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AIDS and Intravenous Drug Use: Future Directions for Community-Based Prevention Research

AIDS and Intravenous Drug Use: Future Directions for Community- Based Prevention Research

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Lost Opportunity to Combat AIDS: Drug Abusers in the Criminal Justice System

Eric D. Wish, Joyce O'Neil and Virginia Baldau

INTRODUCTION

In the absence of a cure for acquired immunodeficiency syndrome (AIDS), societal efforts are aimed toward limiting the spread of the disease. To accomplish this, information regarding the risk behaviors for contracting and transmitting the disease is being distributed to the general population. In addition, outreach programs are being established in many cities to identify subgroups of the community for AIDS education and counseling. Most of these programs have been directed toward drug abusers and homosexuals, persons whose behavior may place them at high risk for AIDS.

Persons who inject illicit drugs constitute the predominant source of heterosexual and perinatal transmission of the human immunodeficiency virus (HIV) that leads to AIDS (Des Jarlais and Hunt 1988). Drug injectors are at high risk of AIDS because their needle-sharing behavior makes them vulnerable to HIV infection, which, in turn, they can spread: by exchanging body fluids; by sharing injection equipment; and, in the case of female drug users, by transmission from mother to infant.

Because persons do not generally publicize their injection of illicit drugs, AIDS outreach programs typically locate drug injectors by approaching persons who have entered publicly funded treatment programs, or by establishing bases in minority neighborhoods known to be frequented by drug abusers. This paper suggests that an important additional avenue exists for reaching drug injectors—by approaching the thousands of drug abusers among arrestees and persons supervised by the criminal justice system.

Data from the Drug Use Forecasting (DUF) System of the National Institute of Justice (NIJ) (DUF Statistics 1988) has documented the high prevalence of recent illicit drug use by arrestees in the largest U.S. cities. For example, the prevalence of recent cocaine use, measured by urinalysis, is about 10 times that found in interview surveys of student and household populations. In addition, the majority of drug injectors surveyed through DUF indicated that they had injected cocaine. Since other injectable drugs like meth-amphetamines and opiates were also detected in various regions of the country, one might expect that the offender population would contain substantial numbers of drug injectors at risk for AIDS.

To assess the potential risk of HIV infection in offenders, this report analyzes new information from DUF interviews about drug injection and needle-sharing behaviors in male and female arrestees. Because female arrestees may be at special risk of AIDS—females tend to have more serious drug abuse problems than males and are likely to engage in prostitution with numerous partners (Goldstein 1979; Wish et al. 1985; Des Jarlais et al. 1987), this chapter focuses special attention on female arrestees.

THE DUF PROGRAM

In 1987, the NIJ established the DUF program, a national data system for tracking drug use trends in arrestees. Every 3 months, a new sample of approximately 250 male arrestees in each participating city is asked to agree to a voluntary and anonymous interview about their drug abuse and treatment history and to provide a voluntary urine specimen for analysis. Arrestees are usually interviewed soon after arrest in the city's central booking facility. Urine specimens are tested by Enzyme Multiplied Immune Test (EMIT) technology for 10 drugs: opiates, cocaine, PCP, marijuana, amphetamines (all positives are confirmed by gas chromatography), methadone, Darvon, barbiturates, methaqualone, and Valium. (The latter five drugs have rarely been found in the DUF samples.)

DUF interviewers intentionally oversample males charged with serious nondrug crimes because it is already well established that persons charged with the sale or possession of drugs are likely to be users (Wish and Johnson 1986). Because the resulting DUF samples have a smaller proportion of persons charged with drug offenses than would be found in a random sample of arrestees, DUF estimates of drug use should be viewed as minimum estimates of recent drug use in all arrestees.

DUF interviewers typically station themselves in each city's booking facility for 14 consecutive evenings during the busiest shifts. Over 90 percent of arrestees who are approached agree to be interviewed, and about 85 percent of the interviewees provide a voluntary urine specimen. DUF is currently operating in 13 cities: New York; Washington, DC; Portland, OR; San Diego, CA; Indianapolis, IN; Houston, TX; Fort Lauderdale, FL; Detroit, MI; New Orleans, LA; Phoenix, AZ; Chicago, IL; Los Angeles, CA; and Dallas, TX.

In late 1987, five DUF sites began to collect information from female arrestees. Because the number of females arrested is typically far below that of males, DUF interviewers approached all available female arrestees, regardless of charge, during the 2-week data collection period. The goal was to interview and obtain urine specimens from 100 females in each city, every 3 months.

