Dope Productions, agreed upon by a group of 12 street youth, refers to dope as slang for any type of drug as well as a colloquialism meaning "exceptional."

Zine. A zine is a type of underground magazine that originated in the punk subculture. HAYOT and AESOP collaborated with a group of young injection drug users living in abandoned buildings to produce, design, write, and distribute a zine specifically for

their community. Initially, the youth were individually recruited from the streets and from three squats to take part in a community event designed to form a core group committed to writing and editing the publication. Ice cream vouchers, pizza, and socks were offered as incentives for participation in the initial meeting. The core group discussed harm-reduction theory and how it could be applied to reduce the risks their peers faced. The youth were then trained in basic computer graphic skills and worked with two facilitators to organize other youth to produce writing and art. Articles in the zine addressed the needs, concerns, and beliefs of the squatting population; topics ranged from prostitution and squatting ethics to safer shooting techniques. Youth integrated comprehensive harm-reduction information about needle hygiene, needle exchange, and condom use, as well as service referrals, throughout the publication. By the end of the AESOP study, two issues of the zine had been produced, and 200 copies of each had been distributed to street youth in San Francisco.

Referral card. Youth from the zine core group worked with an AESOP organizer to put together a hand-held resource card specifically designed for youth on the street in the Haight. Three youth discussed the array of services available in the city and then, working with the organizer, drew up a list of those most important and accessible to Haight street youth. Then youth reviewed the services, listing the pros and cons of each. Very short reviews of 11 essential services were fitted into a small accordion-folded card. The card began with the most basic, practical, and easily accessible services and moved on to other services. Also described were the procedures by which youth could easily access that particular service. The card covered a range of youth outreach services: where to shower and snack, free food, nighttime services, youth shelters, youth needle exchange, medical clinics, women-specific services, and youth services outside the Haight. Youth contributed images and helped to design the artwork on the front cover. By the end of the study, outreach workers had distributed 300 referral cards to youth.

In our evaluation of youth exposure to, and interest in, subculture-specific HIV prevention materials (Gleghorn, 1997), we found that these materials may have differential appeal for the various youth subgroups. In general, targeted subgroups had the highest exposure rates for materials oriented to their subculture. How-

ever, hippie or Deadhead materials seemed to have broad appeal, as measured by exposure among the subgroups; hippie and Deadhead youth had lower exposure to, and higher rejection of, materials designed for punk and squatter youth. Youth who chose not to identify with a specific subculture also showed moderate levels of exposure to, and acceptance of, the subculture-specific prevention materials. Although the use of subculture-specific HIV prevention materials holds promise for reaching high-risk street youth, future research should explore factors related to the rejection of materials and whether youth acceptance of outreach materials translates into participation in HIV prevention activities and decreased risk behaviors.

SUMMARY

After AESOP ended, HAYOT received other funds to continue their outreach efforts. By combining street outreach, Youth Center activities, and subculture-specific materials, the program developed a comprehensive intervention that increased youth contact with outreach and prevention services (Gleghorn et al., 1997). Following the seven steps to involve youth in developing HIV prevention activities, innovative, subculture-specific interventions continue to evolve through the HAYOT. The comprehensiveness of the program contributed to the program's success in reaching high-risk youth.

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ASSOCIATION BETWEEN SELF-IDENTIFIED
PEER-GROUP AFFILIATION AND
HIV RISK BEHAVIORS
AMONG STREET YOUTH

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Well into the second decade of the acquired immunodeficiency syndrome (AIDS) epidemic, infection with the human immunodeficiency virus (HIV) is the leading cause of death among Americans aged 25 to 44 years. As of June 1996, 548,102 cases of AIDS had been reported to the Centers for Disease Control and Prevention (CDC), and 343,000 deaths had been attributed to AIDS or AIDS-related causes (CDC, 1996). Clearly, efforts to quell the epidemic have been unsuccessful. Adolescents are increasingly being recognized as a segment of the population that is at high risk for HIV infection (Vermund, 1997). Because of the long latency between infection and the onset of symptoms (mean, 12 years), many of the 19,997 infected persons in the 20-to-24 age group are likely to have been infected during their adolescence (Kipke, Futterman & Hein, 1990).

Inner-city "street" youth have recently been recognized as a segment of the adolescent population that is at particularly high risk for HIV infection (Kipke, O'Connor, Palmer & MacKenzie, 1995). The street youth population comprises youth who are out of school and unemployed, involved in the juvenile justice system, runaway or homeless, a member of a gang, undocumented, or involved in drug dealing and street prostitution. These youth are believed to be on the streets for myriad reasons, including poverty in the home that necessitates their working on the streets to supplement the family income, rejection by parents or guardians, violence in the home, or drug or alcohol use by family members

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(Bond, Mazin & Jiminez, 1992). Although the exact size of this population is unknown, it is estimated that 750,000 to 1.5 million youth run away from their homes each year (U.S. Department of Health and Human Services, 1983). Of these youth, one quarter are believed to be chronically homeless (i.e., without a family to return to and without a permanent or stable residence). It is estimated that as many as 4% of the runaway or homeless youth population are currently HIV infected (Rotheram-Borus, Koopman & Ehrhardt, 1991).

There are a number of reasons why the street youth population may be at increased risk for HIV infection. First, there is growing evidence to suggest that an alarming number of these youth abuse alcohol and use other substances, including drugs that they inject (Fullilove et al., 1993; Kipke, Montgomery & MacKenzie, 1993; Robertson, 1989; Yates, Pennbridge, Cohen & MacKenzie, 1988). Alcohol and other drug use has been highly correlated with HIV risk-related sexual behaviors among these youth (Kennedy, Greenberg, Clatts, Kipke & Mills, 1994; Kipke et al., 1995). Second, many of these youth are involved in "survival sex" (i.e., the exchange of sex for food, shelter, clothes, money, drugs, or money to purchase drugs) (Anderson, Pennbridge & Freese, 1994; Rotheram-Borus et al., 1992). It is estimated that nearly 45% of the street youth population engage in survival sex and that condom use is sporadic and inconsistent with "paying partners" (Anderson et al., 1994; Kipke et al., 1995). Youth involved in survival sex are therefore likely to be at increased risk for exposure to HIV through unprotected sexual intercourse with multiple high-risk sex partners.

A third possible reason, which is just now being explored, is peer-group affiliation and the influence of peer norms or perceived peer norms that may further encourage risky sex and drug-using behaviors and discourage protective, or preventive, behaviors. This reasoning is consistent with the suggestion that peers influence adolescents to engage in a variety of problem behaviors (Brown, Clasen & Eicher, 1986; Elliott, Ageton, Huizinga, Knowles & Canter, 1983; Jessor & Jessor, 1977). For example, adolescents who smoke, drink alcohol, and are sexually active usually have friends who participate in these same behaviors (Biglan et al., 1990; Dinges & Oetting, 1993; Ennett & Bauman, 1993; Mosbach & Leventhal, 1988; Newcomb & Bentler, 1989; Oetting & Beau-

vais, 1986). According to peer cluster theory (Oetting & Beauvais, 1986), peers are a primary influence on the drug-using behaviors of adolescents. Peers who use drugs together form groups; the group uses drugs at particular times and places; and the members of the group share ideas, values, and beliefs about drugs. Peer groups may consist of crowds or large groups of youth, small groups of friends, or dyads such as best friends or couples, which are characterized by the primary activities and attitudes of their members. Peer clusters are often close, and members have been found to significantly influence one another; within drug-using peer clusters, drugs play an important part in defining the group, shaping typical behaviors, and maintaining the group identity and structure (Oetting & Beauvais, 1986).

Other research suggests that adolescents tend to identify with discrete groups (Larkin, 1979; Light & Keller, 1979), that youth give names to the groups with which they identify (Mosbach & Leventhal, 1988; Sussman et al., 1990), and that group membership is closely tied to behavior (Dolcini & Adler, 1994). Two studies investigated whether identification with discrete adolescent groups was predictive of tobacco use. Mosbach and Leventhal (1988) and Sussman et al. (1990) assessed group identification by asking adolescents to identify the one peer group that they felt most a part of. The names were then grouped into five main categories: *hot-shots*, *regulars*, *jocks*, *skaters*, and *dirts*. Hot-shots, or popular teens, were described as leaders in school activities, such as academic activities. Regulars were described as resembling the "normal," or "typical," teen. The jocks were described as having a strong interest in team sports activities. Skaters were described as placing importance on outdoor skateboarding. Finally, the dirts were described as exhibiting problem-prone attitudes or behaviors that included low self-esteem, risk-taking behaviors, and drug use. Both studies found that youth who identified themselves as belonging to the dirts were more likely than other groups to smoke cigarettes. In a longitudinal study, 7th grade group self-identification predicted 8th grade cigarette smoking, whereas 7th grade cigarette smoking did not predict 8th grade group self-identification (Sussman et al., 1994).

In a recent study conducted with street youth, acculturation to the streets and integration into the street economy were largely influenced by associations with other street youth (LaFrance,

Pennbridge & Casey, 1992). Using qualitative research methods, the researchers suggested that the street youth population is heterogeneous and comprises several street youth subcultural groups. Although the self-identification of youth “new-to-the-street” was defined according to their culture of origin (i.e., their specific ethnic group or community affiliation), fully acculturated youth were affiliated with one of the street youth subcultural groups. LaFrance proposed that street-acculturated youth abandon the cultural affiliation they leave home with to embrace a new street identity based on their identification with a subcultural street group. Most of the street-acculturated youth were affiliated with one of five street groups: (a) *punks* or *skinheads*, characterized by their antiestablishment attitudes and opinions and physical appearance (e.g., multicolored hair or shaved heads, multiple piercings); (b) *hustlers*, characterized by their involvement in survival sex or prostitution; (c) *druggies*, characterized by their use, including injecting, dealing, and sharing of drugs; (d) *gang members*, or youth who are members of a gang; and (e) *loners*, or youth who reportedly do not affiliate with other groups or are rejected by groups because of their inability to conform to group norms or rules. Loners were also described as having more serious mental health problems. Each street youth group demonstrated its own unique pattern of survival with respect to places they stayed or slept, means of financial support and economic subsistence, and their use of medical and social services. Thus, although the experiences and backgrounds of street youth may be diverse, this research suggests that most of these youth share a need for acceptance and support from other youth who are hanging out or living on the streets. Youth who are new to the streets may search for and join other street youth as a means of protection (i.e., there is safety in numbers). Peers may therefore provide not only companionship but guidance in how to survive on the streets. Peers may also influence the development of risk-taking behaviors.

