

# SOCIAL SUPPORT AND MAINTENANCE OF SAFER SEX PRACTICES AMONG PEOPLE LIVING WITH HIV/AIDS

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*The study discussed in this article addressed the relationship of social support to the maintenance of long-term safer sex practices of 360 HIV-positive adults recruited from outpatient medical facilities. Medical professionals, friends, and siblings were reported the most frequent sources for assistance, whereas regular sexual partners, medical professionals, and community organizations were rated as the most helpful. Differences in social support use across ethnic, gender, and sexual orientation groups were observed. Those engaging in safer sex practices perceived the support they received as more helpful. These findings emphasize the link between positive support networks and avoidance of high-risk sexual behavior in HIV-positive individuals. Implications for the delivery of culturally appropriate, gender-specific, and community-based interventions are discussed.*

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**Key words**

HIV/AIDS  
safer sex practices  
social support

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People with HIV/AIDS require a complex array of social support services. It is critical for those working with this population to know the kinds of support that are most effective in helping people living with HIV/AIDS sustain their health, safety, and well-being.

Social support assumes many forms and can encompass a variety of relationships and behaviors. It can be best understood as the relationships and interactions that provide individuals with assistance or feelings of attachment (Hobfoll, Freedy, Lane, & Geller, 1990). The social science literature supports the notion that sufficient social support improves the physical and mental health and stress coping abilities for a variety of populations of concern to health services providers (Vaux, 1988). Barrera (1986) suggested that there are three types of support: social embeddedness (that is, the connections people have to others in their environment); perceived social support (that is, an individual's cognitive appraisal of connections to others); and enacted or received support (that is, behaviors or actions performed by others as they express their support). Vaux contended that social support includes social networks, reports of supportive behaviors, and perceptions of support adequacy. Sources of support can be material and emotional (Walsh, 2000) and provided informally by friends and family and by formal social services systems (Streeter & Franklin, 1992).

HIV-positive individuals rely on formal and informal social support systems for their HIV-related concerns (Hays, Magee, & Chauncey, 1994; Ingram, Jones, Fass, Neidig, & Song, 1999; Johnston, Stall, & Smith, 1995; Turner, Pearlin, & Mullan, 1998); however, research suggests that sources of support and perceived helpfulness differ by social group (for example, gender, ethnicity, and sexual orientation). Women have been found to benefit more than men from social support (Metcalfe, Langstaff, Evans, Paterson, & Reid, 1998; Turner et al.); rely more heavily on informal support networks (Florence, Lutzen, & Alexius

Birgitta, 1994); and report using religion to cope with their HIV-related issues (Biggar et al., 1999; Kaplan, Marks, & Merjens, 1997). Yet, women also report approaching formal systems such as social service agencies with considerable trepidation; they feel more isolated and unsupported, distrust medical providers, and are less satisfied with managed care programs (Cherin et al., 2001; Chung & Magraw, 1992; Ingram et al.; Land, 1994; Siegel, Ravhis, & Karus, 1994). Walsh (2000) found that women experienced greater stress with a larger social network because they tended to view themselves as caregivers rather than receivers of support.

In terms of ethnic differences, African Americans and Latinos are more likely to engage in religious activity as a coping response (Daly, Jennings, Beckett, & Leashore, 1995; Krausc & Van Tran, 1989) and rely on more informal types of support such as family and friends (Daly et al.; Ostrow et al., 1991); white Americans use a variety of informal and formal social support networks (Jung & Khalsa, 1989; Ostrow et al., 1991). Compared with heterosexuals, HIV-positive gay men received more support from friends than from family members (Hays et al., 1994; Johnston et al., 1995; Kimberly & Serovich, 1999; Siegel et al., 1994), and their families of origin have not been viewed as particularly helpful (Kimberly & Serovich; Schwarzer, Dunkel-Schetter, & Kemeny, 1994).