METHOD

Sample

The findings in this report come from the five sites that have obtained data from male and female arrestees: Los Angeles, San Diego, Phoenix, New Orleans, and New York City (Manhattan). The data were collected between September and December 1987. Response rates for each site appear in table 1.

Interview response rates for males ranged from 92 percent to 100 percent and from 89 percent to 100 percent for females. Between 81 percent and 95 percent of male interviewees and 70 percent to 96 percent of female interviewees provided a urine specimen for analysis. The resulting sample of arrestees from the five sites who were interviewed and provided a urine specimen contained 516 females and 991 males. (For this presentation, most of the following analyses aggregate information across the five sites. Some of the more significant findings are presented separately for each site to examine whether the findings apply to all cities.)

Demographic and Case Characteristics of Male and Female Arrestees

Table 2 presents descriptive information obtained from the arrest report and DUF interview for both males and females. Age distributions were quite similar for males and females with the modal age range being between 21 and 25 years old. Ethnicity was also similar

TABLE 1. *Percentage of male and female arrestees who agreed to be interviewed and who gave a urine specimen*

| | San Diego | | Los Angeles | | Phoenix | | New Orleans | | New York | |
|------------------------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | M | F | M | F | M | F | M | F | M | F |
| (Number Approached) | (231) | (77) | (278) | (206) | (205) | (102) | (199) | (104) | (247) | (129) |
| Agreed to Interview | 98% | 99% | 97% | 98% | 100% | 100% | 100% | 98% | 92% | 89% |
| Gave a Urine Specimen | 84% | 70% | 81% | 85% | 95% | 96% | 94% | 89% | 90% | 89% |

in the two groups. The largest group of male and female arrestees were black. More than one-third (35 percent) of the female arrestees were white and more than a quarter of the male arrestees were Hispanic.

While larceny and drug offenses were the most common charges at arrest for both males and females, there were some differences between the two groups. Males were more likely to be charged with burglary (13 percent vs. 6 percent) or robbery (7 percent vs. 1 percent), while females were more likely to be charged with sex offenses, primarily prostitution (22 percent vs. 3 percent). Male arrestees' greater involvement in more serious crimes (seriousness as defined by legal statute) is evident in the finding that more males were charged with a felony offense (76 percent vs. 42 percent). This difference is also attributable to the fact, noted above, that females charged with felony offenses were not oversampled as males were. These differences in crime severity should not bias findings with regard to drug abuse. Moreover, prior studies have documented the diversity of crimes committed by drug abusers and indicate that the likelihood of testing positive at arrest is generally unrelated to the seriousness of the arrest charge (Wish et al. 1981; Wish and Johnson 1986).

TABLE 2. *Demographic and case characteristics of male and female arrestees*

| | Percent of Males (n=991) | Percent of Females (n=516) |
|-----------------------------|--------------------------------|----------------------------------|
| Age at Arrest | | |
| 15-20 | 17 | 12 |
| 21-25 | 29 | 30 |
| 26-30 | 21 | 27 |
| 31-35 | 14 | 16 |
| 36+ | 19 | 15 |
| Ethnicity | | |
| Black | 41 | 45 |
| White | 29 | 35 |
| Hispanic | 26 | 16 |
| Other | 2 | 2 |
| Top Charge at Arrest | | |
| Larceny | 15 | 16 |
| Drug sale/possession | 13 | 17 |
| Burglary | 13 | 6 |
| Assault | 10 | 7 |
| Stolen property | 10 | 4 |
| Robbery | 7 | 1 |
| Weapons | 4 | * |
| Sex offense | 3 | 22 |
| Homicide/manslaughter | 2 | * |
| Other | 23 | 23 |
| Current Arrest a Felony | 76 | 42 |

* = Less than 1 percent.

Limitations

Several limitations should be kept in mind when reviewing these findings. First, data about drug injection and needle sharing are based upon voluntary self-reports. Although every effort is made to

convince arrestees of their anonymity and that the information cannot be used against them, the jail environment is inherently threatening, and there is considerable underreporting of recent illicit behaviors. It should be noted that many more persons test positive for drugs than admit to recent drug use in the interview. On the other hand, there is considerable internal consistency in the interview information from arrestees, and, when persons do report illicit behaviors, the information appears valid (Wish, in press). Because some arrestees do conceal their illegal behaviors, findings about injection and needle sharing should be viewed as minimal estimates of these behaviors in the arrestee population.