The purpose of this study was to conduct epidemiologic research to further characterize the street youth population with respect to these street youth groups and more specifically the effect of self-identified peer-group affiliation on youths’ use of alcohol and other drugs and involvement in HIV risk behaviors. A common methodologic limitation of research conducted with runaway or homeless youth is the reliance on convenience samples recruited

from shelter and drop-in centers. These findings cannot be generalized to youth who do not use these services, who may account for as much as 60% to 70% of this population (Kipke, O'Connor, Palmer & LaFrance, 1993), or to street youth who are not homeless but who are otherwise largely "hidden." To overcome this limitation, we used a stratified probability sampling design to recruit youth from shelters and drop-in centers as well as from street and other natural hangout locations.

Our study adds to the literature by (a) assessing street youth, with whom little research has been conducted, (b) using a representative sampling design with service and natural hangout sites, (c) using self-identified peer-group affiliation to define membership, and (d) using street youths' own reports to estimate peer drug use and risk behavior (rather than relying on perceptions of peers' behavior). We hypothesized that there would be reported differences with respect to alcohol and other drug use and involvement in HIV risk-related sex and drug-using behaviors according to street group affiliation. This research was conducted in the Hollywood area of Los Angeles, California, an urban setting with a large street youth population and an area where runaway and homeless youth are known to congregate (Kipke et al., 1995).

METHOD

SETTING, SAMPLING DESIGN, AND RECRUITMENT PROCEDURES

Youth were eligible to participate in the research if they were 12 to 23 years of age and (a) living on the streets without their families for 2 or more consecutive months or (b) fully integrated into the "street economy." By definition, youth integrated into the street economy meet their subsistence needs through participation in one or more of the following survival strategies: prostitution or survival sex (defined as the exchange of a sexual favor for money, food, a place to stay, clothes, or drugs), pornography, panhandling, stealing, selling stolen goods, mugging, dealing drugs, or engaging in "scams" or "cons."

An initial field assessment was conducted to estimate the number of street youth in Hollywood on any given day, the percentage of youth believed to use shelters and drop-in centers, and to identify natural hangouts. On the basis of the findings from this assessment, two distinct yet similar sampling frames were developed: one recruited from 8 "fixed," or service, sites (e.g., shelter, drop-in, and meal programs) and one from 73 "natural" street or hangouts (e.g., street corners or highly populated blocks, parks, alleys, bars, fast-food restaurants). Field research, observation, and service provider data further suggested that sampling in shelters and drop-in centers alone would miss a considerable percentage of the street youth in Hollywood who were disinclined to use these services. Given our broader definition of street youth (i.e., integrated into the street economy) and studies that have relied largely on samples recruited from shelters and drop-in centers, we constructed our sampling design to recruit hard-to-reach subpopulations of street youth, including street youth who were not homeless and street youth who might not be using the services of shelters and drop-in centers. This was accomplished by oversampling from natural street and hangout sites: we recruited 70% of the sample from natural sites (thereby oversampling by 20% from these sites) and 30% from fixed sites.

A Statistical Analysis Software (SAS) computer program (SAS Institute, Cary, North Carolina) was developed to randomly select and order locations for interviewing teams (each comprising two to four members). This program took into account two important aspects of the sampling design. First, with evidence that nearly 65% of street youth are not using services, the selection was weighted to ensure that a larger proportion of street locations were chosen (70%), thereby increasing the probability of recruiting youth who were not using services. Second, all fixed and natural locations in the pool of potential sampling sites were proportionally weighted, based on the number of youth who typically congregated at that location during the initial field assessment. Thus, locations with a higher volume of youth had a greater probability of being selected by the computer random selection program than locations with lower volumes. Assignments were also made according to high-frequency times of day and days of the week. Assignments were made weekly.

Youth selected for recruitment were asked 12 questions to determine eligibility. If eligible, youth were asked to participate in a 15- to 20-minute structured interview called the AIDS Evaluation of Street Outreach Projects (AESOP) Street Intercept. A subset of items was developed to assess peer-group affiliation. These items were examined relative to other items in the AESOP Street Intercept that assessed youths' involvement in HIV risk-related sex and drug-using behaviors, their contact with outreach workers, and their use of shelters and drop-in centers. Youth received \$3 in fast-food vouchers for completing the screening instrument and \$7 in vouchers for completing the Street Intercept. Data were collected by a team of interviewers (aged 21 to 25 years) who had extensive training and experience in field research techniques (e.g., identifying and engaging potential clients, interviewing techniques).

The data reported here were collected by using a subset of items that assessed respondents' self-identified peer-group affiliation, lifetime and recent (past 30 day) use of illicit substances, and involvement in HIV risk-related sexual behaviors. These data was obtained from youth enrolled in the study during five 2-month cross-sectional waves of data collection: January and February 1993 (Wave 1, n = 204), May and June 1993 (Wave 2, n = 205), November and December 1993 (Wave 3, n = 163), March and April 1994 (Wave 4, n = 177) and October and November 1994 (Wave 5, n = 211). Data were collected in waves according to a schedule developed for this CDC-funded cooperative agreement research project. Across these five waves, 1,455 youth were approached; of those, 1,163 volunteered to complete the screening instrument. Of youth who were screened, 154 were ineligible (14%), and 275 (19%) refused to participate. The most common reason for refusing to participate in the study was that the youth were "too busy" (e.g., hustling, dealing drugs) to complete the survey. These response rates should be considered a minimum estimate, given that not all potential respondents were perceived as approachable (e.g., because an illegal drug transaction was taking place). Preliminary analyses revealed no significant differences in refusal rates by gender or race. There were, however, significant age differences in refusal rates; younger youth aged 12 to 15 years were least likely to refuse to participate compared with those aged 16 to 18 years ($P < .001$) who in turn were less likely to refuse to participate than were the older youth, aged 19 to 23 years ($P < .001$).

Peer-group affiliation was assessed by giving respondents a list of street youth groups compiled from earlier ethnographic research. Respondents were asked, "Who would you say you are most like or spend the most of your time with?" The research received formal institutional review board approval, and all clients signed an informed consent form before completing the screening and survey instruments.

DATA ANALYSIS

All analyses were performed by using the SAS for personal computers. Demographic variables (age, gender, race) were used to characterize the street youth groups. Rates of drug use were computed for self-reported recent use (past 30 days) of alcohol and marijuana (at least once per week), lifetime use of other substances (i.e., cocaine; crack cocaine; methamphetamine, or "speed;" heroin; the combination of heroin and cocaine, or "speed-ball"; opium; D-lysergic acid diethylamide, or LSD; mushrooms; peyote; and phencyclidine, or PCP), lifetime involvement in injection drug use, and needle-sharing and needle-cleaning behaviors during most recent injection. Using a risk-and-dependency spectrum (Gable, 1993), we grouped drugs into three broad categories according to their dependency potential—lethal dose, effective dose, and acute toxicity: (a) high risk and high dependency (HRHD), (b) high risk and low dependency (HRLD), and (c) low risk and low dependency (LRLD). Gable found a differential margin of safety between drug groups. HRHD drugs (i.e., cocaine, crack cocaine, methamphetamine, heroin and cocaine in combination, heroin alone, opium, and alcohol) are described as having a moderate-to-severe risk of fatality and a moderate-to-very-high potential for dependency. HRLD drugs (i.e., mescaline and ecstasy) have the same range of fatality risk as HRHD drugs yet have a decreased potential for dependency. Alternatively, LRLD drugs (i.e., LSD, mushrooms, peyote, and marijuana) have a low-to-negligible risk of fatality and a much lower dependency potential than have HRHD drugs.

Sexual behaviors included number of sex partners, involvement in sexual intercourse while high on drugs or alcohol, and involvement in survival sex (ever). We defined a sexual encounter as engaging in vaginal or anal intercourse. Other indices of HIV risk

assessed included prior infection with sexually transmitted disease (STD) and perceived risk for infection with an STD or HIV. Previous research conducted with runaway or homeless youth suggests the need to distinguish primary and other sex partners (Anderson et al., 1994). The survey instrument therefore made this distinction: a primary partner was defined as a "main or steady sex partner or someone that is important or special" (e.g., girl- or boyfriend, or lover), and other partners were defined as "someone other than your main partners" (e.g., casual or survival sex partners). Condom use at most recent sexual encounter with each partner type was computed.

Chi-square analyses were performed to determine significant differences across the five waves of data collection. These analyses revealed that the proportion of youth in each peer group differed by wave (chi square = 69.9, $P < .001$). Specifically, youth interviewed in the later waves were more likely to be punks or skin-heads (51% of Wave 5 vs. 23% in Wave 1), and youth interviewed in the earlier waves were more likely to be in the "other" affiliation category (32% in Wave 1 vs. 15% in Wave 5). Therefore, we controlled for wave in all subsequent analyses. It is also important to note that this research was conducted as part of an evaluation of street outreach services and that the enhanced interventions were delivered after the second wave of data collection. By controlling for wave in later analyses, we also controlled for potential intervention effects on the behaviors of youth within these peer groups. Next, multiple regression analyses were performed with SAS general linear models to determine whether peer-group affiliation was a significant predictor of alcohol and other drug use and of sex and drug-using behaviors. The final regression model, which was significant at $P < .05$, used Tukey's honestly significant difference (HSD) to identify which groups differed on the dependent variables at the .05 level. Finally, odds ratios were computed in logistic regression models to calculate the relative risk of engaging in each behavior for youth in each peer group compared with youth in all other peer groups.

RESULTS

SAMPLE CHARACTERISTICS

Youth ranged in age from 13 to 23 years; nearly 80% were aged 16 to 21 years (Table 1). Most of these youth were male (71%), and the males were significantly older than the females ($t = 7.81$, $P < .0001$). More than half (51%) were Caucasian, and 49% were members of ethnic minority groups: African American (20%), Latino (15%), Native American (5%), Asian/Pacific Islanders (2%), or another ethnic minority group (6%). Of the 752 youth in the study, 69% reported that at the time of the interview they were living on the streets, in a squat or shelter, or in an abandoned building. Of youth who were living on the streets or without a place of their own, most had done so for 1 year or more (51%); 14% reported having been without a place to stay or a place of their own for 6 months to 1 year; and 35% for less than 6 months. Of the 31% who had some other place to stay at the time of the interview, 69% had lived in their own house or apartment within the past 12 months, and 62% had stayed with family or some other relative. However, most of these youth reported having been precariously housed at some time during the past 12 months, either by staying at a friend's house or apartment (80%), with a boyfriend or girlfriend or lover (58%), in a foster home or group home (28%), or at a halfway house or treatment center (10%).