Considerable evidence suggests that positive social support helps people maintain their health and welfare under difficult circumstances (Hudson, Lee, Miramontes, & Portillo, 2001; Kimberly & Serovich, 1999; Saunders, & Burgoyne, 2001), and researchers have suggested that positive social support networks may be related to avoidance of high-risk sexual behavior among HIV-positive individuals (Kimberly & Serovich; Peterson et al., 1992; Turner et al., 1998). This is an important issue to explore, because several recent studies have documented that a significant number of HIV-positive individuals engage in unsafe sexual practices (that is, unprotected anal and vaginal intercourse) (Darrow et al., 1998; Heckman et al., 1998; Kalichman, 1999; Ostrow, McKirnan, Klein, & DiFranceisco, 1999; Reilly & Woo, 2001). In addition, some men and women who adopted safer sex practices are returning to risky sex practices (Kalichman & Ostrow, 1998; Ostrow et al., 1999; Ostrow, DiFranceisco, & Kalichman, 1997).

Heckman and colleagues (1998) found that low levels of social support from family members were associated with higher levels of risk behavior. Kline

and Van Landingham (1994) studied the consistent use of condoms in 214 HIV-positive women for a month and found that when care and formal and informal support were weak, the women tended not to share their HIV status with their partners. Pandian and colleagues (1993) documented that couple counseling in combination with positive social support were correlated with safer sex practices in their study of 144 couples that were discordant for HIV serostatus. Kelly and colleagues (1993) found that social support interventions with 68 HIV-positive men reduced depression and their rates of unprotected receptive anal intercourse. O'Brien and colleagues (1993) documented that receipt and perceived helpfulness of social support among men at risk of HIV was positively related to safer sex practices.

However, the relationship between social support and adoption of safer sex practices may differ by demographic group. In a study of 20 African American and 20 white homosexual or bisexual men attending an outpatient medical clinic, Ostrow and colleagues (1991) found a positive relationship between perceived adequacy of social support and adoption of safer sex practices for white men, but the relationship was reversed for African American men. Certain types of social support were positively related to an increase in high-risk sexual behavior. The authors concluded that the differences might result from definitions and composition of social support for different racial groups (for example, dependence on informal versus formal support systems).

As the incidence of HIV infection and AIDS continues to rise, it is imperative to better understand how social support use and perceived unmet need relate to the maintenance of long-term safer sex practices of HIV-positive individuals. The purpose of this article is to examine social support use in a sample of HIV-positive people; explore whether there are gender, ethnic, or sexual orientation differences in social support; and determine the relationship between received and perceived helpfulness of social support and unsafe sexual practices. We hypothesized that HIV-positive people who have positive social support engage in fewer transmission-risk practices.

## **METHOD**

### **Participants and Procedures**

Participants included 360 HIV-positive adults (292 men and 68 women) receiving outpatient medical care for HIV/AIDS-related issues from a public

agency (that is, a public clinic run by the University Medical Center;  $n = 197$ ) and a private agency (that is, Lambda Health Care;  $n = 163$ ). Almost 75 percent of individuals who receive HIV medical care in the Las Vegas Valley obtain care from these two agencies (Clark County Health District, 2000). Patients who entered these clinics between February 1999 and May 1999 were asked by the receptionist or medical personnel whether they were interested in participating in a voluntary and confidential study of people with HIV/AIDS in Clark County, Nevada. Few individuals refused to participate ( $n = 12$ ). Surveys were self-administered unless reading assistance was requested ( $n = 4$ ), and participants were compensated \$10 for their time. Surveys were available in Spanish, although few people completed the Spanish questionnaire ( $n = 7$ ). Individuals were encouraged to complete the survey on site while waiting for their medical appointment; however, they were allowed to take surveys home and return them ( $n < 10$ ). No identifying information was collected. The medical staff only tracked individuals who completed the surveys to ensure that nobody was recruited more than once.

### Measures

The survey instrument was pretested with prevention and intervention workers and clients of a local community-based HIV/AIDS organization.

**Demographics Factors.** Standard demographic information (that is, age, race/ethnicity, gender, income, education, and employment status) and information on sexual orientation was obtained.

**Social Support Usage.** Consistent with Peterson and colleagues (1992), social support was measured by asking respondents if they received help for any HIV/AIDS-related issue from any of the following informal and formal sources in the past six months: regular sexual partners, casual sex partners (that is, occasional sex encounters), parents, siblings, friends, medical professionals, religious or spiritual leaders or advisers, mental health professionals, social services professionals, and community organizations. Individuals indicating that they received help were asked to rate the helpfulness on a response scale ranging from 1 = extremely harmful to 5 = extremely helpful. The responses were averaged to form composite measures.