A second limitation involves the generalizability of these findings. In the pilot phase of DUF, we attempted to determine whether samples of 200 arrestees yielded estimates of drug use similar to those obtained by testing several thousand arrestees from the same city. We found that, in New York and in the District of Columbia, the estimates from the smaller samples were quite close (within 10 percentage points) to those from larger samples. We are less sure that our findings from the smaller samples of female arrestees (sometimes as low as 50 per city) are equally representative of the wider population of female arrestees in that jurisdiction. New data from female arrestees not included in this paper, however, have replicated the principal findings in this report. Finally, it should be noted that these findings apply to persons who have been arrested; they should not be generalized to the nonoffender population.

FINDINGS AND DISCUSSION

Urinalysis Results

Table 3 compares urinalysis results for the male and female arrestees in each of the five cities. In four of the cities (all except New Orleans), female arrestees were as likely to test positive for any of the 10 drugs as male arrestees. However, there were differences in the specific drugs detected in male and female arrestees. Females tended to be more likely to test positive for cocaine or heroin (opiates). The differences in heroin positives were especially large for arrestees in San Diego and in Phoenix. Marijuana was the one drug that appeared to be less prevalent in females. In Los Angeles, San Diego, and New Orleans only about half as many females as males tested positive for marijuana. Subsequent results from male and female arrestees tested in January through March 1968 replicated the above findings regarding the higher prevalence of cocaine and

TABLE 3. *Percentage of male and female arrestees who tested positive for drug use*

| | DUF City | Percent of Males | Percent of Females |
|------------------------|-------------|------------------|--------------------|
| Positive for Any Drug | Los Angeles | 89 | 80 |
| | San Diego | 75 | 87 |
| | Phoenix | 53 | 89 |
| | New Orleans | 72 | 48 |
| | New York | 79 | 83 |
| Positive for Cocaine | Los Angeles | 48 | 85 |
| | San Diego | 44 | 58 |
| | Phoenix | 21 | 38 |
| | New Orleans | 45 | 30 |
| | New York | 63 | 70 |
| Positive for Opiates | Los Angeles | 15 | 18 |
| | San Diego | 24 | 42 |
| | Phoenix | 5 | 14 |
| | New Orleans | 8 | 4 |
| | New York | 28 | 35 |
| Positive for Marijuana | Los Angeles | 28 | 8 |
| | San Diego | 44 | 24 |
| | Phoenix | 42 | 40 |
| | New Orleans | 48 | 25 |
| | New York | 28 | 25 |

heroin and lower prevalence of marijuana in female arrestees (DUF Statistics 1988).

These findings indicate that female arrestees are more involved with hard drugs such as heroin and cocaine than are male arrestees. They are consistent with results from a study of jailed arrestees in the 1970s (Wish et al. 1985) and a 1984 study of males and females arrested in Manhattan (Wish et al. 1986a). Because heroin and cocaine are often injected, these findings suggest that injection might be a more common behavior in female arrestees.

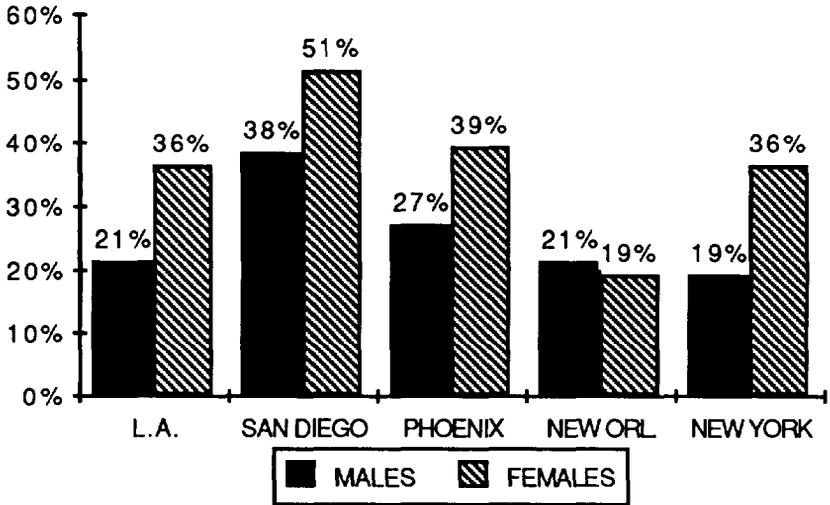


FIGURE 1. *Percent of male and female arrestees who ever injected (n= 1,507)*

Drug Injection in Female Arrestees

Figure 1 shows the percentage of male and female arrestees who reported ever having injected drugs. In all cities except New Orleans, female arrestees were more likely to admit to injecting drugs. The largest differences were found in Los Angeles (36 percent vs. 21 percent) and New York (38 percent vs. 19 percent).

