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Black-White Disparities in HIV/AIDS:The Role of Drug Policy and the Corrections System

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Abstract

African Americans in the United States are disproportionately affected by HIV/AIDS. We focus in this paper on the structural and contextual sources of HIV/AIDS risk, and suggest that among the most important of these sources are drug policy and the corrections system. In particular, high rates of exposure to the corrections system (including incarceration, probation, and parole) spurred in large part by federal and state governments' self-styled war on drugs in the United States, have disproportionately affected African Americans. We review a wide range of research literature to suggest how exposure to the corrections system may affect the HIV/AIDS related risks of drug users in general, and the disproportionate HIV risk faced by African Americans in particular. We then discuss the implications of the information reviewed for structural interventions to address African American HIV-related risk. Future research must further our understanding of the relations among drug policy, corrections, and race-based disparities in HIV/AIDS.

Keywords

HIV/AIDS; race disparities; structural interventions; drug use; drug policy; criminal justice; corrections; probation; parole; incarceration

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African Americans in the United States are disproportionately affected by HIV/AIDS, with the rate of AIDS for African Americans nine times that of Whites.[1] As a growing number of researchers emphasize the need to examine and address the structural and contextual sources of HIV/AIDS risk, we suggest in this paper that among the most important contextual factors associated with these disparities are drug policy and the corrections system. In particular, high rates of exposure to the corrections system (including incarceration, probation, and parole) spurred in large part by the "war on drugs" being carried out by both federal and local governments in the United States, have disproportionately affected African Americans. We review a wide range of research literature to suggest how this, in turn, may affect the HIV/AIDS-related risks of African Americans. We then discuss the implications of the information reviewed for interventions to address that risk.

Black-White disparities in HIV/AIDS

While African Americans make up only 13% of the U.S. population, they represent 39% of all AIDS cases reported in the U.S. through 2002.[1] Furthermore, the proportion of AIDS cases accounted for by African Americans has steadily and markedly increased over time: of the more than 42,000 new cases reported in 2002, 50% were African American, an overall rate that was almost 11 times greater than the rate for Whites in that year.[1] In the same year, African Americans constituted almost two-thirds of all AIDS cases in women and two-thirds of all

pediatric AIDS cases.[1] These trends are likely to continue, or even worsen: African Americans accounted for 54% of the new HIV diagnoses reported in the United States in 2002.[1] Through 2001, 56% of all HIV diagnoses among 13–24 year olds were in African Americans.[2]

Sexual contact is the most common route of HIV infection among African Americans. Among the African Americans living with HIV/AIDS at the end of 2003, 75% of women and 22% of men reported acquiring the virus through heterosexual contact; 47% of men reported being infected through male-to-male sexual contact; 22% and 23% of men and women, respectively, reported acquiring HIV through injection drug use.[3] Still, injection drug use is more frequently the source of AIDS among African Americans than among Whites. While injection drug use accounted for 9% of cumulative AIDS cases in White men through 2003, it accounted for 32% of such cases in African American men.[3] In a recent study investigating HIV diagnoses among injection drug users in 25 states with HIV surveillance, researchers found that Blacks continue to be disproportionately represented among diagnosed injection drug use-related HIV cases. Among women, African Americans represented 66% of all injection drug use-related HIV cases, while among men, African Americans represented 64% of all such cases.[3] Other recent studies confirm that African American injection drug users (IDUs) are more likely to be HIV-infected than their White counterparts. Kral and colleagues found that 12.5% of African American injectors but only 2.8% of White injectors tested HIV positive.[4] Similarly, Day found that African American IDUs were four times as likely to have AIDS as their White counterparts.[5]