**Sexual Behavior.** Respondents were asked to estimate the number of sexual contacts with men and women during the preceding six months. The six-month timeframe has been found to both be

broad enough to sample behavior patterns and provide a reliable measure of sexual behavior (Bajos, Spira, Ducot, Lerdon, & Riandey, 1991; Catania et al., 1992). Respondents were asked about behaviors with regular partners (defined as someone with whom there had been a relationship for more than three months without excluding relationships with other partners at the same time) and casual partners (defined as any occasional sexual encounter during the preceding six months). The sexual behaviors of interest included insertive and receptive anal intercourse and vaginal sex; therefore male respondents were asked about male and female partners, whereas female respondents were only asked about male partners. Respondents also were asked whether they disclosed their own HIV status and knew the HIV status of their partners.

## RESULTS

### Demographics

The recruitment sites yielded a sample that was diverse in socioeconomic status and ethnicity (see Table 1). Compared with Clark County statistics of HIV-positive individuals (Clark County Health District, 2000), our sample had a larger proportion of African Americans and women. It also had a higher proportion of respondents in the 31 to 50 age range, compared with those younger or older.

### Social Support Usage

Medical professionals, friends, and siblings were reported as the most frequent sources for assistance during the preceding six months (> 50 percent) (see Table 2). Regular sexual partners, medical professionals, and community organizations were rated as most helpful on average, whereas casual sex partners, siblings, and social services professionals were rated as least helpful. In general, mean helpfulness was high across all sources.

Gender, ethnic, and sexual orientation differences in who received support were tested using chi-square analyses. Income was related to reports of receiving support, ethnicity, and sexual orientation. In general, those with household incomes less than \$15,000 reported receiving more help than those with household incomes greater than \$15,000. More African American respondents (78.9 percent) reported incomes less than \$15,000 than did white (45.6 percent) and Latino respondents (55.3 percent) [ $\chi^2(2) = 32.82, p < .001$ ]. A higher proportion of heterosexual (65.2 percent) and bisexual (77.0 percent) respondents reported incomes less than \$15,000, compared with homosexual respondents

**Table 1. Sociodemographic Characteristics of Study Respondents and Clark County Population**

	Current Study		Clark County	
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	292	81.1	2,835	87.6
Female	68	18.9	403	12.4
Race/ethnicity				
White	194	53.9	2,051	63.3
African American	115	31.9	718	22.2
Hispanic/Latino	35	9.7	413	12.8
Other	16	4.4	56	1.7
Education				
Graduated high school	193	53.8		
Income				
Under \$15,000	205	57.3		
Employed				
Full-time or part-time	138	38.7		
Sexual orientation				
Heterosexual	136	38.1		
Bisexual	61	16.9		
Homosexual	160	44.4		
Age (years)				
30 or less	31	8.6	84	25.9
31-40	165	45.6	919	28.4
41-50	125	34.7	1,328	41.0
More than 50	39	10.8	907	28.0

(42.8 percent) [ $\chi^2(1) = 25.86, p < .001$ ]. When significant group differences were found for receiving support, we conducted posthoc analyses to examine whether this pattern was found for respondents reporting household incomes less than \$15,000 and more than \$15,000. Only compari-

sons where consistent patterns were found across the two income groups are reported. Inconsistent group differences across the two income groups are not reported, because the small cell sizes that result from cross-tabulating received support by demographic group by income category make such findings unreliable.

Among those who reported receiving support, group differences in ratings of the helpfulness of specific types of support were tested with analysis of variance (ANOVA), using income as a covariate. In addition, average helpfulness across all types of support was examined.

Compared with men, women were more likely to report receiving help for any HIV/AIDS-related issues from siblings, religious or spiritual leaders, mental health professionals, and community organizations (see Table 3). These patterns were consistent among those with household incomes above and below \$15,000. Among those who received help, women were more likely to rate casual sex partners, medical professionals, mental health professionals, social services professionals, and community service organizations as more helpful. It is not surprising that average helpfulness from all sources of support was higher for women than for men.

