

Social Networks, HIV Transmission, and Prevention

Maureen Miller, PhD and Alan Neaigus, PhD

The risk of HIV transmission has traditionally been described in terms of the sexual and drug use behaviors and practices of individuals. Over the past 15 years, however, researchers have begun to recognize the importance of understanding the characteristics of an individual's social and sexual "networks" in determining susceptibility to HIV. Networks represent the web of relationships beyond the individual, that is, all the different people with whom individuals or groups of individuals typically interact. The composition and structure of networks can determine the extent to which individuals may contract or transmit infectious diseases.

This article offers an introduction to network theory and research, focusing on the basic concepts and terms that define the field. It also briefly discusses applications of network theory to HIV prevention.

Network Theory and Research

In general, diseases caused by sexually transmitted and blood borne pathogens can be sustained only when a minimum of two people—a dyad—behave together in ways that facilitate disease transmission. But individuals do not function in a vacuum, and network theory seeks to understand the social context in which disease transmission occurs. Specifically, social network methods identify the linkages between and among individuals in order to contextualize actual or potential HIV transmission risk. Some individuals will never become HIV-infected no matter what they do, while others will be very careful most of the time but become infected anyway. HIV transmission is dependent on the people, that is the network members, with whom one shares behaviors.

Network research posits two levels of

networks: "egocentric" or personal networks and "sociocentric" or community networks. "Egocentric" networks represent the relationships of a particular individual: the network consists of the individual (in research parlance, the "index respondent") and all of the people with whom he or she interacts based on associations such as kinship and friendship, and activities such as work, recreation, spiritual or political activity. "Sociocentric" networks represent the relationships among groups of individuals or networks and may be considered to represent a community. Reconceptualizing the idea of community as a sociocentric network gives researchers the ability to examine the overlap or lack of overlap among and between networks and the ways in which these networks interact.

Researchers working with infectious disease, particularly sexually transmitted infections (STIs) or blood borne pathogens, further characterize networks as either "social" or "risk." Social networks represent the people among whom there are social interactions that have a mutual orientation, that is, relationships in which there is an emotional stake or obligation. In the case of HIV, risk networks represent the people among whom HIV-related risk behaviors occur.

A person's social network and risk network may overlap. For example, when a man shares needles with his spouse, a well defined social relationship exists parallel to a risk relationship. Within network research, this overlap is called a "multiplex relationship." While some networks may be defined purely in terms of risk, these are rare since social influence often plays a role even among a group of people who use a shooting gallery, customers at a bathhouse, or a sex worker and his or her clients. It is this social influence that may ultimately be harnessed to play a role in prevention.

Researchers gather information on egocentric network members by asking a primary individual to provide detailed information about the people with whom the indi-

Editorial: Your Partner's Partners' Partners

Robert Marks, Editor

For years, front-line HIV providers have said, "You are having sex or sharing needles not only with your partner, but also with your partner's partners' partners!" Nonetheless, HIV prevention interventions have emphasized the individual over this broader "network" of individuals.

It's not that there have been no community interventions, efforts that have sought to change individual behavior by spreading risk reduction norms. Approaches have ranged from media campaigns to training community "opinion leaders." It's that, as Maureen Miller and Alan Neaigus point out in this issue of *FOCUS*, HIV-related research on individual behavior and psychology is far more common

than research on the nature of social networks and their effects on risk and risk reduction.

Miller and Neaigus offer a crash course on social network theory and research, introducing readers to the basic concepts and terminology that define this field. Many of these concepts are complex: at their core, networks are mathematical constructs and network researchers have had to develop a language that marries mathematics with social science. Yet, Miller and Neaigus describe these concepts in ways that make them relevant and accessible to front-line providers.

They also observe the places where research describes or implies how networks not only facilitate HIV transmission, but

also can be used to further HIV prevention. Samuel Friedman and his colleagues explore this idea in greater detail, discussing the concept "communication networks" and the ways in which network members can influence each other in protective ways. They suggest that those of us who are developing "interventions" should attend to "intraventions," the natural risk reduction influences that already exist in networks.

Up to now, the idea of your "partner's partners' partners" has been a tool to raise consciousness that transmission risk occurs not only in the moment and not only between two people. Network theory suggests that this construct can be relevant in much more concrete ways, if only we can further define the relationships between network features and HIV transmission and turn this knowledge into successful interventions.