To what can these disparities be attributed? Explanations for HIV/AIDS often focus on individual risk behaviors, with Black-White disparities in HIV/AIDS viewed as the result of race differences in risk behaviors related to drug use or sex. Yet in general, African Americans report less risky drug use and sexual behaviors than their White counterparts. In terms of drug use, White adolescents are more likely to use illicit drugs than their African American counterparts,[6] and to initiate both illicit and non-illicit (alcohol, tobacco) drug use at younger ages.[6–10] Relative to White adults in 2002, African American adults reported less lifetime and past year use of illicit drugs other than marijuana (24.9% vs. 33.0% and 7.3% vs. 8.2%, respectively) and only slightly more use in the past month (3.8% vs. 3.5%).[11] Furthermore, in a study of currently non-injecting heroine users, including individuals who had, in the past, frequently, infrequently and never injected drugs, Neaigus and colleagues found that African Americans were underrepresented in the group of those with an injection history.[12] Similarly, in a study of risk behaviors of female jail detainees, rates of reported needle sharing were much higher among non-Hispanic Whites than among either African American or Hispanic women.[13] Examination of sexual risk reveals that, as a group, African Americans also do not appear to be engaging in riskier sexual behavior than their White counterparts. Though African American youth do report more sexual behavior earlier than White youth,[14] consistent use of a reliable means of contraception has been more strongly associated with African American than White youth;[15] reported condom use is higher among Blacks than among other racial and ethnic groups.[14, 16–18]

More promising for understanding race differences in HIV/AIDS than explanations based on individual risk behaviors are structural explanations, which focus on the social and contextual factors that determine health. While high rates of HIV/AIDS among African Americans have been attributed to a variety of structural factors (such as poverty,[19–21] homelessness,[22–23] community disintegration,[24] access to sexually transmitted disease services and discrimination and racism[25–29]) arguably one of the most pronounced relevant features of the social context of the past several decades is the disproportionately high rate of incarceration among African Americans.[25]

Incarceration, drug policy, and African Americans

Over the past decade, the number of individuals in U.S. prisons and jails has increased dramatically. Nearly 1.4 million people were incarcerated in U.S. federal or state adult prison systems, and an additional 700,000 were residing in jails at the close of 2003.[30] This growth was especially magnified in the African American community: the rate of current incarceration among African American men went from 1 in 30 individuals to 1 in 15 between 1984 and 1997.[31] The U.S. distinguishes itself not only in its scale of punishment but also in its degree of racial disparity across all levels of the corrections system. Consider these statistics from 2003: in 2003, Blacks were 5 times more likely than Whites to have been to jail;[30] 39% of local jail inmates were Black;[30] 44% of the prisoners under federal or state jurisdiction were African Americans;[32] the rate of sentenced male prisoners under the jurisdiction of state and federal correctional authorities per 100,000 residents was 465 for Whites and 3,405 for Blacks.[33] As of 1997, an African American male was estimated to have a 1 in 4 likelihood of going to prison in his lifetime, compared with a chance of 1 in 23 for a White male.[34] These racial disparities are magnified among young men: in 2003, 12.8% of all Black males aged 25 to 29 years were in prison or jail, compared with just 1.6% of White males of the same age;[30] similarly, in 1999, 40% of all the juveniles in public and private residential custody facilities, and 52% of those in such facilities for drug offenses, were Black.[31] Finally, while women are incarcerated at lower rates than men, a racial disparity also exists between African American and White women. Black females were 5 times more likely than White females to be in prison in 2003.[32]

Growth of the incarcerated population, as well as the racially disparate form that it has taken, relates in large part to U.S. drug policy. U.S. policies towards drug offenses have become increasingly punitive since the 1980s. Measures such as mandatory minimum sentences, penalty enhancements for the sale and use of drugs in certain areas (drug free zones), disparities in the penalties associated with possession of crack and powder cocaine, and restrictions on syringe availability are examples of policies that increase the frequency of arrest and incarceration of drug offenders.[35] Between 1980 and 1995, the number of drug offenders in state prison increased by more than 1000%, accounting for 1 out of every 16 inmates in 1980, but 1 out of every 4 in 1995.[36] In the same time period, drug offenders represented 50% of the growth in state prison populations, and more than 80% of the total growth in the federal inmate population.[36] These increases in drug-related incarceration were not distributed equally between African Americans and Whites. While the number of White state prison inmates sentenced for drug offenses increased 306% between 1985 and 1995, the number of African American state prison inmates sentenced for drug offenses increased 707% in the same time period.[37] The increase in the number of drug offenders in state prisons accounted for 42% of the total increase for African Americans, but only 26% of the total increase for Whites.[38] Among federal prisoners, African American men account for 34% of those incarcerated on non-drug offenses, but 42% of those incarcerated on drug offenses.[33]

The tripling of the female incarcerated population between 1980 and 1990 is similarly related to drug policy.[39] The number of women arrested for drug offenses increased by 89% from 1982 to 1991,[40] and sentencing of drug offenders accounted for 55% of the increase in the female prison population between 1986 and 1991.[39] What is true for men is true for women as well: incarceration rates have increased more rapidly among African American women than among White women, resulting in a growing race disparity in women's incarceration rates.