African American (40.4 percent) and Latino (31.4 percent) respondents used religious or spiritual advisers more often than did white respondents (18.7 percent) [ $\chi^2(2) = 17.40, p < .001$ ]. Latino respondents (57.1 percent) were more likely to receive help from community organizations, compared with white (31.1 percent) and African American (37.7%) respondents [ $\chi^2(2) = 8.96, p < .05$ ]. In terms of helpfulness from these sources,

**Table 2. Social Support and Perceived Helpfulness of Support among HIV-Positive Adults**

Source of Support	Received Support in Preceding 6 Months		Perceived Helpfulness	
	<i>n</i>	%	<i>M</i>	<i>SD</i>
Medical professionals	304	84.4	4.52	0.71
Friends	217	60.3	4.28	0.76
Siblings	188	52.2	4.10	0.96
Social services professionals	166	46.1	4.12	0.93
Parents	156	43.3	4.25	0.85
Regular sexual partner	146	40.6	4.54	0.74
Community organizations	128	35.6	4.40	0.75
Religious or spiritual advisers	96	26.7	4.21	1.12
Mental health professionals	77	21.4	4.28	0.84
Casual sex partner	68	18.9	4.00	1.84

**Table 3. Gender Differences in Social Support among HIV-Positive Adults, by Type of Support and Gender**

Source of Support	Received Support in Preceding 6 Months			Perceived Helpfulness		
	Male	Female	<i>p</i> <	Male	Female	<i>p</i>
	%	%		<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	
Regular sexual partner	40.5	42.6		4.52 (.76)	4.62 (.68)	
Casual sex partner	20.6	13.4		3.87 (.82)	4.78 (.44)	.01
Parents	41.9	50.7		4.20 (.87)	4.45 (.75)	
Siblings	48.5	69.1	.01	4.04 (.97)	4.28 (.89)	
Friends	59.8	63.2		4.26 (.77)	4.38 (.70)	
Medical professionals	84.2	86.8		4.48 (.74)	4.69 (.57)	.05
Religious or spiritual advisers	24.3	37.9	.05	4.13 (1.15)	4.43 (.99)	
Mental health professionals	19.0	32.4	.05	4.11 (.89)	4.71 (.46)	.01
Social services professionals	44.9	51.5		4.01 (.96)	4.51 (.66)	.01
Community organizations	33.0	47.8	.05	4.30 (.79)	4.69 (.54)	.05
Overall support from all sources				4.28 (.59)	4.55 (.43)	.001

Latino ( $M = 4.22, SD = .97$ ) and African-American ( $M = 4.20, SD = .96$ ) respondents found support from siblings to be more helpful than did white respondents ( $M = 3.70, SD = 1.12$ ),  $F(2) = 3.10, p < .05$ .

A smaller proportion of homosexual respondents received help from religious or spiritual advisers (13.8%) compared with heterosexual (35.8 percent) and bisexual (39.3%) respondents [ $\chi^2(2) = 24.51, p < .001$ ]. Homosexual respondents also viewed this help as less helpful ( $M = 3.77, SD = 1.41$ ) compared with heterosexual ( $M = 4.50, SD = 0.85$ ) and bisexual ( $M = 4.18, SD = 0.96$ ) respondents [ $F(2) = 3.98, p < .05$ ]. In terms of the perceived helpfulness of social services professionals, bisexual respondents rated them as the least helpful ( $M = 3.77, SD = 0.82$ ) compared with heterosexual respondents ( $M = 4.29, SD = 0.84$ ), with homosexual respondents ( $M = 4.11, SD = 0.95$ ) falling in between [ $F(2) = 3.90, p < .05$ ].

### Sexual Behaviors

One-third (34.2 percent) of all respondents reported at least one occasion of unprotected anal or vaginal intercourse in the preceding six months. Another 34.7 percent reported always using a condom during sexual encounters, and 31.1 percent reported not engaging in any sexual encounters. For further detail on the relationship between sexual behavior and demographic variables, psychosocial factors, and emotional states, see Reilly and Woo (2001). We compared social support use across the "unsafe sex" and "safer sex" groups. A

higher proportion of the unsafe sex group had incomes less than \$15,000; therefore, the receipt of support from specific sources is reported only if the group differences were significant and consistent patterns were found among those with incomes less than and more than \$15,000. We also examined perceived helpfulness of support with income as a covariate.

### Social Support Use and Unsafe Sex

We found no differences between the safer sex and unsafe sex groups in receipt of HIV/AIDS-related help from parents, but found a marginally significant difference in perceived helpfulness: the safer sex group found parents more helpful than did the unsafe sex group (Table 4).