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vidual typically interacts. Researching socio-centric networks is more complex, involving interviews with many people, since the goal is to acquire information about all of the people in a defined community as well as about how these people are connected. This process is very difficult and expensive, so with a few notable exceptions,^{1,2} most social network associations regarding HIV risk or infection tend to be based on studies of ego-centric, rather than sociocentric, networks.

The statistical analysis of the research data gathered through social network methods is complicated by a lack of independent data, a primary underlying assumption of most statistical tests. For example, if one index respondent shares needles with three network members and another index respondent shares needles with only one member, statistical comparisons will be skewed since the first index respondent will be counted three times. Generalized estimating equation models, a recently developed analytic method, can control for repeated inclusion of dependent data from individuals who report multiple partners. However, in general, statistical interpretation from network analysis is more often qualitative than quantitative.

Composition of Networks

Over time, researchers have gathered two types of data that help to clarify the ways in

which HIV transmission may be facilitated within networks: "compositional" characteristics, which focus on the type and frequency of transmission-related characteristics of individuals in a network, and "structural" features, which reflect identifiable patterns into which networks may cluster.³ Compositional characteristics can include the sociodemographics, risk practices, or other risk markers (for example, having HIV) of each network member about whom the index respondent provides information. Structural features describe the physical network, including, for example, network size.

There are two additional dynamics that influence decisions to participate in HIV risk behaviors: social support and social isolation. However, while network research routinely looks at the composition and structure of networks, most network studies do not gauge network members' feelings about their interactions with other network members.

To determine the composition of a network, researchers ask participants about factors such as age, injection history, HIV serostatus, and sexual orientation for each network member named as part of the research. Researchers may also establish the proportion of network members whose characteristics, such as age or injection status, correlate with HIV infection or with behaviors that are most likely to lead to transmission,

as well as the nature of the relationships among members (for example, whether a person is a sex partner, a brother, a drug dealer), the frequency and types of interactions, and the duration of relationships.

Studies have found that a network's composition influences both HIV disease prevalence and incidence. Not surprisingly, studies have consistently found that networks with higher proportions of members whose HIV status or behavior correlate with a greater likelihood that they are or will become HIV-infected are associated with participation in high-risk sex and drug use practices for both index men and women. Sex partners seem to be particularly influential in introducing risk into a relationship. For example, several studies suggest that sex partners play a primary role in initiating their significant others into injection drug use, suggesting the power of peer pressure in these networks.

Finally, interactions among network members influence the norms, as well as behaviors, that facilitate or inhibit risk. Understanding a network's compositional characteristics may help researchers understand the extent to which condom use or needle exchange use norms, for example, may be transmitted among network members, and which intervention approaches are most likely to be effective and ultimately adopted within a particular type of network.

Structural Features of Networks

Studies of egocentric networks have also looked at the features that define the structure of a network. While research artificially teases apart these dynamics to better understand them, many structural as well as compositional features can and usually do operate simultaneously.

Identifiable network patterns include: size; density or the level of interconnectedness among network members; multiplexity, the overlap in the type of relationship between two network members; network member turnover or the change in network membership over time; partner concurrency, the participation in risk practices with two or more partners within a simultaneous or limited time frame; bridging, a measure that identifies linkages between a higher prevalence community (for example, men who have sex with men) and lower prevalence community (for example, heterosexual women); and centrality. In addition, socio-centric research can identify more complex constructs, for example, microstructures such as cliques and "k-plexes," which define the clustering patterns within communities.

Studies have found, in particular, that several of these features—turnover, multiplex-

ity, density, and concurrency—are associated with HIV prevalence, incidence, and epidemic spread. For example, frequent network member turnover, that is, the movement into and out of networks, increases the risk of encountering an infectious individual. Extreme examples of this are shooting galleries and bathhouses. One longitudinal study of injection drug users found that while network density and size were stable over time, high network member turnover was significantly associated with risky injection practices within networks.⁴

Multiplex relationships are those in which two people relate to each other both in terms of sharing activities that can lead to disease transmission (for example, unprotected anal intercourse) and activities that comprise a social connection (for example, a primary sex partnership). People in multiplex relationships tend to have strong ties; therefore these relationships are subject to strong social influence. Research has consistently found that social influence is an important factor in initiating risk within networks, for example, when a sex partner initiates a lover into injection drug use. Therefore, multiplex relations may reduce a person's ability to adopt and maintain HIV-related risk reduction if his or her multiplex relations are with network members who engage in risk behaviors. However, an individual's multiplex relationship with people who engage in protective behaviors may increase the likelihood that the individual will adopt these behaviors.