Incarceration and HIV risk

Whatever the explanations for race disparities in incarceration, it is reasonable to hypothesize that incarceration affects the HIV/AIDS risk of individuals with a history of incarceration.

First, the prison environment itself may be a high-risk setting for the transmission of HIV/AIDS due to both the prevalence of HIV among inmate populations and the high-risk activities that occur inside the prison walls. In 2002, the known cases of HIV, as a proportion of the total custody population in state and federal prisons, varied across the nation from 0.2% to 7.5% with an average across prisons of 1.9%.[41] In 1997, 20% to 26% of all people living with HIV in the U.S. were incarcerated at some point during the year.[42] The exact magnitude of sexual risk behaviors occurring in prison is difficult to ascertain given the unreliability of official prison sexual assault records, the social pressures that inhibit men's willingness to report same-sex behavior, the differences in sample size and populations that are studied, and the variety of ways in which researchers define sexual activity.[43–44] While several studies estimate that about 20% of men experience some form of sexual contact while incarcerated, others have reported much higher and much lower rates.[43–47] Whatever the rate may be, the majority of these sexual activities are likely to be unsafe due to the dearth of condoms in prisons. Injection drug use also occurs in prison and is associated with increased HIV risk;[47–51] tattooing may be an additional risk factor.[52] Using HIV testing to investigate HIV transmission within U.S. jails or prisons, some studies have found no strong evidence of intraprison spread of HIV,[53–54] while Mutter and colleagues found that 3% of a sample of individuals continuously incarcerated since 1977 had seroconverted to HIV-positive status.[55] In a more recent study, Krebs and Simmons[56] found that, among a sample of 5,265 inmates, the intraprison HIV transmission rate was 0.63% and HIV transmission while in prison largely occurred through sex with another man. In general, studies suggest that while sex and drug use decrease overall among the incarcerated, they are conducted in a riskier manner inside prison than outside.[57–58]

Though it is difficult to assess whether African Americans have a greater risk of HIV transmission while in prison than Whites, some studies indicate that their risk behavior while in prison differs little from that of Whites.[57, 59] This suggests that any association between incarceration and Black-White disparities in HIV/AIDS that relates to prison as a risk environment results from the greater likelihood that African Americans will be exposed to this environment and not to any differences in risk behavior while incarcerated.

In addition to any risk associated with prison itself, it is important to consider the consequences of incarceration for the lives of released inmates. In particular, incarceration affects social networks and family relationships, economic vulnerability, and access to social and risk reduction services. Before elaborating on these, two caveats are worth noting. First, the literature about the consequences of incarceration does not generally examine how the race of the ex-prisoner shapes the challenges that he or she faces upon re-entry. While there is research that specifically explores the effect of incarceration on African Americans, especially as it relates to social and family networks,[25, 60–61] these studies do not always include analysis by race. Second, clearly many of the issues faced after incarceration (e.g. weak social networks, economic insecurity, uncertain access to safe housing and health care) may have been obstacles faced before incarceration. The point here is not that these factors are necessarily novel, but that they are intensified by the stigma, disconnection, and legal consequences of incarceration.