When factors that might be associated with drug injection in the females were examined (table 4), as expected, age was strongly associated with injection. While about one-fourth of the female arrestees under age 21 indicated having ever injected drugs, almost one-half (47 percent) of the women above age 30 had injected. Persons who had dropped out of school by the 10th grade also had a high rate of injection (50 percent). It should be noted that these dropouts are the very people whom school-based surveys and in-school AIDS prevention efforts would miss. However, there was little variation in injection by charge at arrest, except that persons charged with assault were least likely (18 percent) to have injected drugs. This is

TABLE 4. *Correlates of injection of female arrestees*

| Correlate | (n) | Percent Ever Injected |
|-----------------------------|-------|-----------------------|
| Age at Arrest | | |
| 15-20 | (60) | 23 |
| 21-25 | (154) | 31 |
| 28-30 | (139) | 35 |
| 31+ | (154) | 47 |
| Years of Education | | |
| 9 or less | (82) | 50 |
| 10-11 | (131) | 37 |
| 12 | (172) | 28 |
| 13+ | (111) | 37 |
| Ethnicity | | |
| White | (178) | 55 |
| Hispanic | (90) | 38 |
| Black | (225) | 22 |
| Top Charge at Arrest | | |
| Stolen property | (22) | 50 |
| Sex offenses | (115) | 40 |
| Burglary | (31) | 39 |
| Larceny | (95) | 38 |
| Drug sale/poss. | (87) | 32 |
| Assault | (34) | 18 |
| Other | (132) | 38 |

consistent with previous research showing that assaulters are among those least likely to test positive for hard drugs at arrest (Wish et al. 1986a). Persons charged with sex offenses were not more likely to have injected drugs than persons charged with other types of offenses. However, some females charged with nonsex offenses may have engaged in prostitution at some time in their lives.

Ethnic Differences in Injection Practices

While it was expected that older females and school dropouts would be at a higher risk of drug injection, the extent of ethnic differences

in drug injection was surprising. White female arrestees were twice as likely as black females to have injected drugs (55 percent vs. 22 percent, $p < .001$). Hispanic females were midway between these two groups (38 percent). However, their small number, $n=90$, prohibits further analysis of Hispanic females. If white females were more likely to be older or to have dropped out of school, it might explain why they had higher rates of injection. These factors, however, did not account for the ethnic differences in injection.

Figure 2 shows that, in each of the five cities, white females were more likely to have injected drugs. White female arrestees in San Diego and Phoenix were twice as likely to report injection, and in Los Angeles there was a threefold difference (72 percent vs. 20 percent).

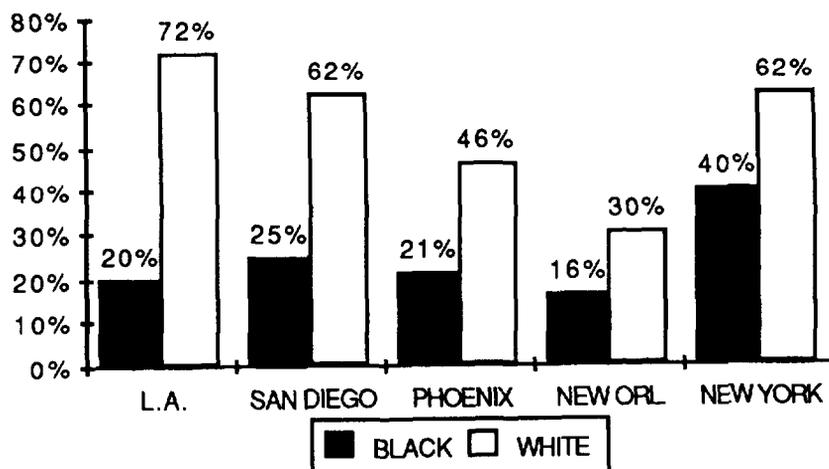


FIGURE 2. *Percent of female arrestees who ever injected, by ethnicity (n=407)*

To investigate these ethnic differences in drug injection, we examined other information from the DUF interview and test results. As suspected, white females were twice as likely as black females (48 percent vs. 22 percent, $p < .001$) to report having been dependent on heroin (table 5). No differences were found with regard to dependence on cocaine, however. In spite of their greater dependence on heroin, white females were not more likely to report having received

TABLE 5. *Heroin and cocaine use and dependence in female arrestees, by ethnicity*

| Drug Use | Percent Black (n=225) | Percent White (n=178) |
|------------------------------|-----------------------------|-----------------------------|
| Self Reports | | |
| Ever dependent on heroin | 22 | 48 |
| Ever dependent on cocaine | 22 | 23 |
| Ever received drug treatment | 23 | 30 |
| Urine Test at Arrest | | |
| Positive for heroin | 10 | 27 |
| Positive for cocaine | 60 | 47 |

drug abuse treatment (30 percent vs. 23 percent, not a statistically significant difference).