The density of a network may also either protect against or facilitate HIV transmission. Researchers measure network density by comparing the total number of actual connections between network members with the number of connections that are theoretically possible: the number of actual ties divided by the number of all possible ties.⁵ Networks that have high density—a high level of interconnectedness—may be protective in that there is a low probability that infection will be introduced into such self-referential networks. However, once HIV infection is introduced into a dense network, transmission is likely to be quick and efficient. In addition, dense networks with peer norms that advocate risk may be less likely to adopt risk reduction practices, and high density may also imply that there are many multiplex relationships.

Finally, studies have consistently found that partner concurrency affects HIV transmission. Statistical models have shown that concurrency, as compared with serial or sequential monogamy, predicts the exponential epidemic spread of HIV.⁶

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Dynamics between Networks

Many of the structural variables found at the egocentric network level, that is, linking individuals in the same network, also apply at the sociocentric network level, that is, linking groups of networks in the community. One example, "sex mixing patterns," describes the distribution of sex partnering at a community or population level. While these data are essential to accurately modeling the future of HIV epidemics,⁷ they are rarely surveyed. Sex mixing patterns can be defined in terms of assortative mixing ("like-with-like") and disassortative mixing and refer to specific characteristics of partners such as race and ethnicity, HIV status, or age. Disassortative age mixing among men who have sex with men was among the earliest sex mixing patterns to be identified as a risk factor for HIV incidence among young, White men. That is, younger men who had sex with older men were more likely to contract HIV than younger men who had sex exclusively with younger men. This pattern has also been found in heterosexually transmitted HIV epidemics and among drug users.

Disassortative mixing patterns, whether based on shared sex or drug use practices, has the potential to bridge otherwise disparate networks. Therefore, bridging relationships can introduce HIV into a network that has been free of it. However, bridging relationships also have the potential to efficiently introduce prevention information into disparate groups that appear unlinked.

Within sociocentric groups of networks, network configuration, network stability, and microstructures such as cliques have been correlated with HIV transmission over time. For example, a clique—a self-contained group of highly connected individuals, a network within a network—can facilitate rapid spread of an infection.

Taking Advantage of Networks

Current HIV preventive network interventions predicate a change in the culture and,

consequently, the beliefs and actions of network members. The methodology used to bring about behavior change is documented in such theories as the diffusion of innovation and in peer opinion leader approaches, both of which rely on changing social norms among key individuals in a network who will then diffuse these affirmative norms throughout the network.⁸ Although still somewhat rare, social network interventions have been more frequently conducted with injection drug users than with other population groups.⁹

While sociocentric network interventions have been implicitly implemented, these are more often considered to be community level interventions and have not been evaluated in terms of their effect on networks. As a result, researchers have little understanding about which sociocentric network structural features may influence the success or failure of community level interventions. For example, researchers suspect that epidemic HIV transmission may be fueled by sexual mixing between "core" groups with high HIV prevalence and populations with lower HIV prevalence, but research has not confirmed that community interventions work because they respond to this particular dynamic.¹⁰

Recent studies suggest that the Internet represents an environment that facilitates HIV and STI transmission.¹¹ In particular, researchers have found that men who have sex with men who seek sex partners on the Internet are more likely to be HIV-infected, to have a higher number of sex partners, and to more frequently report a history of STIs.

But the Internet also offers opportunities. Internet-based research reduces geographical boundaries, allows access to hidden populations, and is relatively inexpensive and efficient. In fact, the Internet may offer researchers the best venue in which to learn how to structure interventions that take advantage of the growing knowledge about what may be one of the most important concepts in disease prevention: social networks.

Authors

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Clearinghouse: Social Networks

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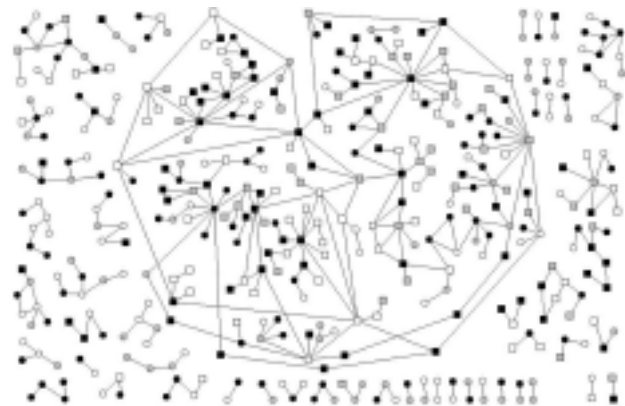
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Harnessing the Power of Social Networks to Reduce HIV Risk