With regard to the relationships among incarceration, network stability, and HIV risk, Hoffman and colleagues found that individuals in networks with higher rates of turnover (more new members entering the network and more members leaving) were more likely than others to engage in HIV-risk behaviors, even after controlling for other behavioral and socio-demographic risk factors.[60] Arrest and incarceration may contribute to network disruption and consequently to increased HIV risk for African American drug users.[60–62] Incarceration may also destabilize sexual and family relationships. Rates of divorce are higher in marriages where one of the partners is incarcerated.[63] Upon imprisonment of their male partners, women often find new male partners to replace them.[64] Thus, men leaving prisons may not have stable

relationships to which they can return. This situation may be worsened by the reduced earning potential of ex-prisoners and the fact that stigma associated with incarceration may make them less attractive as potential spouses.[65]

The economic security of released inmates is also affected by their criminal history. Researchers debate the exact effect of incarceration on future employment:[66] some studies show that ex-offender status has no effect on gaining employment,[67] perhaps partly due to the limited employment histories of many ex-inmates prior to incarceration.[68] (It should be noted, however, that others suggest that many inmates were productive members of their communities prior to incarceration.[69–70])

Incarceration reduces individual earning potential in a number of ways. Prison vocational and job readiness programs, though showing some success in helping inmates to secure work upon release, are not available to all prisoners and often lack the post-release support and follow-up necessary to be truly effective.[71] Employers also are reluctant to hire people with criminal records. A survey published in 1996 found that 65% of all employers would not knowingly hire an ex-offender.[72] In many fields, including law, real estate, medicine, nursing, physical therapy and education, employers are actually prohibited from hiring people with criminal records.[71] Time spent incarcerated is time spent networking with other criminals, not legal employers. Upon release, the ex-prisoner may have more and stronger relationships with people who earn money illegally than with people who run legitimate businesses.[65] It appears that, "as time spent in prison increases, the likelihood of participating in the legal economy decreases [p. 32]."[71]

While ex-prisoners' ability to find work is impaired, it is also difficult for them to benefit from public income maintenance and health programs until they can secure a job. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 stipulates that "persons convicted of a state or federal felony offense involving the use or sale of drugs are subject to a lifetime ban on receiving cash assistance and food stamps [p. 1]."[73] While states have some discretion in enforcing the ban, 17 states have introduced no nuance and entirely deny people benefits on this basis.[74] Former inmates who are disabled or have chronic health conditions can get medical care through the Medicaid program, but it can take government agencies up to 45 days to approve Medicaid applications and only some states provide coverage to people with pending applications.[75] A lack of identification among ex-prisoners can also make acquiring public assistance problematic.[71, 75]

Economic instability and diminished social ties have serious implications for the housing options of former prisoners.[76] All states offer transitional housing programs (e.g., halfway houses, sober houses, residential substance abuse treatment) to help prisoners re-enter the community. However, the number of individuals being released from incarceration far outnumbers the capacity of these programs; they are able to serve only a fraction of the re-entry population and are often restricted to certain types of offenders.[71] Whether they are released directly from jail or prison or re-enter society via a transitional housing program, it can be very difficult for ex-offenders, most with little or no money, to find housing.[71] Private housing is often unavailable because ex-offenders often lack the funds to provide a security deposit or solid credit history.[77] Public housing may also be inaccessible due to long waiting lists, project policies that ban tenants with criminal histories, and/or federal laws that "deny [government-funded] housing to individuals who have engaged in certain criminal activities [p. 35],"[71] namely drug and sex offenses.[76] Furthermore, many may no longer have any connections with people in the community on whom they can rely. Transitional housing programs created specifically for people who are coming out of prison may direct them to single room occupancy (SRO) hotels that have sub-standard living conditions where residents

may easily re-enter a life of crime.[77] One newly released prisoner with a history of drug abuse commented, "When you go to a hotel, you're walking right into a relapse [p. 8]."[78]