These differences could have occurred if white arrestees had been more willing than black arrestees to report illicit behaviors to the interviewer. Attempts were made to minimize such a bias by ensuring that the ethnic composition of DUF interviewers was similar to that of the arrestees in each city. Furthermore, the urine test results supported the interview findings. White female arrestees were almost three times as likely to test positive for heroin than were black females (27 percent vs. 10 percent, $p < .001$). Black females were more likely to test positive for cocaine (60 percent vs. 47 percent, $p < .05$). However, white female cocaine users were three times more likely to report a preference for injecting cocaine than were black female cocaine users (40 percent vs. 13 percent, respectively, $p < .001$). Black females who used cocaine said they typically preferred to smoke, freebase, or snort the drug.

Figure 3 shows the urine test results for heroin for black and white arrestees. In every city, white female arrestees were more likely to test positive for heroin. The largest differences were found in Los Angeles, Phoenix, and New Orleans, where white females were more than three times as likely to test positive for heroin than were black females.

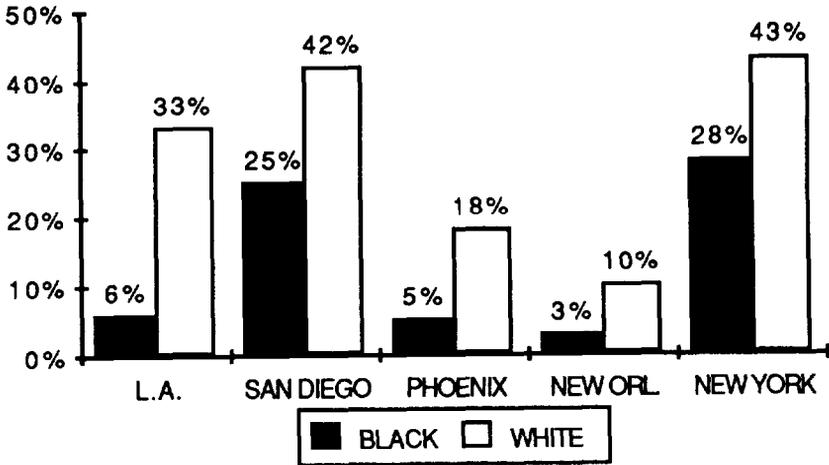


FIGURE 3. *Percent of female arrestees who tested positive for opiates, by ethnicity*

These findings suggest that there is both a greater involvement of white females in heroin and a reluctance on the part of black females to inject drugs. Even when black females reported using cocaine, they tended to take the drug through routes other than injection. A similar finding of more intravenous heroin use by white females than by black females has also been reported in a study of females admitted to methadone maintenance programs and therapeutic communities in five cities (Moise et al. 1982).

Deviance and Drug Abuse Practices

Some authors have suggested a concept of relative deviance that may explain why white female arrestees may be more serious drug abusers (Dembo and Shern 1982). According to this theory, persons who are more deviant from the norms of their social and cultural setting will exhibit more serious behavior problems and psychopathology (Kaufman 1978). White females are typically a small proportion of all arrested females and could be expected to be more deviant than black females. While this hypothesis cannot be tested directly, the level of deviance was measured.

Age of initiation of drug use is generally considered to be a strong correlate of deviance. The younger a person is when she begins to

use drugs, the more likely she is to proceed to dysfunctional drug abuse and other behavior problems. If white female arrestees were *more* heavily involved with drugs, we would expect them to have begun to use and inject drugs earlier. Table 8 shows this to be the case.

White females were likely to begin the use of alcohol, heroin, and marijuana about 2 years earlier than black females who were arrested. They began to use cocaine 3 years earlier than black arrestees. The median age of first drug injection was about 4 years earlier in white females than in black females. In addition, the ages of onset for Hispanic females, not presented here, were virtually identical to those of the black females.