Samuel R. Friedman, PhD, Melissa Bolyard, MA, Carey Maslow, DrPH, Pedro Mateu-Gelabert, PhD, and Milagros Sandoval

Many kinds of “networks” of people play a role in HIV transmission, prevention, and care. Sexual networks and injection

Diagram of the Bushwick Network



Circles represent people who have never injected drugs; squares represent people who inject drugs; lines indicate having sex or injecting drugs together in prior three months. Shades indicate “urging” behavior in prior three months among network members: Black—both urging anyone to use condoms in new relationship; and urging anyone not to use drugs; Gray = either one of these appeals; White—neither of these appeals.

networks can spread HIV and other infections. Support networks can help people seek medical care, adhere to medications, and cope with illness or transmission risk.

This article talks about a third type of

network—communication and influence networks—which can spread risk reduction messages and convince people to embrace these messages.

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Conceptualizing Social Norms

A great deal of research has dealt with identifying and changing “cultures of risk” and, in particular, changing social norms. Depending on the study, researchers conceptualize social norms in different ways. Studies of internalized social norms focus on what the participants believe, want, and think is good or bad, and how these beliefs

and desires can be changed to reduce HIV risk. This conceptualization, however, deals only with the individual and ignores the social processes by which beliefs and values are changed, sustained, and enforced.

Studies of external norms focus on a part of these broader social processes. External norms may take the form of normative pressure by peers, family members, neighbors, local or work-place opinion leaders, clergy or other people. In some studies, researchers ask participants to describe these influences, for example:

- What proportion of your close friends or associates encourage you to inject drugs?
- What proportion of your close friends or associates encourage you to use a condom when you have sex?
- What proportion of your close friends or associates would object if you took part in a threesome, foursome, or other group of people having sex?
- What proportion of the injection drug users you hang out with have encouraged you to have sex with a person they thought did *not* inject drugs?

These questions are about peer behavioral norms: the actions that participants’ friends have actually encouraged or that participants believe their friends would discourage. Such norms are statistically related to behaviors people engage in—but studies have not shown that the relationship is necessarily a causal one.^{1,2}

Spreading Normative Messages

There has been relatively little research on the spreading of normative messages that seek to reduce HIV-related risk. A recent study of the HIV-related messages that injection drug users disseminate offers an example of what such studies may discover.³

The study surveyed residents of the Bushwick area of Brooklyn and then sought

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and surveyed their sex and injection partners, the partners of these partners, and the partners of these additional partners. This survey included both injection drug users and other people. It looked at the extent to which people take part in urging other people to engage in various risk reduction behaviors. Qualitative interviews conducted by the project ethnographer confirmed that these reports referred to recent concrete actions rather than to abstract intentions or to actions well in the past.

The study found that there is a considerable amount of such risk reduction "urging" going on within this population. It also suggests that these urging messages are most likely to occur among people who are in regular contact with each other, for example, drug users who urge each other not to take risks. Notably, the study found that significant numbers of people in the overall sample were urging others to use condoms, not to use drugs, and to get into drug treatment. (See "Protective Actions among Social Network Members" below for a summary of these results.) Since the survey did not ask about the urgers' relationships to those being urged, it is not certain whether these normative influences were taking place among peers, people with other ties, or even people with no real ties to each other.

Within the subsample of 413 of the Bushwick study participants who had sex with, or injected drugs with, at least one other study participant in the three months before they (or their partner) were interviewed, all but 21 participants were either urgers themselves or partners of urgers. Further, only five of 185 injection drug users were neither urgers nor the partners of urgers. (See "Graphic Representation of a Network" on page 5 for an example of how researchers map network relationships

based on data from this study.)

While the study did not try to relate urging to risk reduction outcomes, these data do seem to indicate that at least in this one community, there is a lot of health communication among the people at greatest risk for HIV. Indeed, it seems that this communication is a process by which norms become institutionalized as semi-permanent characteristics of the community. This process may be called "intravention."

The Importance of Fostering Intravention

One implication of this finding is that HIV prevention projects should not assume that communities are "blank slates." That is, they should not ignore the extent to which community members are already communicating with each other about the very topics that the project is seeking to address. Projects that do ignore these apparently invisible forces risk implementing interventions that may actually be less sophisticated than already existing community intraventions or, perhaps worse, may contradict already effective intraventions.