A larger proportion of the unsafe sex group received support from friends compared with the safer sex group, but there were no differences in perceived helpfulness.

A larger proportion of the unsafe sex group received support from social services professionals compared with the safer sex group. However, the safer sex group found social services professionals to be more helpful than did the unsafe sex group.

Finally, the safer sex group found all sources of support to be more helpful than did the unsafe sex group. Multiple regression analyses were used to test whether average helpfulness across all sources of support predicted unsafe sex group membership after controlling for being female, being an ethnic minority, having only a high school education, and having a household income

**Table 4. Differences in Social Support for Safer and Unsafe Sex Groups of HIV-Positive Adults**

Source of Support	Received Support in Preceding 6 Months			Perceived Helpfulness		
	Unsafe Sex %	Safer Sex %	<i>p</i> <	Unsafe Sex <i>M</i> ( <i>SD</i> )	Safer Sex <i>M</i> ( <i>SD</i> )	<i>p</i>
Regular sexual partner	59.3	49.6		4.48 (.75)	4.59 (.77)	
Casual sex partner	30.8	20.2		4.06 (.79)	3.82 (.91)	
Parents	47.5	45.2		4.04 (.83)	4.38 (.85)	.10*
Siblings	52.8	55.6		3.91 (.98)	4.21 (.96)	
Friends	73.2	57.3	.01	4.26 (.67)	4.36 (.77)	
Medical professionals	87.0	85.5		4.40 (.77)	4.62 (.58)	
Religious/spiritual leaders	26.2	29.8		4.10 (1.14)	4.36 (1.05)	
Mental health professionals	21.3	29.8		4.04 (.89)	4.34 (.87)	
Social service professionals	54.5	38.4	.05	3.96 (.98)	4.30 (.81)	.05
Community organizations	44.7	36.6		4.42 (.74)	4.46 (.74)	
Overall support from all sources				4.24 (.51)	4.41 (.54)	.05

of less than \$15,000. Perceived helpfulness of support was negatively related to unsafe sex group membership even after controlling for demographic factors (Table 5). Those who perceived their support as helpful were less likely to have engaged in unsafe sex, confirming our hypothesized relationship between positive social support and safe sex practices.

## DISCUSSION

Overall, medical professionals, friends, and siblings were reported the most frequent sources for assistance. Casual sex partners, siblings, and social services professionals were rated as least helpful. Given that the recruitment sites were outpatient medical centers, it is not surprising that medical professionals were listed most frequently as a source of support. After controlling for income, differences were observed in regard to gender, ethnicity, and sexual orientation.

Women, compared with men, were more likely to report receiving assistance from a variety of formal and informal systems and reported higher satisfaction with the averaged helpfulness from all sources. Because of the unique and multiple needs of women, this may suggest that they are relying on a variety of supportive networks in dealing with their illness and in doing so encountering positive outcomes. African American and Latino respondents used religious or spiritual advisers more often. This finding suggests that faith-based institutions may be an important venue for prevention

and intervention efforts in African American and Latino communities (Djwotho & Quansah, 1994). African American and Latino respondents also found support from siblings more helpful than did white respondents. The reliance many ethnic groups place on family for social support needs to be a focal point for intervention. Gay men used religious or spiritual advisers less often than did heterosexual respondents and viewed their support as less helpful. Identifying and linking religious or spiritual networks that are supportive of HIV-positive individuals and do not conflict with the values and norms of specific HIV-positive people is an important intervention that religious or spiritual organizations should make available.

More than one-third of all respondents indicated that they engaged in high-risk sex practices (that is, anal and vaginal intercourse) in the preceding six months. These findings seem to mirror

**Table 5. Predictors of Unsafe Sex among HIV-Positive Adults**

Predictor Variable	$\beta$	<i>t</i> value
Female	-.09	-1.36
Ethnic minority	-.06	-0.81
High school graduate or less	.14	2.09**
Household income < \$15,000	.05	0.76
Support perceived as helpful	-.11	-1.65*

\**p* < .10. \*\**p* < .05.