In response to the list of peer groups, 36% responded that they were most like or identified with punks or skinheads, 14% with gang members, 12% as loners, 10% as hustlers (most were involved in the sex trade), and 7% as druggies (most were involved in drug running or dealing). Of youth who did not identify with one of these groups, 9% identified with some other specified group (e.g., *surfers*, *Deadheads* [followers of the Grateful Dead rock band], gay or lesbian youth not involved in the sex trade or survival sex, *drag queens* or *transgender*) although each group accounted for no more than 2% of the total sample. Twelve percent identified with some other group not listed as a response option—*taggers*, *squatters*, *musicians*, *ravers*, or *rockers*; each of these groups accounted for no more than one to two youth. Thus, 22% of the sample were included in an “other” affiliation category.

Between-group comparisons revealed that punks or skinheads were significantly more likely to be Caucasian (70%) than were gang members or loners (Table 1). Gang members were significantly more likely than all other groups to be African American (44%), and druggies were significantly more likely to be male than were hustlers and youth in the "other" category (56%) (Table 1). With respect to age, hustlers were significantly older than all of the other groups (mean, 19.2 years), and gang members were the youngest of the groups (mean, 17.7 years); the mean ages for the other groups were 19.1 years for the loners, 18.5 years for the punks or skinheads, and 18.4 years for the druggies.

DRUG-USING PATTERNS

Rates of alcohol and other drug use were remarkably high among the youth in this sample (Table 2). Specifically, 75% reported ever having used a substance in the HRHD drug category: 66% reported ever having used speed, 52% ever having used cocaine, 41% crack cocaine, and 41% alcohol at least once a week. Thirty-seven percent reported having used HRLD drugs (32% reported ever having used ecstasy, 17% reported ever having used mescaline) and 88% reported having used an LRLD drug (65% reported ever having used LSD, 50% ever having used mushrooms, 22% ever having used peyote, and 45% reported ever having used marijuana at least once per week). Of the sample, 37% reported ever having injected drugs; of those, 58% reported having injected within the past 30 days, and 45% reported having shared their needle or equipment at their most recent injection; 82% reported having cleaned their needle with bleach at their most recent injection.

Analyses further revealed significant differences between the peer affiliation groups with respect to alcohol and other drug use (Table 2). Specifically, youth affiliated with the punks or skinheads, druggies, and hustlers were significantly more likely than all other groups to report having used a greater number of different drugs in all three of the drug risk categories. Odds ratios further revealed that punks or skinheads, as compared with all other groups, were nearly three times more likely than the other groups to have used cocaine and speedball, and four times more likely to have used opium. Both punks or skinheads and druggies, compared with all other groups, were three times more likely to report

the use of heroin and mushrooms, four and two times (respectively) more likely to have used speed, two times more likely to report the use of crack cocaine, and four times more likely to use alcohol at least once per week. In contrast, gang members and loners were groups least likely to report use of HRHD drugs, particularly cocaine, speed, speedball, and heroin. Gang members were, however, four times more likely to have used marijuana at least once per week compared with all other groups; hustlers and loners were the least likely to use marijuana with this frequency.

Punks or skinheads were also most likely to report ever having injected drugs, and gang members were the least likely to report ever having injected drugs. There were no significant differences among the groups with respect to needle sharing and cleaning practices (gang members were not included in this analysis given the low prevalence of injection drug use).

SEXUAL RISK BEHAVIORS

The study youth had also engaged in a number of HIV risk-related sexual behaviors, including survival sex (32%), sex with multiple partners (32%), sexual intercourse while high (51%), and unprotected sexual intercourse with primary (48%) or other (27%) sex partners during most recent encounter (Table 3). Of the sample, 18% reported having been given a diagnosis of an STD, yet only 47% perceived themselves at risk for an STD; 59% perceived themselves at risk for HIV infection. As was true for drug use, there were distinct risk patterns among youth according to peer-group affiliation, although the patterns were fewer. Specifically, punks or skinheads were most likely to have been “high” during their most recent sexual encounter (71%), and hustlers were significantly more likely to have engaged in survival sex (81%), to have had multiple sex partners (72%), and to have been given a diagnosis of an STD (31%). There were no significant differences between the groups with respect to use of a condom during the most recent sexual encounter or the perceived risk for an STD or HIV infection. Remarkably, 78% of the sample reported having been tested for antibodies to HIV. There were, however, no significant between-group differences with respect to whether youth had been tested.

DISCUSSION

Despite efforts to reach this very important, yet largely hidden, population and our efforts to overcome the limitations of earlier studies (i.e., convenience sampling at service locations), there are some limitations to this study. First, the findings rely on clients' self-reported behaviors, which cannot be independently verified. The levels of use of alcohol and other drugs and the levels of sex and drug-using behaviors (e.g., survival sex, needle sharing) may underestimate their prevalence, given that many of these behaviors are illegal and socially undesirable and because the data were collected by an interviewer who was not known to the youth before the interviews. A second limitation is that the data are cross-sectional and therefore do not contain information about the temporal relationship between clients' introduction to the streets, selection of, or affiliation with, a peer group, and involvement in risky behaviors. Thus, no statements can be made about the causal relationship between peer-group affiliation, peer norms or perceived peer norms, and drug-using and HIV risk behaviors. Finally, although this sample is likely to be representative of the street youth population in the target geographic area, it is unclear how generalizable these findings are to street youth populations in other cities (e.g., Boston, New York, San Francisco). Future research should continue to use street-based probability sampling techniques to evaluate similarities and differences among street youth populations from different geographic areas.

Despite these limitations, this study provides evidence that the street youth population in Hollywood comprises several groups that differ with respect to members' involvement in alcohol and other drug-using and HIV risk behaviors. These findings are significant for a number of reasons. First, they suggest the need to further define the street youth population and differences with respect to health problems and risk profiles according to self-identified peer-group affiliation. Whereas growing evidence suggests that inner-city street youth are at increased risk for the abuse of alcohol and the use of other substances (Fullilove et al., 1993) and HIV transmission (Kipke et al., 1995), these findings suggest that interventions be tailored to meet the specific needs and risk profile of each segment of the larger street youth population. Future research and service delivery efforts should therefore

begin systematically addressing the diversity of this population. Future research is also needed to more fully characterize behavioral differences between subcultural groups, particularly with respect to health and risk profiles. Attempts to replicate these findings in other urban settings would also be of interest.

Second, these findings suggest that peers may influence street youth both negatively and positively. For example, our findings suggest that gang members were at less risk for the use of HRHD drugs, for involvement in injection drug use, and for sexual intercourse with multiple partners. Little research has examined the social networks of street youth, the process by which youth become affiliated with street peer groups, or the influence of peer-group pressure, values, norms or perceived norms on youths' behavior. Research is therefore needed to more fully characterize the importance of peer relationships among these youth and the effect of these relationships on street youths' involvement in risky as well as preventive behaviors.

Finally, our findings suggest that there is some urgency in the need to intervene with this population. Designing interventions that challenge street youth to engage in health-promoting behaviors is, at best, a difficult task. Our findings suggest that it may be beneficial to develop interventions or intervention approaches that match the different street youth groups. Transitioning them off the streets or into more stable living circumstances may be the long-term goal. More information, however, is needed—from research and service demonstration projects—to guide the development of intervention strategies that will identify, engage, and change the health and risk profiles of these youth. Interventions may also need to be tailored to address the unique risk profile of each social peer group.

Street outreach has recently been demonstrated to be an effective strategy for reaching persons who are not served by traditional health care programs and who are at risk for HIV transmission (Wieble et al., 1996). Popular outreach approaches attempt to engage high-risk persons through the distribution of bleach and condoms, needle cleaning and condom demonstrations, and role-playing of safer sex techniques. Other findings suggest that outreach and prevention efforts must be delivered in settings where the target population can be found and must be staffed by people

who know the community's values and norms, speak the language of those whom they are seeking to attract, and are trusted by members of the target community. A growing literature demonstrates the effectiveness of peers, both as outreach workers (the indigenous leader model) and behavior change specialists. Thus, one promising intervention might use peers to conduct street outreach to youth, matching peers to the characteristics, values, and norms of the different street youth subcultural groups (e.g., hiring youth who can serve as positive role models, who are or were homeless, punks or skinheads, formerly involved in survival sex, former gang members). Outreach workers might be effective interventionists for changing peer norms and encouraging youth to seek services, promoting preventive behaviors, and discouraging risky behaviors.

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Table 1. Demographic Profile of Study Sample

Risk	Total N = 750 %	Punks n = 264 %	Druggies n = 54 %	Hustlers n = 72 %	Gang n = 106 %	Loners n = 89 %	Other n = 165 %	HSD %
Gender								
Male	71	64	54	94	61	74	80	18
Female	29	36	44	6	39	26	20	18
Ethnicity								
Caucasian	52	70	67	53	23	45	41	19
African American	19	7	20	21	43	24	19	16
Latino	15	11	7	17	22	13	23	15
Asian/Pacific Islander	2	2	0	3	2	3	4	6
Other	11	10	24	7	10	15	8	9
Age (years)								
13-15	9	5	9	11	22	4	8	12
16-18	41	49	43	25	40	38	39	20
19-21	39	39	41	46	32	38	41	20
22-23	11	7	7	18	7	19	12	13

HSD — honestly significant difference. A means of comparing columns for minimal percentage difference required for significance of $P < .05$. For example, in the first row, males account for 64% of the punks. The only group outside the 18% HSD range (i.e., 64% + 18% = 82%) is the hustlers, at 94%.