Another implication is that projects should evaluate their success not only in terms of risk reduction by their participants but also in terms of the extent to which their participants and others in the community take part in intravention activity. This shift in focus accomplishes two things. First, it prioritizes the contribution of the project to potentially self-maintaining normative change. Second, it helps to direct attention away from overly individualistic "protect yourself" messages—which may weaken the very community solidarity that may be needed for effective normative change—and toward "help others and the community" messages, which may strengthen solidarity and normative change.⁴

Protective Actions among Social Network Members

Survey of 413 network members from a sample in Brooklyn, New York.

	INJECTION DRUG USERS (160)	CRACK SMOKERS (61)	NON-INJECTION USERS OF HEROIN OR COCAINE (80)	MARIJUANA USERS (90)	NON-USERS OF THESE DRUGS (75)
IN THE PRIOR 3 MONTHS, HAVE YOU:					
Urged anyone to use condoms when starting a new relationship?	46%	56%	56%	64%	55%
Urged anyone to not use drugs?	51%	64%	54%	48%	41%
Urged anyone to get into drug treatment?	54%	64%	40%	28%	25%
Urged any drug injector to use condoms when they have sex?	39%	31%	19%	9%	13%
Urged any drug injector to use needle exchanges?	38%	13%	15%	2%	4%

Recent Reports

Concurrent Sexual Partnerships

Gorbach PM, Stoner BP, Aral SO, et al. "It takes a village": Understanding concurrent sexual partnerships in Seattle, Washington. *Sexually Transmitted Diseases*. 2002; 29(8): 453–462. (University of California, Los Angeles; U.S. Center for Disease Control and Prevention; and University of Washington, Seattle.)

A cross-sectional study of heterosexual men and women identified six forms of "concurrent" sexual partnership, each associated with a different level of sexually transmitted infection risk. A concurrent partnership is a sexual partnership in which one or both of the members has other sexual partners and continues to have sexual activity with the original partner.

Researchers interviewed three groups of 228 heterosexual men and women in Seattle from 1996 to 1998. The "STI group" consisted of 108 sexually transmitted infection clinic attendees who had tested positive for an STI. The remaining 120 individuals—comprised of 60 men and 60 women ages 18 to 50—were selected randomly from six census tracts: three tracts with the highest gonorrhea incidence in metropolitan Seattle (the "high-risk" community sample); and three other tracts (the "low-risk" community sample).

Male STI subjects had the highest mean age, 35 years, and female STI subjects had the lowest, 23 years. African American and other non-White ethnic groups made up 78 percent and 63 percent, respectively, of the STI and high-risk community samples, while White subjects made up 89 percent of the low-risk community sample.

The majority of respondents had a primary partner. The majority of respondents in most groups also reported having ever had a concurrent partnership; of the women in the low-risk community group, however, only 40 percent reported concurrent partnerships. Based on participants' reported experiences, there are six main categories of concurrency: experimental, separational, transitional, reactive, reciprocal, and compensatory.

Experimental concurrency is characterized by short-term overlapping partnerships. Due to the uncommitted nature of such partnerships, condom use was common and acceptable.

Separational concurrency occurs during

physical separation from a main partner. Such concurrency is often acknowledged and accepted by both partners, although partners generally keep details of the outside relationship private from the other partner. Respondents in this category reported not using condoms with their main partners but often reported condom use with outside partners. Condom use was much less likely, however, when outside partners were consistent, since the higher level of intimacy and trust made condom use more difficult to negotiate.

Transitional concurrency often occurs in the early "just dating" stage or the late dissolving phase of a relationship. Subjects often report not using condoms during transitional concurrency, due to a desire to establish trust in a new relationship or maintain trust in an ending relationship which they may be trying to salvage.

Reactive concurrency generally occurs as revenge for a main partner's infidelity. Most reactive subjects reported condom use with outside partners but not with main partners.

In reciprocal concurrency, sometimes referred to as "open partnerships," both partners agree that outside partnerships are acceptable. Notably, this pattern was reported only by White respondents. Subjects generally reported condom use with outside partners but not with main partners.

Compensatory concurrency occurs when one partner perceives deficiencies in the main partnership and compensates by having "flings." Condom use with the main partner is rare, since such concurrency is inevitably hidden. The spontaneous nature of these outside partnerships, coupled with substance use, occasionally compromised otherwise frequent condom use with these partners.

Condoms were infrequently used in each of three other concurrency situations: group sex (substance use undermined condom use); co-parenting (the sense of trust and intimacy with a former partner undermined use); and survival sex (inability to negotiate undermined condom use).