TABLE 6. *Median age of onset of drug use and injection in black and white female arrestees (arrestees from five DUF sites)*

| | White Females | Black Females |
|-----------------------|---------------|---------------|
| First Tried Marijuana | 13+ | 15+ |
| First Tried Alcohol | 14+ | 18+ |
| First Tried Heroin | 17+ | 19 |
| First Injected | 17+ | 21+ |
| First Tried Cocaine | 18+ | 21+ |

These findings, together with the urinalysis results, offer strong evidence that white female arrestees are among the most serious drug abusers in the arrestee population. Their drug injection puts them at high risk for contracting and transmitting HIV.

Needle-Sharing Behaviors and AIDS

If a person reported injecting drugs, additional questions were asked about needle sharing. Few differences were found between male and female injectors with regard to sharing needles, although there were some regional differences (table 7). Almost one-half of male and

TABLE 7. *Needle-sharing behavior in male and female drug injectors*

| | Los Angeles | | San Diego | | Phoenix | | New Orleans | | New York | |
|-------------------------------------|-------------|-----|-----------|-----|---------|-----|-------------|-----|----------|-----|
| | M | F | M | F | M | F | M | F | M | F |
| Injectors Who Share | 47% | 50% | 27% | 26% | 37% | 32% | 23% | 18% | 5% | 24% |
| Sharers Who Changed Because of AIDS | 78% | 68% | 47% | 59% | 63% | 76% | 90% | 78% | 95% | 50% |

female injectors in Los Angeles said that they currently shared their needles with one or more persons. In the rest of the country, the percentage was closer to 20 to 25 percent. New York male injectors were least likely to admit sharing needles (5 percent), although interviewers for this study said that male arrestees were uncomfortable about this topic and probably underreported needle sharing.

The majority of both male and female arrestees who shared needles after learning about AIDS stated they had changed their behaviors in some way because of the AIDS epidemic. Almost all male sharers interviewed in New Orleans and New York indicated that they had changed their needle-sharing behaviors. This did not necessarily imply that their altered behaviors were effective in reducing their vulnerability to AIDS.

The interviewers recorded verbatim each respondent's explanation for why and how they had or had not changed their behaviors as a result of AIDS. Several of these unedited comments appear in table 8. While male and female arrestees claimed they were taking steps to avoid AIDS, their answers underscored a number of misconceptions regarding the disease. For example, a comment frequently made was that individuals shared needles only with persons who did not look sick. This is an ineffective strategy for avoiding infection because HIV has a long incubation period and infected persons may have no symptoms for several years.

TABLE 8. *How has AIDS changed your needle-sharing behavior
(Unedited responses from arrestees in five cities)*

Males

- "Don't share needles with anyone who partakes in homosexual activities." (Los Angeles - Id#3228)
- "You can tell if a person is clean and keeps themselves together. Don't share with unclean people." (Los Angeles - Id#3208)
- If sharing, cleans with water - usually uses needle first.
(San Diego - Id#850)
- Cleans with more care - bleach; shares less - change works more often. (San Diego - Id#804)
- "AIDS has caused me to slow down on needle sharing, but not stop completely." (Phoenix - Id#209)
- Sharing is "dependent upon specific circumstances. If necessary, will share." (Phoenix - Id#102)
- "I shared my works because we only had one, and I just take a chance and hope not to get AIDS. As many as five people share the same needle. There is no limit to the amount of people that can use the same needle." (New Orleans - Id#577)
- "I never worry about getting AIDS because of using the same needles with my friends." (New Orleans - Id#588)
- "Only share with people I know or in case of emergency."
(New York - Id#3034)
- Shares "a little, still shares with friends." (New York - Id#3043)

Females

- "I don't think I can get it. I don't think the people I do it with have it." (Los Angeles - Id#4049)
- "Don't share as much. Share with just one person." Cleans with alcohol. (Los Angeles - Id#4003)
- Has found it difficult to get needles. "Use whatever needles I can find." Aware of AIDS and still shares. (San Diego - Id#2041)
- "Only inject by myself. Before shared with friends."
(San Diego - Id#2085)
- "Needles are easier to buy so there is no needle sharing at present."
(Phoenix - Id#262)
- "Quit sharing needles due to AIDS scare." (Phoenix - Id#294)
- "It doesn't matter if I share them or not as long as I get my drugs."
(New Orleans - Id#594)

TABLE 8. (Continued)

"Because I only had a few needles so we shared. I didn't want to sit there and see everyone else doing it." (New Orleans - Id#703)

"I only share with one person - my boyfriend, and he is clean."
(New York - Id#3161)

"I share because there are no works at the gallery."
(New York - Id#3290)

Responses from male and female arrestees frequently demonstrated a fear of AIDS and a desire to avoid infection. Arrestees and other criminal justice system detainees therefore are a receptive audience for education, prevention, and treatment programs. An invaluable opportunity exists to correct their misconceptions about AIDS.