Table 2. Rates of Lifetime Substance Use for Each Peer Youth Group

Risk	Total N = 750 %	Punks n = 264 %	Druggies n = 54 %	Hustlers n = 72 %	Gang n = 106 %	Loners n = 89 %	Others n = 165 %	HSD %
High risk & high dependency								
Cocaine	75	92 ^b	80 ^{bc}	86 ^b	61 ^d	58 ^d	63 ^{cd}	17
Crack	52	70 ^b	59 ^{bc}	58 ^{bc}	31 ^d	41 ^{cd}	44 ^{cd}	20
Speed	41	46 ^{bc}	52 ^b	54 ^b	31 ^d	38 ^{bc}	35 ^{bc}	20
Speedball	66	85 ^b	74 ^{ac}	65 ^{cd}	52 ^d	53 ^d	53 ^d	19
Heroin	26	41 ^b	33 ^{bc}	18 ^{cd}	12 ^d	23 ^{cd}	19 ^{cd}	18
Opium	28	46 ^b	37 ^{ac}	21 ^{cd}	9 ^d	23 ^{cd}	16 ^d	18
Alcohol ^a	25	40 ^b	17 ^c	16 ^c	10 ^c	17 ^c	14 ^c	17
	41	59 ^b	43 ^{bc}	33 ^c	44 ^{bc}	25 ^c	26 ^c	20
High risk & low dependency								
Mescaline	37	52 ^b	30 ^{cd}	44 ^{bc}	22 ^d	29 ^{cd}	33 ^{bcd}	20
Ecstasy	17	23 ^b	13 ^b	15 ^b	13 ^b	15 ^b	10 ^b	15
	32	45 ^b	24 ^{cd}	41 ^{bc}	19 ^d	22 ^{cd}	30 ^{bcd}	19
Low risk & low dependency								
LSD	88	96 ^b	93 ^b	83 ^{bc}	88 ^{bc}	79 ^c	77 ^c	14
Mushrooms	65	84 ^b	76 ^b	46 ^c	50 ^c	52 ^c	48 ^c	19
Peyote	50	68 ^b	61 ^b	41 ^c	28 ^c	38 ^c	36 ^c	20
Marijuana ^a	22	32 ^b	20 ^{bc}	17 ^{bc}	17 ^{bc}	17 ^{bc}	12 ^c	17
	45	46 ^{bc}	44 ^{bc}	35 ^c	59 ^b	35 ^c	30 ^c	20
Ever injected drugs	37	52 ^b	38 ^{bc}	34 ^{bc}	13 ^d	45 ^b	24 ^{cd}	21
Shared needle at most recent injection	45	41 ^b	53 ^b	36 ^b	—	58 ^b	40 ^b	52
Cleaned needle at most recent injection	82 ^b	76 ^b	90 ^b	—	—	86 ^b	—	61

HSD—honestly significant difference. A means of comparing columns for minimal percentage difference required for significance of P < .05.

— Percentages were not calculated for cells with fewer than 10 observations.

^aPercentage who use at least once per week.

b, c, d Percentages with the same letter are not significantly different at P < .05.

Table 3. Risk Behaviors, by Peer Youth Group

Risk	Total N = 750 %	Punks n = 264 %	Druggies n = 54 %	Hustlers n = 72 %	Gang n = 106 %	Loners n = 89 %	Other n = 165 %	HSD %
Condom use, most recent sexual encounter								
Main partner	52	50 ^a	50 ^a	44 ^a	62 ^a	35 ^a	50 ^a	38
Casual partner	73	72 ^a	65 ^a	73 ^a	65 ^a	83 ^a	81 ^a	29
Sex while high, most recent encounter	51	71 ^a	52 ^{ab}	39 ^b	56 ^{ab}	33 ^b	41 ^{ab}	31
Survival sex (ever)	32	19 ^d	41 ^{bc}	81 ^a	19 ^d	29 ^{cd}	48 ^b	18
Multiple partners, past month	40	34 ^b	35 ^b	72 ^a	31 ^b	31 ^b	44 ^b	20
Prior STD	18	17 ^{ab}	24 ^{ab}	31 ^a	18 ^{ab}	15 ^b	15 ^{ab}	16
Tested for HIV	78	76 ^a	72 ^a	87 ^a	73 ^a	81 ^a	82 ^a	17
Perceived risk for STD	47	50 ^{ab}	34 ^b	61 ^a	45 ^{ab}	51 ^{ab}	47 ^{ab}	21
Perceived risk for AIDS	59	65 ^a	61 ^a	63 ^a	51 ^a	65 ^a	59 ^a	21

HSD—honestly significant difference. A means of comparing columns for minimal percentage difference required for significance of $P < .05$.

a,b,c Percentages with the same letter are not significantly different at $P < .05$.

ENHANCED STREET OUTREACH AND CONDOM USE BY HIGH-RISK POPULATIONS IN FIVE CITIES

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and Robin MacGowan^{*}*

AESOP was a 5-year, multifaceted evaluation of street outreach interventions to injection drug users (IDUs) and high-risk youth, which was conducted in six cities in the United States. We summarize one aspect of the research project: surveys of IDUs and youth that were conducted as part of a quasi-experimental research design before and after enhancement of outreach activities. The objectives of the surveys were threefold: to measure changes in HIV-related risk behavior, to measure changes in exposure to street outreach workers, and to measure the association between interaction with street outreach workers and condom use.

METHODS

STUDY DESIGN

We used a quasi-experimental research design. Collaborating research teams in each of six cities selected study and comparison areas for their high-risk population. The study and comparison areas were selected for similarity of risk-group characteristics (age, race/ethnicity) and risk group behavior. Each area also needed adequate numbers of the group of interest and some level of street outreach programs in both areas. Researchers in Philadelphia, Chicago, and Atlanta focused on IDUs. San Francisco

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researchers focused on youth. In Los Angeles and New York, separate teams focused on youth and on IDUs. In some cities, study and comparison areas included multiple geographic areas, reflecting the spread of IDUs or youth in that geographic area. Street outreach enhancements targeting sex and drug-using behaviors were developed and implemented in the study areas only. These ranged from a “rubber room” in a health clinic, where youth could obtain condoms and health information, to a mobile van for HIV counseling and testing and other medical services for IDUs. Enhancements differed by city (see the Results section). A series of cross-sectional surveys were conducted both in the study and comparison areas. Each site conducted a minimum of two pre-enhancement rounds of interviews approximately every 3 months from January through August 1993 and two postenhancement rounds during 1994 and 1995, once the enhancements had been fully implemented for at least 3 months. In this paper we compare aggregated data from the two rounds of preenhancement surveys with two rounds of postenhancement surveys for five sites.

ELIGIBILITY

Eligible IDU respondents were defined as persons within the geographical boundaries of the intervention or comparison area who had injected illegal drugs in the past 3 years. (In three cities—Atlanta, Los Angeles, and Philadelphia—up to 30% of the sample were allowed to be persons who had used crack cocaine in the past month but who had not injected in the past 3 years). Eligible youth respondents were defined as youth aged 12 to 23 years who had been recurrently without shelter during the past year, without permanent shelter for 2 months, or derived their livelihood from the street economy (drugs, prostitution, panhandling, crime). For each research team, the goal was to complete 200 interviews in the study area and 200 in the comparison area during each round of the survey.

SAMPLING

Street outreach takes place in the natural setting of the IDU and high-risk youth populations; thus, we needed methods by which to obtain respondents in their communities, not in clinic, shelter, or other institutional settings. Because the behaviors that defined these risk groups (e.g., prostitution, panhandling, drug dealing or injecting illegal drugs or smoking crack) are not common in the general population and because many group members would not have been located through phone or residence surveys, standard survey sampling methods were not possible. Systematic sampling methods were designed to reduce the sources of bias to a minimum and to produce comparable repeat samples over several waves of interviewing (Anderson et al., 1996). (See the Methods section for a detailed description of sampling methods and Kipke, Unger, Palmer, Iverson, and O'Connor in this monograph for how these methods were applied at the Los Angeles youth site).

Interviewers were required to keep track of the numbers of refusals and eligible clients who did not complete interviews. At all sites, clients were offered cash or food incentives to participate. Overall response rates combining nonresponse for refusals before screening and for noncompletion of the interview by eligible respondents ranged from 73% to 99% (overall rate, 90%). These response rates should be considered approximate: it is likely that not all potential respondents were approached, because they were not seen or were determined unapproachable (e.g., because an illegal drug transaction was taking place).

We present data from five groups of researchers who participated in AESOP: two groups that focused on youth (Children's Hospital of Los Angeles and the AIDS Office of the San Francisco City Health Department) and three groups that focused on IDUs (University of Illinois at Chicago, Los Angeles County AIDS Office, and Philadelphia Health Management Corporation). These groups had collected four rounds of data—two before the enhanced intervention and two after the enhancement was in place.

STATISTICS

Dependent variables. The main dependent behavioral variables were six measures of condom use during most recent sexual encounter. Condom use variables were measured separately for vaginal, anal, and oral sex, and for main and casual partners. Note that these behaviors were not measured for the entire sample, but only for those who engaged in this particular activity (e.g., anal sex with casual partner). Condom use is a dichotomous measure of whether condoms were used during the most recent sexual encounter. The two waves of pre- and postenhancement data were aggregated to form one set of pre- and one set of postenhancement scores.

Predictor variables. In addition to location (study area versus comparison area) and time period (pre- versus postenhancement), we examined the relationship between risk behavior and predictor variables that have been associated with condom use: background factors (age, sex, race/ethnic group, support through street economy), sex behavior variables (types of partners, number of partners, exchange of sex for needs, sexual orientation, carrying condoms), and drug-related behavior (injection history, needle sharing, crack use, drug treatment history). We also examined exposure to street outreach programs in the past 6 months, measured by yes-or-no variables (talked with outreach workers; received condoms, material, or bleach from outreach workers). Statistical significance between the pre- and postenhancement rounds was evaluated by using chi-square measures for percentages.

Multivariate modeling. In using the quasi-experimental design to assess the effect of enhanced street outreach interventions on condom use, we were looking for the effect of greater condom use in the study area during the postenhancement period. Logistic regression models to measure this took the following form:

$$\text{condom use} = \text{study area} + \text{postenhancement period} + \text{postenhancement study area}$$

That is, we looked for regression effects of being in the study area, of being in the postenhancement period, and an interaction term measuring the effects of being in the postenhancement study area. A positive coefficient (or odds ratio of greater than 1.0) for the

interaction term is consistent with effectiveness of the enhancement under the assumptions of the quasi-experimental research design. These three terms were included in every model. The models were computed in two ways: including only those three terms and including the three terms plus a series of covariates measuring respondent characteristics, risk behaviors, and contact with outreach programs. Stepwise modelling methods were used to reduce the number of covariates to those that were significant at the .05 level in the final models.