These long-term consequences of incarceration may affect individual HIV risk. Lack of income can affect the ability to negotiate condom use[79] and retention in drug treatment,[80] factors that are in turn associated with HIV risk. Bluthenthal and colleagues found that 60% of baseline Supplemental Security Income (SSI) recipients in a San Francisco study of more than 1,200 IDUs lost their SSI benefits when rules were changed to disallow Social Security Administration (SSA) disability based on alcoholism or drug addiction.[81] Injection drug users who lost benefits were more likely than those who retained benefits to participate in illegal activities, share syringes, and inject drugs. They conclude that policies denying income support to IDUs increased their risk for HIV infection. Economic instability may also lead individuals, especially women, but also men,[82] to engage in survival sex, a potential risk factor for HIV.[83] Homeless individuals have been shown to have a high frequency of substance use[84] and risky drug use behaviors in terms of frequency, injection in riskier locations, and poorer needle hygiene.[85] Furthermore, while individuals in drug treatment are at lower risk for HIV than are out-of-treatment users,[86–91] former inmates' access to drug treatment services is generally limited by their lack of financial resources. In all of these ways, incarceration may affect HIV risk. In summary, the extent to which African Americans are disproportionately likely to be incarcerated relative to Whites may help explain race disparities in HIV/AIDS.

Probation, parole, and HIV risk

Do probation and parole moderate or increase the effects of incarceration on HIV/AIDS risk in drug users? Together, these forms of community supervision represent the most widespread alternative to incarceration programs in the country and in any given state. Probation refers to a sentence ordered by a judge, usually instead of, but sometimes in addition to, time in jail. It allows the convicted person to live in the community for a specified period of time, usually under the supervision of a probation officer, depending on the circumstances and the seriousness of the crime. During 2003, more than 2.2 million adults nationwide entered probation supervision.[92] In December 2003, just over 4 million people were on probation in the U.S.; women made up 23% of these and Blacks made up 30%.[92] Drug law violations make up the single largest offense committed by probationers, accounting for one-fourth of probationer offenses.[92]

Parole is the conditional release of a prison inmate after he or she has served part of his or her sentence, allowing the inmate to live in the community under supervision during the parole period. The decision to grant parole is the responsibility, in a majority of states, of a parole board or commission, and is made only after time has been served. At the end of 2003, 774,588 adults in the United States were on parole, with over 492,000 of those entering parole during that year.[92] Women made up 13% of these parolees and Blacks 41%.[92] People who had committed drug-related offenses accounted for 40% of those released on parole in 2002.

As alternatives to incarceration, probation and parole may moderate the impact of confinement by reducing the time an individual spends incarcerated. However, when released to these programs, the vast majority of individuals are subject to active and continued supervision by the criminal justice system. More than three-fourths of probationers are required to report regularly to a probation authority either in person, or by mail or phone, and over 80% of parolees must maintain regular contact with a paroling agency.[92] In addition to this regular contact, most people in such programs are required to meet certain conditions (such as refraining from drug use or association with former friends) while on parole or probation, violations of which can send them back to prison, even when no new crime has been committed.[71] To the extent that our current parole supervision system actually increases rather than reduces recidivism,

[93] parole and probation may exacerbate the consequences of incarceration for the lives of drug users, and any accompanying race disparities in HIV/AIDS.

Few studies have specifically examined the HIV risks associated with people on parole and probation. A 2004 descriptive study of 200 people on parole and probation in New York City found that all of the women and 92% of the men had ever been tested for HIV.[47] Seventeen percent of the women and 12% of the men who were tested were HIV-positive. The study also found that HIV knowledge was high, largely due to HIV education in drug programs and prison, although there were significant gaps. Still, in spite of this HIV knowledge and regular testing, many of the subjects reported histories of engaging in high-risk drug use and sexual behaviors. The authors also interviewed parole and probation staff and found they had insufficient training and education about HIV services. The high caseloads and public safety demands of their jobs forced staff to consider HIV prevention as a secondary concern. The study concludes that "more knowledge is needed about the factors that affect the initiation and persistence of drug and sex related risk behaviors among offenders being supervised in the community [p. 382]." It seems clear, however, that it will take more than individual-based educational interventions to address the drug and sex-related risks of those on parole and probation.