SUMMARY AND POLICY IMPLICATIONS

Summary

There is a critical need to identify persons who are likely to inject drugs, so that they can be taught to limit the spread of AIDS. Results from the DUF program indicate that more than 50 percent of arrestees in large cities in the United States test positive for illicit drugs. If many of these persons also inject drugs, a special opportunity to reach persons at high risk for AIDS may be available.

New information from DUF interviews about drug injection and needle sharing in male and female arrestees in five cities was analyzed to examine the characteristics of female drug injectors. The findings indicated that, while illicit drug use is prevalent in all arrestees, females are more likely to test positive for injectable drugs like heroin or cocaine and are more likely to report having injected drugs. By the time these women passed age 30, about one-half had injected a drug. About one-half of the females who dropped out of school had also injected drugs.

Dramatic ethnic differences were found in injection behavior of females. White females were most likely to have injected drugs. This difference was partially explained by the fact that white females were more seriously involved with heroin. Differences in drugs used, however, could not completely account for the ethnic differences in injection. Even though black and white female arrestees appeared to

be similarly involved with cocaine, white women were far more likely to inject cocaine.

Other researchers have found similar ethnic differences in injection practices of female drug abusers. One hypothesis is that white females who are involved with hard drugs or who are arrested in the United States tend to be more deviant. As expected, white females did have an earlier age of onset of drug use and began to inject drugs about 4 years earlier than black females. This apparent deviance, drug abuse, and involvement in prostitution puts female arrestees, especially white female arrestees, at unusually high risk for AIDS.

Needle sharing was reported by one-quarter to one-half of both male and female arrestees interviewed. The majority of male and female sharers did indicate, however, that they had changed their needle-sharing behaviors as a result of the AIDS epidemic. Unfortunately, misconceptions about AIDS were common. Thus, some of the precautions that they were taking, such as sharing only with someone who did not look sick, were ineffective and gave a false sense of security. The sensitivity and responsiveness of the arrestees to the AIDS problem, along with their apparent ignorance of the best methods to avoid the disease, suggest that it might be possible to reduce the spread of AIDS by initiating education, prevention, and treatment programs for arrestees.

Policy Implications

Although these findings are from arrestees, there is ample evidence that incarcerated persons and those released on probation or parole are a subset of the arrestee population with serious drug problems (Wish and Johnson 1986; Wish et al. 1986b). Thus, all persons detained or supervised by the criminal justice system should be considered at much greater risk of illicit drug use and AIDS than is the general population.

Although we did not test any of our samples of arrestees for the presence of antibodies to HIV, estimates of seropositivity rates in drug injectors are available from other sources. The rates vary considerably across the country from less than 5 percent of drug injectors in New Orleans and Los Angeles to over 50 percent for injectors in New York City and northern New Jersey (Des Jarlais and Hunt 1988). Using the estimate of 50 percent seropositive drug injectors in New York City, and DUF statistics showing that about 25 percent

(19 percent of males and 36 percent of females) of all arrestees in New York have ever injected drugs, we project that at least 12,500 of the 100,000 persons arrested in Manhattan each year (25 percent x 100,000 x 50 percent) would test positive for HIV. This may be an underestimate, because the DUF program undersampled persons charged with drug offenses, and an unknown percentage of arrestees refused to admit to injecting drugs.

Because of the high seropositivity rates in New York City drug injectors, the estimates above should not be applied directly to arrestees in other cities. It is not known whether drug abusers in other cities will eventually develop rates of seropositivity similar to drug injectors in New York. Mass screening programs of the general population of prison inmates across the country have generally reported rates of seropositivity below 3 percent, but one sample of "high-risk" inmates, defined as homosexuals or drug injectors, in Houston found that 33 percent of those tested were seropositive (Hammett 1988). Consistent with this study, epidemiological surveys of inmates in Maryland correctional facilities between 1985 and 1987 found that females had twice the seropositivity rate as males (15 percent vs. 7 percent). These seropositivity rates in prison inmates are somewhat lower than expected from the rates of drug injection found in this study. As suggested below, however, there are reasons to believe that inmate populations may contain fewer active street criminal drug abusers who show up repeatedly in the arrestee population.

By definition, criminal justice system detainees are readily accessible to societal efforts to modify the behaviors that increase their risk for AIDS. Unfortunately, the enormity of the opportunity for treating these persons contrasts greatly with the paucity of efforts devoted to this task.