Some of the predictor variables can be considered intermediate variables. For this reason, we also looked at logistic regression analysis to determine the factors associated with getting condoms from outreach workers and with having condoms at the time of interview. To the extent that these factors affect condom use and are in turn associated with enhanced programs, the programs can be said to have indirect effects on condom use.

RESULTS

CHILDREN'S HOSPITAL OF LOS ANGELES

This project evaluated street outreach services provided by several agencies in the Hollywood area. The study and comparison areas were Hollywood and downtown San Diego. The enhanced intervention centered on the opening of a storefront center (the rubber room) for the distribution of condoms and the provision of other services to street youth. The total enhanced outreach program contained the following elements: (a) interagency outreach coordination, (b) peer outreach team, (c) rubber room, (d) small print media, and (e) referral to needle exchange program.

The characteristics of survey respondents in the pre- and postenhancement periods were similar in the study and comparison areas. Even the differences that were statistically significant did not seem to be meaningful differences. For example, in the postenhancement period, 100% of respondents had lived on the street in the past year compared with 93.7 % in the preenhancement period—a significant difference, but probably not representative of a substantive difference between the samples.

For the respondents' reported contact with AIDS-related street outreach services, there were no statistically significant differences between the pre- and postenhancement periods. Pre-enhancement levels of contact were quite high in the intervention area—64.9% of respondents had spoken with an outreach worker in the past 6 months, and 54.6% had received condoms. In contrast, in the comparison area (downtown San Diego) only 20.7% had talked with outreach workers in the past 6 months, and 12.9% had received condoms. Differences in exposure to outreach were controlled in the logistic regression analyses.

Specific survey questions were added to measure contact with the enhanced street outreach intervention in the study area. Of the youth, 30% reported having visited the rubber room, and 12% reported having received condoms there; 29% reported having received condoms from an outreach worker from AESOP. Regardless of pre- or postenhancement, the percentage of respondents who used condoms during the most recent sexual encounter differed by the pattern mentioned earlier: condom use was higher for casual partners and was highest for anal sex, followed by vaginal and oral sex.

Logistic regression results indicate that being in the postenhancement study area (the quasi-experimental effect of interest) was not statistically significantly associated with condom use during most recent vaginal sex for main or casual partners (Table 1). Getting condoms from outreach workers was a strong predictor of having condoms for youth who reported main (odds ratio [OR], 2.5; confidence interval [CI], 1.5–4.2) and casual (OR, 2.4; CI, 1.5–4.0) partners. With respect to using condoms during most recent vaginal sex, at postenhancement 47.6% of youth reported having used condoms with main partner, and 71.8% reported having used condoms with casual partners. Having a condom at interview was associated with higher odds of having used condoms during most recent vaginal sex with main (OR, 2.3; CI, 1.5–3.6) and casual partners (OR, 2.1; CI, 1.3–3.5).

Many of the high-risk youth interviewed had had contact with street outreach workers in the pre- and postenhancement periods in the study area. High levels of preenhancement contact in the study area probably made large increases in exposure to outreach in the postenhancement period difficult. No statistically signifi-

cant increases in condom use were noted. However, there was a strong link between condom use, having condoms, and getting condoms from outreach workers, which suggests the need to encourage the carrying of condoms, especially by high-risk youth in the Hollywood and San Diego areas, for whom spontaneous sex is probably the norm.

SAN FRANCISCO CITY HEALTH DEPARTMENT

The study area was the Haight-Asbury District in San Francisco, where high-risk youth congregate; the comparison area was a group of outlying areas where street youth with similar characteristics were to be found (Arcata, Berkeley, Eureka, and Santa Cruz). The enhanced intervention was the Haight-Ashbury Youth Center, a storefront operation that was developed especially for AESOP. The youth center fielded a street outreach team that provided (in addition to standard outreach services) referrals for medical, drug treatment, and other services. (See Gleghorn et al. in this monograph for a detailed description.) Community activities were sponsored at the youth center: discussion groups, women's shower times, community-designed HIV prevention posters, a Grateful Dead prevention message video and Grateful Dead logo condoms, and outpatient drug treatment services.

Survey data indicate that the youth interviewed in the study and comparison areas were similar. In the study area, there were some differences of interest between the pre- and postenhancement periods. Respondents in the later period were less likely to be male and more likely to inject drugs and use crack cocaine. Contact with outreach programs was higher in Haight-Ashbury than in the outlying areas for both periods. In the study area, there were statistically significant increases from pre- to postenhancement in the percentage of high-risk youth who reported having talked with outreach workers and received materials from them. High-risk respondents in Haight-Ashbury reported considerable contact with the Haight-Ashbury outreach center: 60.1% had heard of the center, and 36.5% had received services there.

In San Francisco, there were no significant differences pre- and postintervention between study and comparison youth to indicate a change to safer behavior, defined as condom use during most

recent sexual encounter by type of partner and type of sex. Multivariate logistic regression analysis (Table 2) indicates that being in the postenhancement study area was not significantly associated with condom use for main or casual partners. Having a condom at interview, however, was associated with higher likelihood of use during most recent vaginal sex with main partners (OR, 2.4; CI, 1.3–4.4). For respondents with main partners, having a condom at interview was, in turn, strongly associated with having received condoms from outreach workers (OR, 3.4; CI, 1.8–6.4).

Survey results for San Francisco indicate increased contact with outreach programs in the study area during the postenhancement period. The survey also measured a substantial amount of contact with the youth center by youth contacted on the street in the Haight-Ashbury District. Although no apparent behavior change was measured through two rounds of postenhancement surveys, the data do indicate the importance of street outreach programs' providing condoms to youth and encouraging youth to carry them.

UNIVERSITY OF ILLINOIS AT CHICAGO

The Chicago project evaluated street outreach to IDUs in inner-city neighborhoods. The study area was west of the Loop, and the comparison area was near the Southside. The enhanced intervention centered on services delivered from a mobile van that provided on-site HIV counseling and testing. Additional enhancements included increasing the number of outreach workers, escorting clients to referral services, improving client follow-up, and making community presentations.

Comparisons of the pre- and postenhancement characteristics of respondents indicate some differences between the two periods. For example, in the postenhancement period, respondents in both areas were less likely to exchange sex for needs, less likely to think of themselves as at risk for HIV, and more likely to have known someone with HIV infection or AIDS.

Contact with outreach programs increased both in the study and comparison areas. Outreach contact was at relatively low levels in the preenhancement period, particularly in the comparison area. For example, in the study area, ever having talked with an out-

reach worker increased from 32.4% to 57.3% between the pre- and postenhancement periods; in the comparison area, it increased from 18.6% to 47.0%. Increased contact in the comparison area was related to programs unrelated to AESOP that were being developed in this area. In the study area, the percentage that had received condoms from outreach workers (including the mobile van) increased from 21.4% to 39.5% and in the comparison area, from 12.5% to 16.8%.

With regard to condom use during most recent intercourse, there were statistically significant increases for main partners for vaginal (from 27.1% to 39.0%) and oral sex (from 10.5% to 27.3%) in the study area. In the comparison area, these percentages declined for vaginal (from 21.0% to 17.2% and for oral sex (from 16.1% to 11.3%).

Data provided by the outreach programs support the survey results indicating that many respondents received services from the mobile van. Quarterly data from the program indicate that during 1994 (roughly corresponding to the postenhancement period) nearly 10,000 street outreach contacts were made and more than 66,000 condoms distributed.

Multiple logistic regression analysis (Table 3) indicates that being in the postenhancement study area was associated with higher use of condoms during most recent vaginal sex with main partner (OR, 1.9; CI, 1.3–2.7). This indicates a quasi-experimental effect for this variable, consistent with the enhanced intervention's having an effect on change toward safer behavior. Being in the postenhancement study area was also associated with a higher odds of getting condoms from outreach workers (OR, 3.1; CI, 1.3–7.6) and having condoms at interview (OR, 2.0; CI, 1.0–4.0). For condom use with casual partners, there were no significant effects of being in the postenhancement study area. Similar to condom use for main partners, having condoms is a strong predictor of condom use (OR, 3.0; CI, 1.9–5.0) and is in turn strongly related to outreach contact (OR, 2.3; CI, 1.3–4.1), indicating a strong indirect relationship between condom use and contact with outreach programs for persons with casual partners.

The study and comparison areas for the Chicago site had relatively low levels of preenhancement outreach activity. Substantial increases in interaction with outreach workers were reported in both areas. Survey and program data show the distribution of condoms and services by mobile van. The surveys measured aggregate behavior change in the study area consistent with the effectiveness of enhanced interventions on increased condom use with main partner. As is true of data from other sites, the survey data indicated the importance of outreach in supporting condom use indirectly through supplying condoms.

AIDS PROGRAM, LOS ANGELES COUNTY

This project evaluated street outreach interventions for IDUs, comparing enhanced street outreach in the central Los Angeles area (Downtown, South Central, East LA, and Pico Union) with the comparison area (San Fernando, Pasadena, San Gabriel, Harbor South, and South LA). The enhanced intervention centered on additional services provided by the outreach workers, including the provision of on-the-street HIV counseling and testing, a referral tracking system, and the use of HIV prevention narratives based on indigenous artwork on a series of cards. (See Long et al. in this monograph for a detailed description.)

Characteristics of survey respondents indicate roughly similar populations in the pre- and postenhancement periods, with some differences: for example, in the study area, crack use increased; in the comparison areas, the number of sex partners decreased. A number of measures of contact with outreach programs increased between the two periods in both areas. The percentage who had talked with an outreach worker in the past month, for example, increased from 52.7% to 59.6% in the study area and from 28.6% to 38.2% in the comparison area. Neither area had statistically significant changes in the percentage who used condoms during most recent sex, for any type of sex or type of partner.

Survey responses indicate exposure to the enhanced intervention. Almost 16% of respondents in the postenhancement study area who had talked with outreach workers reported having been shown the narrative cards. A sizeable percentage reported having talked about services and having been referred, although a

smaller percentage reported that they went for services. Finally, of those who talked with outreach workers, 12.9% stated that they had received an HIV test from the worker, either on the street or in a nearby mobile van.