There are at least two factors relating to probation and parole that may affect HIV-related risk among drug users: the conditions under which probation and parole are granted and the power vested in probation and parole officers to enforce these conditions. One of the standard conditions of release on probation or parole is to follow all federal, state and local laws,[94] including those that criminalize the use and possession of drugs. To enforce this, and other conditions of release, probation and parole officers are granted wide-ranging powers, such that probationers and parolees are treated differently from regular citizens[95] and parole officers can conduct warrantless searches without parolees' consent.[96] This has meant that individuals under the supervision of the probation and parole systems are essentially under constant surveillance and subject to search of their home or person at any time. Research has demonstrated that, at least for those who do end up using drugs, this surveillance, real or threatened, can negatively affect the risk reduction activities of probationers and parolees. For example, in research conducted among California injection drug users, Human Rights Watch found that the fear of violating probation or parole was cited by many as a deterrent to using syringe exchange programs.[97] Research also suggests that after their release, many incarcerated individuals with a drug use history will return to drug use [98] although those who enter drug treatment programs may be more successful in delaying the return while they are in the program.[99–101]

As previously mentioned, inmates may be prohibited from interacting with their former friends and other members of their social networks upon release.[71] While this may reduce the likelihood that they will return to old drug-using and criminal networks, it may also leave them isolated and without social support, or force them to identify new networks, possibly among those whom they met while incarcerated.[102] It is an empirical question, then, whether this condition of release will reduce any HIV-related risk associated with their former networks or exacerbate the network disruption and isolation associated with incarceration and any subsequent HIV-related risk.

In general, studies with parolees and probationers confirm that they face many of the difficulties, described previously, that are confronted by those who are re-entering society after incarceration.[101, 103–104] What is less clear is whether probation and parole, in and of themselves, add or ease the burdens associated with re-entry. There is some reason to suggest, as discussed above, that the surveillance and other conditions associated with parole and probation may affect re-entry. Furthermore, research suggests that among some inmates, community supervision, and the conditions that come with it, are viewed as putting them at

greater risk for re-incarceration to such a degree that they choose to serve a full term in prison and be released at the end of their sentence with no strings attached.[105] In their literature review, Wood and May cite two studies done in the 1990s that found about 30% of nonviolent offenders chose prison time over intensive supervision probation.[105] Their own research found this to be particularly true for African Americans and drug offenders.[105]

In summary, few studies relating to incarceration, parole, or probation explicitly consider the implications of these components of the corrections system for HIV risk in drug users, or race disparities with respect to this risk. However, existing research, discussed above, does provide strong rationale for further exploring the connections among the corrections system (including incarceration, probation, and parole), HIV, and race.

Structural Interventions for Reducing Race Disparities in HIV/AIDS

To the extent that incarceration, associated community re-entry, and potential subsequent supervision under parole and probation, do contribute to HIV risk among drug users in general and race disparities in HIV/AIDS in particular, then interventions that address these factors may reduce HIV risk and race disparities. One group of such interventions are those aimed at delivering HIV prevention messages within the corrections system to those under its jurisdiction, run either by corrections personnel themselves or by others under contract with the system.[106–107] This would include such things as programs to promote HIV risk awareness among prison inmates and efforts to work with probation and parole officers to link their clients with prevention programs.

More important still are structural interventions, which can take a number of forms, including:

- *Interventions aimed at reducing the likelihood of involvement with the corrections system.* To the extent that U.S. drug policy has been associated with increased incarceration and other forms of criminal justice supervision, reform of drug policy would constitute a major HIV prevention intervention of this type. Examples of such reform can be found throughout the country: in 1997, New Mexico established a statewide needle exchange program (Senate Bill 220); in 1999, Connecticut increased the amount of syringes that can be purchased at a pharmacy without a prescription (House Bill (HB) 7501); in 2001, Indiana eliminated mandatory minimum sentences for certain nonviolent drug offenders and reformed its *Drug-Free Zone* law (HB1892).[108] Other efforts aimed at providing substance abuse treatment and reducing the likelihood of initiation of drug use or entrance into the drug trade would also serve this purpose.
- *Interventions aimed at reducing the risks associated with incarceration and supervision.* Efforts to initiate harm reduction programs within the prisons, such as providing condoms and clean syringes to inmates, would be interventions of this type, as would the provision of a broad array of drug treatment options, including pharmacological interventions (e.g., methadone and buprenorphine detoxification programs) within the prison. Prison needle exchange programs have successfully reduced risk behavior and HIV transmission, without endangering staff or prisoner safety or increasing drug use, in Switzerland, Germany, Spain, Moldova, Kyrgyzstan, and Belarus.[109] As more is known about the risks associated with probation and parole, it may become clear what modifications of these systems would reduce HIV-related risks.
- *Interventions aimed at easing the burden of re-entry.* Interventions of this type might include such initiatives as intensive case management programs that help link former inmates to existing services. But they also include efforts to expand the services available to inmates and others under the supervision of the corrections system, such

as special employment or housing programs.[66–67, 71, 76–77, 93, 98, 103, 110–111] In addition, reforms in welfare policy that, for example, would end restrictions on access to income maintenance and benefit programs among those convicted of drug-related crimes would also be interventions of this type.[73, 108]