To be sure, all State and Federal prisons and most large city jails provide AIDS information and training (Hammett 1988). These institutions have been quick to respond to the AIDS epidemic because they have to house persons for long periods of time and are therefore more vulnerable to problems stemming from infected residents. Thus, staff or inmate training programs are available in jails or prisons where persons are detained for some time. In contrast, the much larger population of arrestees and probationers, who are typically released back in to the community, are less likely to receive AIDS information. In establishing the DUF program in the largest booking facilities in the country, interview staff have not seen a single AIDS education or counseling program for arrestees. Arrestees

in the major cities of this country tend to be housed for hours (before arraignment) in large pens with no attempts to intervene for drug abuse.

A recent survey of probation and parole departments in all 50 States found that less than half (about 40 percent) have education, prevention, or information programs for persons being released to the community (Hunt 1988). Most of the departments with a program simply hand out public health or Red Cross brochures about AIDS that are not expressly tailored to the education level and needs of offenders returning to the community. The majority of these departments provide this limited information only to persons believed to have a high risk for AIDS (persons charged with sex offenses, known drug injectors, and homosexuals). This strategy could miss many drug abusers (and their sexual partners) because criminal justice records and arrest or conviction charges are poor indicators of drug abuse.

The interviewers also found that, although probation and parole departments included in the study expressed a "desperate" interest in providing expanded AIDS programs for releasees, they were hampered by inadequate funds and a lack of available trained personnel. Their report recommended that mandatory AIDS training be provided for all staff and for all probationers and parolees (Hunt 1988).

By failing to focus sufficient resources on addressing the drug abuse and AIDS problem in arrestees and probationers, the country is losing an important opportunity to reach the largest pool of serious drug abusers entering the criminal justice system. Because of the extensive overcrowded conditions in the Nation's jails, there is a deliberate attempt to detain as few arrestees as possible. Persons charged with many of the more common petty offenses committed by drug abusers (larcenies, lesser drug offenses, and prostitution) are routinely released back to the community soon after arrest (pending trial) or, if convicted, receive a fine, time served (the time already detained before disposition satisfies the sentence), or a term of probation (Johnson et al. 1985). Some of these street criminals may be detained overnight in jails but rarely are sentenced to prison, where most of the AIDS programs exist. It is this large group of arrestees and probationers, who return to their drug-abusing friends and sexual partners, for whom AIDS education and drug abuse treatment is most crucial.

Unfortunately, with one exception, systematic identification of drug abusing arrestees and referral to treatment is rare. It should be noted that DUF is an anonymous program. Only the District of Columbia has a fully operational program to test all arrestees for drug use by urinalysis. Six participating jurisdictions are currently being funded by the Bureau of Justice Assistance to replicate the District's pretrial testing program and are at varying stages of development. Persons who test positive are referred by the judge to urine monitoring and/or treatment programs as a condition of pretrial release (Carver 1986). Although probation (and parole) officers have the authority to order drug tests for persons they supervise, few departments have the resources to screen all persons for drug use. Without drug testing, most drug abusers in the criminal justice system avoid detection (Wish 1988).

Nonanonymous drug testing has the advantage of enabling the identification of persons to be referred to treatment programs or AIDS counseling, but is costly and takes time to develop. Still, there are a number of other relatively inexpensive strategies that can be rapidly adopted. Every person arrested or under the supervision of the criminal justice system could be presented with educational information about prevention of AIDS. Posters informing persons about the risk behaviors for AIDS and listing drug abuse treatment referral and AIDS information sources could be displayed in every police station, booking facility, probation and parole office, and detention center across the country. For example, credible AIDS videotapes could be shown once an hour to the "captive audiences" in urban booking facilities. It seems that if only a small subset of the detainees listened to the information, it would still be beneficial. Clearly, this information will have to be developed for diverse reading levels and language problems. It has also been suggested that some of these programs be directed toward the spouses and sexual partners of probationers and parolees (Hunt 1988).

In view of their exceptional risk for drug injection and perinatal transmission of AIDS, female arrestees could receive individual counseling about how to avoid the disease. If trained justice personnel are not available, local health departments could be requested to station trained personnel in central booking facilities. The relatively small number of females who are arrested, even in the largest cities, makes individual counseling a feasible approach.

Our findings also suggest that outreach and prevention programs both inside and outside the criminal justice system should not be limited

to members of minority groups. These programs should also be provided for deviant white females who have been arrested or who are likely to be committing crimes or abusing drugs.

Although further research is needed to determine which of the above strategies will be most effective, the magnitude of the drug abuse and AIDS problems in persons entering the criminal justice system presents a compelling case for immediate action.

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