Multivariate logistic regression analysis (Table 4) indicates that having a condom at the time of interview was associated with more frequent condom use for vaginal sex with main (OR, 2.1; CI, 1.4–3.2) and casual (OR, 4.1; CI, 2.7–6.1) partners. Having condoms at the time of interview was in turn strongly associated with outreach contact for respondents with main (OR, 2.8; CI, 2.0–3.9) and casual partners (OR, 2.9; CI, 1.9–4.2), indicating consistent indirect effects of outreach programs on use of condoms.

Many IDUs interviewed on the street reported contact with street outreach interventions, including the AESOP enhanced interventions. No statistically significant change in condom use was found from pre- to postenhancement. Consistent associations between program contact and having condoms, and between having condoms and using them, indicates the importance of outreach programs in supporting condom use in this population.

PHILADELPHIA HEALTH MANAGEMENT CORPORATION

The Philadelphia site evaluated street outreach for IDUs in two North Philadelphia areas. The enhanced street outreach interventions centered on providing specialized training to outreach workers related to (a) staging clients into stage-of-change categories, (b) improved client follow-up, (c) escorting clients to referral services, (d) use of improved reporting forms, and (e) community presentations. Outreach workers were added. Learning the stages-of-change concept enabled workers to stage clients in order to provide the most appropriate messages and services. Fishbein and Rhodes (1997) have provided a discussion of how the trans-theoretical stage model can be applied in HIV prevention.

The populations were similar. There were some differences between rounds, for example, an increase in crack use in study and comparison areas. A fairly high proportion of respondents in both areas had contact with outreach programs in the pre-enhancement period, and there were no statistically significant

increases. For example, 60.1% of respondents in the study area had talked with an outreach worker in the preenhancement period and 66.7% during the postenhancement period. In the comparison area, the figures were 54.2% and 60.9%.

There were no significant increases in the percentage who had used condoms during their most recent sexual encounter. In the comparison area, the percentage who had used condoms during most recent vaginal sex with casual partners decreased from 81.3% to 60.0%. Program data indicate that the enhanced program had 4,823 outreach contacts during a 6-month period corresponding to the postenhancement phase and that 8,715 condoms were distributed.

Multivariate analysis did not indicate any effects of being in the postenhancement study area on condom use with main partners. For casual partners, being in the postenhancement study area had a statistically significant effect on condom use (OR, 3.7; CI, 1.4–9.6; Table 5). However, condom use with casual partners decreased in the comparison area (from 81.3% to 60.0%), and condom use remained the same in the study area (68.0% to 64.5%). This decrease suggests that the enhancement was effective in maintaining condom use with casual partners. As was true at other sites, having a condom at interview was a strong predictor of condom use with main (OR, 1.8; CI, 1.2–2.6) and casual (OR, 2.2; CI, 1.3–3.6) partners. Contact with street outreach programs was a consistent predictor of having condoms at interview for respondents who had main (OR, 3.0; CI, 2.0–4.6) and casual partners (OR, 2.0; CI, 1.3–3.4).

Outreach contact was relatively high in the preenhancement period, and the surveys did not indicate significant increases in outreach contact with IDUs. No increases in condom use with main partners were observed, but condom use declined for casual partners in the comparison area. Being in the postenhancement study area was associated with maintaining condom use for casual partners. As at other sites, there was consistent association between having condoms and using them, and between outreach contact and having condoms, indicating the indirect effect of the programs on condom use.

DISCUSSION

The quasi-experimental design of AESOP—study and comparison areas and pre- and postenhancement periods—did not identify many areas in which there was a change in condom use behaviors associated with enhanced programs. If we define a quasi-experimental effect as a significant association between condom use and being in the postenhancement study area, these effects were seen only in Chicago and Los Angeles.

The relative lack of findings indicating behavior change are in part due to the inherent weaknesses of the quasi-experimental design (Coyle, Boruch & Turner, 1991). These weaknesses include the inability to control other factors affecting the behavior of risk group members, both in the study and comparison areas, and the difficulty of acquiring equivalent samples over time from the shifting street populations. Further, data collected as part of AESOP indicated that other changes were occurring in addition to the AESOP enhancements. These changes included program staffing changes, environmental changes due to weather and other causes, and changes in the location of street populations (Kay, 1995). The relative lack of findings indicating behavior change may be due in part to lack of contact with outreach workers who delivered the AESOP enhancement. Although the respondents reported a high level of contact with outreach workers, many linked their outreach workers to other outreach programs or could not identify the agencies of these workers. Because AESOP interventions were not comparable, data could not be aggregated to examine whether the respondents exposed to the study intervention changed behavior.

Despite these limitations of the quasi-experimental approach, other, more powerful evaluation methods such as cohort studies with random assignment to specific treatments may not be appropriate for evaluating street outreach programs. Street outreach interventions take place in the natural environment of high-risk groups and necessarily involve interactions with transient clients, many of whom are not willing or able to participate in ongoing studies.

Apart from the quasi-experimental aspects of AESOP, the data have great value as observational data for evaluating street outreach programs. Because street outreach takes place in public places and sensitive topics are discussed, it is very difficult to collect information on the process. The AESOP data provide some of the first systematically collected data on street populations that measure the services received from HIV prevention street outreach programs, a major component of HIV prevention.

The AESOP survey data also provide information on the prevalence of risk behaviors and condom use in the high-risk populations studied. For example, the percentage who used condoms during most recent vaginal sex ranged from 21.7% to 47.6% for main partners and from 57.9% to 71.8% for casual partners. These percentages can be compared with national HIV prevention objectives that by the year 2000 the rate of condom use during most recent intercourse should increase to 50% for unmarried sexually active persons; and the rate should be 60% among sexually active women aged 15 to 19 years, 75% among sexually active men aged 15 to 19 years, and 60% among IDUs (U.S. Department of Health and Human Services, 1990). Higher rates of condom use with casual or paying partners constitute a pattern that has been found consistently, including general population surveys (Kost & Forrest, 1992; Tanfer, Grady, Klepinger & Billy, 1993), studies of IDUs and their partners (CDC, 1991, 1992; Pivnick, 1993; Rhodes et al., 1990; Singh et al., 1993), and sexually transmitted disease clinic patients (CDC, 1990, 1993). In spite of the levels of condom use reported by AESOP respondents, the data document the extent to which these populations engage in high-risk behavior in spite of public health efforts.

Street outreach is designed to reach some of the persons at highest risk and some of those most difficult to reach with prevention messages and services. As such, it is a very important part of HIV prevention, but at the same time is one of the most difficult. The collection of data on outreach and for the evaluation of programs is difficult and costly. The AESOP survey data have shown the extent to which high-risk populations have contact with outreach programs and use their services and the extent to which outreach workers play an important role in dispensing condoms to these high-risk groups. The AESOP data speak very consistently of the role of outreach programs in supporting the carrying of condoms

and, indirectly, in condom use by these populations who typically have spontaneous sex. At every site, having a condom at interview was associated with higher odds of using condoms. Further, having a condom at interview was consistently associated with having received condoms from outreach workers. At every site, the extent to which respondents had contact with specific enhanced interventions was measured. Contact with some enhancements, such as the van or storefront outreach, were perhaps more easily measured by interviews with on-the-street populations.

Given that a wide array of customized enhancements to these established programs had very limited effect on increasing behavioral change over a 6-month period, our data suggest that a creative focus on condom distribution should be a major goal of street outreach programs. This focus might include economical distribution plans to increase availability, such as containers accessible during evenings and weekends, when outreach workers are typically not available. Moreover, such containers would be accessible to the harder-to-reach persons who do not come into contact with outreach workers. Increasing distribution could be complemented with an ongoing, community condom promotion aimed at youth or IDUs, such as Switzerland's successful STOP AIDS campaign strategies, in which sexual transmission risks have taken top billing (Hausser, Zimmerman, Dubois-Arber & Paccaud, 1991). An increased focus on condoms should also reduce the acquisition of sexually transmitted diseases, which have been linked to an increased risk for HIV transmission (Wasserheit, 1992).

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Table 1. Logistic Regression Analysis: Comparison of Two Pre- and Two Postenhancement Rounds of AESOP Data from Children's Hospital, Los Angeles**Vaginal Sex with Main Partners, Past Month
(466 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.7	1.0-2.9	1.1	0.6- 2.1
Postenhancement	0.7	0.4-1.2	0.7	0.4- 1.2
Postenhancement study area	1.2	0.6-2.5	1.3	0.6- 2.9
African American			1.9	1.1- 3.1
STD, ever			0.6	0.3- 1.0
Condoms from outreach worker, ever			1.9	1.2- 3.0
Have condom now			2.3	1.5- 3.6
Condoms from outreach worker, past mo.				
Study area	3.6	1.5-8.6	1.2	0.5- 3.2
Postenhancement	3.0	1.3-7.1	3.1	1.3- 7.7
Postenhancement study area	0.4	0.1-1.2	0.4	0.1- 1.3
Male			2.2	1.3- 4.0
Living on the street			2.3	1.2- 4.3
Talked with outreach worker, past 6 mos.			7.0	3.6-13.5
Have condoms now				
Study area	3.4	1.8-6.5	3.1	1.6- 5.9
Postenhancement	1.3	0.7-2.5	1.1	0.6- 2.2
Postenhancement study area	0.7	0.3-1.7	0.8	0.3- 1.9
Condoms from outreach worker, past mo.			2.5	1.5- 4.2

**Vaginal Sex with Casual Partners, Past Month
(424 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.6	0.9- 2.9	1.1	0.6- 2.1
Postenhancement	0.8	0.5- 1.4	0.8	0.5- 1.4
Postenhancement study area	1.2	0.5- 2.6	1.0	0.4- 2.4
3 or more partners, past mo.			1.7	1.1- 2.6
Condoms from outreach worker, ever			2.2	1.3- 3.8
Have condom now			2.1	1.3- 3.5
Condoms from outreach worker, past mo.				
Study area	6.8	2.8- 16.5	4.5	1.7- 11.6
Postenhancement	3.9	1.6- 9.8	3.8	1.5- 9.7
Postenhancement study area	0.4	0.1- 1.2	0.5	0.1- 1.4
Hispanic			2.2	1.1- 4.1
Talked with outreach worker, past 6 mos.			3.7	2.1- 6.4
Have condoms now				
Study area	1.9	1.1- 3.4	1.5	0.8- 2.8
Postenhancement	1.2	0.6- 2.2	1.0	0.6- 2.0
Postenhancement study area	1.5	0.7- 3.5	1.6	0.7- 3.8
Condoms from outreach worker, past mo.			2.4	1.5- 4.0