other recent studies that have documented an alarming increase in transmission-risk practices among HIV-positive people and other high-risk groups. Prevention experts have speculated that highly effective drug therapies and the failure of safe-sex messages are contributing to these findings (Lynch, 2000). However, the hypothesized relationship between social support and safe sex practices for HIV-positive people was confirmed. Overall, individuals who viewed their support as helpful engaged in fewer transmission-risk practices. In addition, a marginally significant relationship between negative parental support and unsafe sexual practices was found. It was surprising that a higher proportion of those engaging in unsafe sex reported receiving help for HIV/AIDS-related issues from friends, suggesting that friends may not provide the type of support necessary to maintain safer sex practices. Friends may be viewed as less judgmental and less likely to lecture about behaviors the respondent should or should not engage in, or people who do not want to change their sexual behavior may be more likely to turn to nonjudgmental friends than to other sources of support.

### **Limitations of the Study**

First, data collection methods in this study relied on self-reports of behavior, which are susceptible to response biases. Also, the sample was one of convenience recruited only from medical establishments and is biased toward people already enrolled in medical care; therefore, it cannot be considered representative of all people living with HIV/AIDS. On the other hand, the nature of this topic requires relying on self-reports and convenience samples. Furthermore, this sample was taken from the two medical clinics where almost 75 percent of all HIV-positive individuals in the Las Vegas Valley obtain outpatient care. Our findings need replication with a larger sample population of women, and more exploration is needed into the factors that underlie supportive social networks and high-risk sexual behaviors. Specifically, the quantity, quality, and type of social support that is most effective in helping HIV-positive people maintain safer sex practices merits additional inquiry. Despite its limitations, this research offers insights for intervention efforts on behalf of HIV-positive individuals.

### **Implications for Social Work**

Dramatic shifts in the demographics of individuals infected with HIV suggests that increasing

numbers of women, ethnic minority groups, and people with fewer resources to cope with the disease will create new demands for medical and social care. Culturally appropriate, gender-specific, and integrated community-based interventions are essential in developing and nurturing positive supportive networks.

Social workers need to understand that HIV is a chronic condition with ongoing service needs that fluctuate and require differing levels of services and support networks. People with HIV/AIDS can be helped to expand their social support systems and seek and use formal and informal support networks. Informal supports can be especially important, because the scope and availability of formal services is limited. Although it is difficult to predict which informal networks are most helpful, social workers must ensure the active involvement of HIV-positive individuals in the development and maintenance of support networks. The findings regarding social support networks are important for social work intervention specialists to consider, given that many HIV-positive individuals are disconnected geographically or emotionally from traditional support systems such as family, and faith-based institutions and must rely on different types of support networks. Ingram and colleagues (1999) and Siegel and colleagues (1997) argued that it is important to assess positive social support and negative social interactions separately. They suggested that exploring both the positive and the negative side of social interactions and support is critical for successful preventive interventions for people with HIV.

Although HIV-positive individuals engaging in safer sex practices, compared with those engaging in unsafe sex practices, found all social support sources to be more helpful, social services professionals were viewed as less helpful than most other groups. This is a disturbing finding given that social work prides itself in being at the cutting edge of interventions with at-risk groups. Social work practitioners in the field suggested that social services professionals in Clark County may be constrained by the funding for their case management roles, which emphasizes a medical model and places less value on holistic social work interventions.

Given the multiple support needs of HIV-positive individuals, it is critical that social work intervention include roles as advocates, brokers, mediators, and planners. On a micro level, social workers need to understand the support systems used by their clients, especially clients engaging in

unsafe sexual practices, and assess the willingness to expand their networks or strengthen them. This may involve identifying an appropriate support or peer group and providing family and friends with educational materials and counseling or connecting them to other families or individuals for emotional support. On a macro level, social workers need to be involved in community funding decisions such as Ryan White allocations to ensure availability of support groups for women and ethnic groups (including groups for non-English-speaking individuals), translation services, and culturally appropriate and gender-specific medical and social services. Given the heavy reliance of some groups on faith-based institutions, it is critical that these institutions be active in prevention and intervention efforts. Trained social workers, through their knowledge of resources and expertise in coordinating services, are key to facilitating the multiple support needs of HIV-positive individuals. However, the social work profession may want to re-evaluate its leadership role and effectiveness in serving HIV populations. This should be done by soliciting more direct feedback from HIV-positive individuals, their families, and other helping professions. **HSW**

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