Social Network Structure

Smith AM, Grierson J, Wain D, et al. Associations between the sexual behaviour of men who have sex with men and the structure and composition of their social networks. *Sexually Transmitted Infections*. 2004; 80(6): 455–458. (La Trobe University, Melbourne; and University of Melbourne.)

Lower social network density—defined as the proportion of people in a network who knew each other—was associated with higher levels of sexual activity, according to an Australian study of men who have sex with men.

An Australian study found that lower network density was associated with higher levels of sexual activity.

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Researchers recruited 206 gay and bisexual men during 2002 through chain referral and advertising in Melbourne, and interviewed them about HIV status, sexual history, and social networks. Researchers distinguished between casual contacts and contacts with whom the subject was close, requesting gender, sexual orientation, HIV status, and age demographics for both groups of contacts. Participants named up to 20 people for each group, indicating which contacts also knew each other.

Of the total sample, 74 percent was HIV-positive, 15 percent was HIV negative, and 11 percent was of unknown status. Ages ranged from 19 years to 76 years old, with a mean age of 37 years old.

As network density decreased so did the number of anal sex partners. Further, subjects who were part of larger networks reported more anal sex partners than subjects with smaller networks. These data suggest that the social (and sexual) activity of members of dense social networks may be under greater scrutiny by their peers and this scrutiny may act as a disincentive to sexual activity with other network members.

Membership in a network that was not populated exclusively by HIV-negative people was also associated with higher numbers of anal sex partners. Finally, subjects of unknown HIV status reported higher numbers of anal sex partners in the prior year than subjects who were aware of their HIV status.

Risk within Urban Social Networks

Rothenberg RB, Long DM, Sterk CE, et al. The Atlanta Urban Networks Study: A blueprint for endemic transmission. *AIDS*. 2000; 14(14): 2191–2200. (Emory University, Atlanta; National Opinion Research Council, Washington D.C.; and El Paso County Department of Health and Environment, Colorado Springs.)

In a longitudinal study of social networks in Atlanta, it was rare for pairs of network members to share only one form of connection: sexual, needle-sharing, other drug use, or social.

Researchers recruited subjects through referral from 1995 to 1998 in three geographically separate sites in Atlanta. After establishing six "chains" (networks), researchers conducted interviews with subjects to collect information on psychosocial and demographic variables, drug-related HIV risk, sexual behaviors, and social network details. Participants received HIV tests, and returned for up to three follow-up interviews at six-month intervals.

Of the 292 participants, 228 were members of one of the six community chains, and the remaining 64 were considered "ethnographically important" or were

thought to be connected to a chain even if not specifically named. Demographic data for the community chains subsample include: 62 percent of respondents were male; 89 percent were Black; 31 percent were homeless; and the average age of the sample was 40, with 91 percent of subjects older than 30. Of the 234 subjects who tested for HIV, 13 percent tested HIV-positive.

For the whole sample, male subjects reported an average of almost seven sexual contacts in the prior month. Female subjects reported more than 14, although most of these encounters were commercial: few women self-identified as prostitutes, but 71 percent reported exchanging sex for drugs.

Crack was the predominant drug, used an average of 18 days out of the prior 30 days. In the prior six months, 82 percent of subjects had used crack; 30 percent had used cocaine; and 30 percent had used heroin (18 percent via injection).

Relationships that involved only sexual activity or only needle-sharing occurred in less than 10 percent of community chain pairs, although relationships that involved only non-needle-sharing drug use were common. Relationships that combined sex and non-needle-sharing drug use still occurred more frequently than relationships that combined sex and needle sharing. The combination of sexual and social relationships was almost non-existent, suggesting infrequent pairing in domestic relationships.

Next Issue

In the early 1990s, Australian researchers identified the phenomenon of "negotiated safety": primary partners in gay male couples forged agreements that seemed to protect each partner from HIV while allowing sexual activity outside the couple. Prevention campaigns based on this "breakthrough" raised both hope and controversy. In the February issue of *FOCUS*, **Colleen Hoff, PhD**, Research Associate at the UCSF Center for AIDS Prevention Studies and a therapist in private practice, reviews the literature on negotiated safety and presents data on the efficacy of agreements and on the impact of agreements on other aspects of relationships.

Also in February, **Samuel Jinich, PhD**, a therapist and former president of the San Francisco Psychological Association, reviews clinical approaches to working with couples on communication issues.

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