Table 2. Logistic Regression Analysis: Comparison of Two Pre- and Two Postenhancement Rounds of AESOP Data from San Francisco**Vaginal Sex with Main Partners, Past Month
(318 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.7	0.9- 3.4	1.7	0.8- 3.6
Postenhancement	1.1	0.5- 2.3	1.4	0.6- 3.0
Postenhancement study area	0.6	0.2- 1.6	0.6	0.2- 1.6
African American			6.8	1.2-38.8
Living on the street			0.4	0.2- 0.8
Have condom now			2.4	1.3- 4.4
Condoms from outreach worker, past mo.			2.0	1.1- 3.6
Condoms from outreach worker, past mo.				
Study area	5.4	2.1-14.0	5.2	1.9-14.0
Postenhancement	2.4	0.8- 6.7	3.2	1.1- 9.6
Postenhancement study area	0.5	0.1- 1.6	0.3	0.1- 1.1
Talked with outreach worker, past 6 mos.			4.9	2.7- 8.8
Have condoms now				
Study area	0.1	0.5- 2.0	0.7	0.3- 1.5
Postenhancement	0.6	0.3- 1.5	0.6	0.2- 1.4
Postenhancement study area	1.7	0.6- 5.1	1.8	0.6- 5.8
STD, ever			2.4	1.3- 4.6
Condoms from outreach worker, past mo.			3.4	1.8- 6.4

**Vaginal Sex with Casual Partners, Past Month
(278 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.2	0.6-2.4	1.2	0.6-2.6
Postenhancement	0.7	0.3-1.5	0.7	0.3-1.5
Postenhancement study area	1.7	0.6-4.5	1.7	0.6-4.6
Somewhat to very likely to get HIV			0.5	0.3-0.8
Have condom now			1.7	1.0-2.9
Condoms from outreach worker, past mo.				
Study area	3.4	1.5-7.7	2.7	1.2-6.3
Postenhancement	0.8	0.3-2.1	0.7	0.3-1.8
Postenhancement study area	1.2	0.4-3.5	0.9	0.3-2.9
Used crack, past mo.			2.7	1.4-5.4
Talked with outreach worker, past 6 mos.			4.4	2.4-8.1
Have condoms now				
Study area	0.8	0.4-1.6	0.6	0.3-1.3
Postenhancement	1.0	0.5-2.2	1.0	0.5-2.3
Postenhancement study area	2.0	0.7-5.4	2.0	0.7-5.6
Condoms from outreach worker, past mo.			2.5	1.4-4.2

Table 3. Logistic Regression Analysis: Comparison of Two Pre- and Two Postenhancement Rounds of AESOP Data from Chicago**Vaginal Sex with Main Partners, Past Month
(740 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.4	0.9-2.3	1.3	0.8- 2.1
Postenhancement	0.8	0.5-1.3	0.8	0.5- 1.3
Postenhancement study area	2.1	1.2-4.2	1.9	1.0- 3.8
STD, ever			0.6	0.4- 0.9
Have condom now			1.8	1.2- 2.6
Condoms from outreach worker, past mo.			1.9	1.3- 2.7
Condoms from outreach worker, past mo.				
Study area	1.6	0.9-2.7	1.0	0.5- 2.0
Postenhancement	1.1	0.6-1.8	0.5	0.2- 0.9
Postenhancement study area	2.2	1.1-4.5	3.1	1.3- 7.6
Talked with outreach worker, past 6 mos.			21.9	13.7-35.2
Tested for HIV, ever			3.5	1.8- 6.7
Have condoms now				
Study area	1.1	0.7-1.9	1.1	0.7- 1.9
Postenhancement	0.8	0.5-1.4	0.6	0.4- 1.1
Postenhancement study area	2.4	1.2-4.7	2.0	1.0- 4.0
STD, ever			1.7	1.2- 2.4
Injected, past mo.			1.8	1.0- 3.2
Condoms from outreach worker, past mo.			2.4	1.7- 3.5
Tested for HIV, since 1993			1.9	1.1- 3.0

**Vaginal Sex with Casual Partners, Past Month
(377 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.1	0.7-2.0	1.1	0.6- 2.0
Postenhancement	0.7	0.4-1.3	0.7	0.3- 1.3
Postenhancement study area	1.6	0.7-3.8	1.2	0.5- 3.1
Male			0.3	0.2- 0.5
Have condom now			3.0	1.9- 5.0
Condoms from outreach worker, past mo.			2.3	1.3- 4.1
Condoms from outreach worker, past mo.				
Study area	1.7	0.8-3.6	1.8	0.7- 4.5
Postenhancement	2.0	0.9-4.6	0.8	0.3- 2.3
Postenhancement study area	1.5	0.5-4.1	1.4	0.4- 5.1
Talked with outreach worker, past 6 mos.			25.7	13.3-49.7
Have condoms now				
Study area	0.8	0.4-1.4	0.7	0.4- 1.2
Postenhancement	1.0	0.5-1.9	0.6	0.3- 1.3
Postenhancement study area	2.3	0.9-5.7	2.3	0.9- 5.8
STD, ever			1.7	1.1- 2.8
Condoms from outreach worker, past mo.			2.1	1.3- 3.5
Tested for HIV, since 1993			2.1	1.1- 4.1

Table 4. Logistic Regression Analysis: Comparison of Two Pre- and Two Postenhancement Rounds of AESOP Data from Los Angeles County**Vaginal Sex with Main Partners, Past Month
(811 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.2	0.7- 2.1	0.7	0.4-1.3
Postenhancement	1.0	0.6- 1.7	0.8	0.4-1.4
Postenhancement study area	1.2	0.6- 2.4	1.3	0.6-2.8
African American			1.6	1.0-2.3
Exchange sex for needs, ever			0.4	0.3-0.7
Condoms from outreach worker, ever			2.2	1.5-3.3
Have condom now			2.1	1.4-3.2
Condoms from outreach worker, past mo.				
Study area	6.3	3.9-10.3	5.6	3.2-9.8
Postenhancement	2.0	1.2- 3.3	2.2	1.2-3.8
Postenhancement study area	0.5	0.3- 0.9	0.3	0.2-0.7
African American			1.6	1.1-2.3
Homeless, past year			1.7	1.2-2.4
Somewhat to very likely to get HIV			1.4	1.0-2.0
Drug treatment, past 6 mos.			0.6	0.4-1.0
Bleach from outreach worker			6.6	4.6-9.3
Have condoms now				
Study area	2.1	1.3- 3.2	1.5	0.9-2.5
Postenhancement	1.0	0.7- 1.7	0.9	0.6-1.5
Postenhancement study area	0.9	0.5- 1.6	0.9	0.5-1.7
Exchange sex for need, ever			1.5	1.0-2.1
3 or more partners, past mo.			2.3	1.5-3.6
Used crack, past mo.			1.4	1.0-1.9
Condoms from outreach worker, past mo.			2.8	2.0-3.9

**Vaginal Sex with Casual Partners, Past Month
(526 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	1.4	0.9- 2.3	1.2	0.7- 2.1
Postenhancement	1.4	0.9- 2.3	1.1	0.6- 2.0
Postenhancement study area	0.8	0.4- 1.5	0.8	0.4- 1.8
Male			0.2	0.2- 0.4
Tested for HIV, ever			2.1	1.2- 3.7
Have condom now			4.1	2.7- 6.1
Condoms from outreach worker, past mo.				
Study area	6.2	3.6-10.9	5.6	2.9-10.6
Postenhancement	2.6	1.5- 4.7	2.4	1.2- 4.6
Postenhancement study area	0.3	0.2- 0.7	0.3	0.1- 0.6
Bleach from outreach worker			4.4	1.8-10.8
Talked with outreach worker, past 6 mos.			2.8	1.1- 6.8
Have condoms now				
Study area	1.7	1.0- 2.7	1.2	0.7- 2.0
Postenhancement	1.2	0.8- 2.1	0.9	0.6- 1.6
Postenhancement study area	1.0	0.5- 1.9	1.3	0.6- 2.8
Male			0.5	0.3- 0.7
3 or more partners, past mo.			1.6	1.1- 2.3
Talked with outreach worker, past 6 mos.			2.9	1.9- 4.2

Table 5. Logistic Regression Analysis: Comparison of Two Pre- and Two Postenhancement Rounds of AESOP Data from Philadelphia**Vaginal Sex with Main Partners, Past Month
(692 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	0.9	0.5-1.4	0.8	0.5-1.3
Postenhancement	1.1	0.7-1.7	1.3	0.8-2.1
Postenhancement study area	1.2	0.6-2.3	1.1	0.6-2.3
Have condom now			1.8	1.2-2.6
Talked with outreach worker, past 6 mos.			1.7	1.2-2.4
Condoms from outreach worker, past mo.				
Study area	1.0	0.6-1.7	1.0	0.6-1.6
Postenhancement	0.5	0.3-0.9	0.6	0.3-1.0
Postenhancement study area	1.7	0.8-3.5	1.5	0.7-3.2
Talked with outreach worker, past 6 mos.			3.5	2.3-5.2
Have condoms now				
Study area	1.3	0.8-2.1	1.3	0.8-2.2
Postenhancement	0.3	0.2-0.5	0.3	0.2-0.5
Postenhancement study area	1.7	0.8-3.5	1.4	0.6-3.0
3 or more partners, past mo.			3.9	2.5-6.3
Condoms from outreach worker, ever			2.3	1.5-3.4
Condoms from outreach worker, past mo.			3.0	2.0-4.6

**Vaginal Sex with Casual Partners, Past Month
(423 Observations)**

Predictors	Basic Model		Basic Model + Covariates	
	OR	95% CI	OR	95% CI
Condom use, most recent vaginal sex				
Study area	0.4	0.2-0.9	0.3	0.1-0.7
Postenhancement	0.3	0.2-0.7	0.3	0.1-0.7
Postenhancement study area	2.8	1.2-6.9	3.7	1.4-9.6
Male			0.5	0.3-0.8
Somewhat to very likely to get HIV			0.5	0.3-0.8
Know someone with HIV			1.8	1.1-2.9
Talked with outreach worker, past 6 mos.			1.9	1.2-3.0
Have condom now			2.2	1.3-3.6
Condoms from outreach worker, past mo.				
Study area	1.2	0.6-2.6	1.1	0.5-2.5
Postenhancement	0.9	0.5-1.9	1.0	0.5-2.2
Postenhancement study area	1.2	0.5-3.1	1.1	0.4-3.1
Talked with outreach worker, past 6 mos.			2.5	1.5-4.0
Have condoms now				
Study area	1.2	0.7-2.3	1.2	0.6-2.3
Postenhancement	0.4	0.2-0.8	0.4	0.2-0.7
Postenhancement study area	0.8	0.3-1.8	0.7	0.3-1.7
Homeless, past year			1.7	1.0-2.6
Tested for HIV, ever			1.7	0.9-3.2
Condoms from outreach worker, past mo.			2.0	1.3-3.4

PRODUCTS AND CONTACTS FOR INTERVENTION REPLICATION

ASSOCIATION FOR DRUG ABUSE PREVENTION AND TREATMENT

- Title:** *Doing Street Outreach in the Community:
Helpful Hints to Do a Good Job and Document It*
- Description:** The product is a monograph for administrators and staff of community-based organizations conducting or contemplating street outreach. The 50-page monograph addresses documentation forms, methods, and procedures to be used in process evaluation, quality assurance, and identifying and meeting the needs of the target population. Sample forms are included in the appendix.
- Contact:** Ms. Naomi Fatt
ADAPT
2230 First Avenue
New York, NY 10029
(212) 289-1957

CHILDREN'S HOSPITAL OF LOS ANGELES

- Title:** *Facing the Challenge: Building Peer Programs for Street Youth*
- Description:** The product is a study aid and accompanying video for service providers, educators, community program organizers, and policymakers from agencies that target high-risk youth. The 30-page study aid addresses how to plan and conduct a peer model program, recruit participants, and manage the program. The 22-minute video presents illustrations of issues that are key to successful programs.

AESOP

Contact: Ms. Ellen Iverson
Division of Adolescent Medicine
Children's Hospital of Los Angeles
P.O. Box 54700, Mail Stop 2
Los Angeles, CA 90054-0700
(213) 660-2450 ext. 3110

Title: *Straight Dope Productions: The Making of a
Community-Level Intervention*

Description: The product is a workbook for community-based organizations that provide HIV-related services to youth or that would like to extend their current activities to include services for youth.

Contact: Ms. Ellen Iverson
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Children's Hospital of Los Angeles
P.O. Box 54700, Mail Stop 2
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COUNTY OF LOS ANGELES, DEPARTMENT OF
HEALTH SERVICES, AIDS PROGRAMS

Title: *Confidential HIV Antibody Finger Stick
Testing Manual*

Description: The product is a manual for administrators and program coordinators of agencies and organizations that provide street outreach to injection drug users and users of other illicit substances. The 35-page manual contains the development and implementation of an HIV antibody testing program in which the finger-stick method is used in a street outreach setting. The technique is illustrated in the video *L.A. County AIDS Evaluation of Street Outreach Programs*.

Contact: Dr. Anna Long, Chief of Staff
Public Health Programs and Services
Los Angeles County Department of Health
313 N. Figueroa Street
Los Angeles, CA 90012
(213) 240-8036

Title: *Developing Culture-Specific Media for HIV Risk Reduction for Injection Drug and Other Substance Abusers: Lessons from the AIDS Evaluation of Street Outreach Program*

Description: The product is a monograph for agencies and organizations that have or are contemplating HIV risk-reduction intervention programs for injection drug users and users of other illicit substances. The 25-page monograph describes how to develop educational materials, including determining the need for such materials and selecting the appropriate messages, media, and visuals to use.

Contact: Dr. Anna Long, Chief of Staff
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(213) 240-8036

Title: *A Guide to Determining Stages of Change for HIV Risk Reduction Behaviors: Cessation of Needle Sharing, Needle Bleaching, and Condom Use*

Description: The product is a manual for agencies and organizations that provide street outreach to injection drug users and users of other illicit substances. The 50-page manual covers a method outreach workers can use to screen clients quickly for specific risk behaviors, assess the relative risk of those behaviors, and determine the clients' intention to change their behaviors. The technique is illustrated in the video *L.A. County AIDS Evaluation of Street Outreach Programs*.

Contact: Dr. Anna Long, Chief of Staff
Public Health Programs and Services
Los Angeles County Department of Health
313 N. Figueroa Street
Los Angeles, CA 90012
(213) 240-8036

Title: *L.A. County AIDS Evaluation of Street Outreach Programs*

Description: The product is a video for program coordinators and outreach staff of agencies and organizations that provide street outreach to injection drug users and users of other illicit substances. The 45-minute video covers the background of the program and illustrates the use of four techniques for street outreach: stages of change, artwork to engage clients, finger-stick HIV testing, and referral tracking system.

Contact: Dr. Anna Long, Chief of Staff
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Los Angeles County Department of Health
313 N. Figueroa Street
Los Angeles, CA 90012
(213) 240-8036

Title: *Narratives from Illustrations: Development and Use in the Field*

Description: The product is a manual for administrators, program coordinators, and outreach staff of agencies and organizations that provide street outreach to injection drug users and users of other illicit substances. The 20-page manual describes an intervention in which narratives and illustrations are used to engage clients in street outreach settings and discusses steps for developing and implementing the technique. This technique is illustrated in the video *L.A. County AIDS Evaluation of Street Outreach Programs*.

Contact: Dr. Anna Long, Chief of Staff
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313 N. Figueroa Street
Los Angeles, CA 90012
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Title: *Outreach Referral Tracking System Manual*

Description: The product is a manual for program coordinators and outreach staff of agencies and organizations that provide street outreach to injection drug users and users of other illicit substances. The 30-page manual covers establishing personal contact with referral service staff, assessing client readiness to seek services, and following up client referrals to services. The technique is illustrated in the video *L.A. County AIDS Evaluation of Street Outreach Programs*.

Contact: Dr. Anna Long, Chief of Staff
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EMORY UNIVERSITY, THE ROLLINS SCHOOL OF
PUBLIC HEALTH

Title: *Formative Research as Foundation of Intervention
Development: Community Assessment Process (CAP)*

Description: The product is a manual for administrators involved in HIV prevention program development. The 35-page manual addresses the need for formative research, the systematic process of conducting it, and the utilization of findings in the development and implementation of intervention programs. The process is illustrated with examples and sample recording forms.

Contact: Dr. Claire Sterk
The Rollins School of Public Health
Emory University
1518 Clifton Road, NE
Atlanta, GA 30322
(404) 727-9124

Title: *Outreach Interventions Based on the Stages of
Change Model*

Description: The product is a manual for public health officials, researchers, and community-based organizations dealing with HIV who use or plan to use outreach as a means of providing an intervention. The 20-page manual covers general training needs for outreach workers and training needs specific to the stages-of-change intervention; training exercises are included.

Contact: Dr. Claire Sterk
The Rollins School of Public Health
Emory University
1518 Clifton Road, NE
Atlanta, GA 30322
(404) 727-9124

PHILADELPHIA HEALTH MANAGEMENT CORP.

Title: *Hittin' the Streets: A Handbook for Street Interviewers and*

Hittin' the Streets: Trainer's Notes

Description: The product is a handbook and trainer's notes for street outreach. The 40-page handbook describes preparations for conducting street interviews, how to handle oneself on the street, establishing rapport in the outreach area, and debriefing. The 10-page trainer's notes contain role plays and other exercises to help outreach workers practice what they learn from the handbook.

Contact: Philadelphia Health Management Corp.
c/o "Hittin' the Streets"
260 South Broad Street, 20th Floor
Philadelphia, PA 19102
(215) 985-2524

Title: *Making the Change: Helping Your Clients to Help Themselves*

Description: The product is a video with trainer and student manuals and a video for social service providers, such as street outreach workers and social workers. The 55-page manual addresses the stages-of-change approach and strategies for motivating clients. It includes tips on how to conduct training with these materials. The 27-minute video demonstrates interacting with clients and helping to lead them to changing their behavior.

Contact: Philadelphia Health Management Corp.
c/o "Making the Change"
260 South Broad Street, 20th Floor
Philadelphia, PA 19102
(215) 985-2524

UNIVERSITY OF ILLINOIS AT CHICAGO

Title: *Evaluation - How to Use an Agency's Own Data to Guide Program*

Description: The product is a manual for small service-delivery organizations that have limited resources for evaluation. The 15-page manual covers what evaluation is, why it should be done, and how to do it. The appendix contains sample recording forms.

Contact: Dr. Wayne Wiebel
University of Illinois at Chicago
School of Public Health
2121 West Taylor, Room 556
Chicago, IL 60612
(312) 996-4870

Title: *Indigenous Leader Outreach Model*

Description: The product is a training curriculum for project leaders and outreach staff interested in applying peer-based street-outreach techniques. The 100-page curriculum has two parts: one for trainers and one for students. The document contains an outline of the programmatic needs, techniques, and processes involved with street outreach.

Contact: Dr. Wayne Wiebel
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2121 West Taylor, Room 556
Chicago, IL 60612
(312) 996-4870

VICTIM SERVICES AGENCY

Title: *Coordination of AIDS Outreach and Prevention Services for Homeless and Runaway Youth*

Description: The product is a case study for project directors and others interested in building service-delivery coalitions. The 20-page case study addresses the coordination of street outreach activities among New York City agencies that serve homeless and runaway youth. The study discusses why coordination was attempted, how it was accomplished, and the resulting benefits.

Contact: Ms. Helene Lauffer
Victim Services Agency
2 Lafayette Street
New York, NY 10007
(212) 577-3806

Title: *Development of Computerized Documentation Systems for Street Outreach Programs: Case Study*

Description: The product is a case study for directors of programs interested in developing computerized inter-agency information systems. The 30-page case study covers the basic idea of creating a wide-area network and its application to documenting services and community planning. Some knowledge of computer software would be useful.

Contact: Ms. Helene Lauffer
Victim Services Agency
2 Lafayette Street
New York, NY 10007
(212) 577-3806

Title: *Innovations in AIDS Outreach and Prevention for Homeless and Runaway Youth: A Training & Resource Guide for Applications of the Harm Reduction Model*

Description: The product is a manual for service providers who are interested in integrating this model into their programs. The 145-page manual covers information on homeless and runaway youth and the conceptual foundations and clinical implications of using the Harm Reduction Model in a client-centered approach for this population.

Contact: Ms. Helene Lauffer
Victim Services Agency
2 Lafayette Street
New York, NY 10007
(212) 577-3806