These are just a few examples of structural interventions that have the potential to address the HIV risk associated with involvement in the corrections system. To the extent that African Americans are disproportionately exposed to this system, and the subsequent risk it represents, such interventions have the potential to reduce racial disparities in HIV as well.

Directions for Future Research

While we have cited much research with implications for the relationship of the corrections system to HIV risk, particularly among drug users and as it relates to racial disparities in HIV/AIDS, there is much more work that needs to be done. This includes research relating to the criminal justice system as a factor in HIV risk, the HIV-related effects of ongoing and potential future reforms of the criminal justice system, and the ways that drug and welfare policies are associated with HIV risk and the criminal justice system.

- *The corrections system as a determinant of HIV risk.* Not enough is known about how, specifically, the corrections system operates as a determinant of HIV risk. It seems clear that prison itself is a risk environment, although there is more to know about the extent and nature of risky behaviors that occur behind bars. Even less well understood however, is how other forms of criminal justice supervision, such as those represented by probation and parole or other alternatives to incarceration, shape (for better or for worse) HIV risk. Furthermore, in this review we have focused primarily on research relating to the impact of the corrections system on the HIV risk of individuals. It is important both to recognize and to better understand the multifarious effects of this system, for its consequences extend well beyond individuals. When large numbers of a population are removed from their homes and communities, and others are constantly moving back and forth between institutionalization and independent living, it also affects their partners, families, social networks, neighborhoods, and entire communities.[25] In short, one need not be a drug user or a former inmate to be put at risk for HIV by the corrections system. Finally, we have focused attention on the corrections system from the perspective of those who are placed under its jurisdiction, but it is also necessary to develop a better understanding of the imperatives, policies, regulations, procedures, and norms that structure this system, particularly as they shape the way it addresses drug use, drug users, and HIV-related risk. Such an understanding will make it possible to develop more effective structural interventions to address HIV risk.
- *HIV-related effects of reforms in the corrections system.* While we have suggested here that reform of the corrections system can constitute an HIV prevention intervention, there are other, more common bases on which reform of the criminal justice system have been justified and implemented. Indeed, numerous states and locales are implementing criminal justice reforms to address such things as the economic and human costs of incarceration. Research is needed to examine the effects of these reforms on HIV risk and other related health outcomes.
- *Drug and welfare policy and HIV-related risk.* It is clear that drug policy in the U.S. has contributed significantly to increased exposure of individuals to the corrections system over the last two decades. This, in turn, suggests that drug policy reform represents a potential intervention for addressing associated HIV risks. However, there are numerous components of drug policy, including such things as mandatory minimum sentences, penalty enhancements for the sale and use of drugs in certain

areas (drug free zones), disparities in the penalties associated with possession of crack and powder cocaine, and restrictions on syringe availability. Research can identify whether some of these components of drug policy are more important than others in promoting increased vulnerability to the corrections system, in general, and the disproportionate vulnerability of African Americans in particular. This, in turn, would suggest whether some drug policy reforms ought to be higher priorities than others. Similarly, it is likely that various components of welfare policy that restrict access to benefits and programs for those convicted of drug-related felonies and that exclude addiction to alcohol and substances from definitions of disability exacerbate the problems of community re-entry. The extent of these effects and the particular ways that they relate to HIV risk are important topics for further research.

Given the significance of incarceration, probation and parole in the lives of drug users, it is important to understand their potential HIV-related effects better. Research examining these effects must be especially attentive to analyzing whether they vary and are moderated by race. To the extent that African Americans, both drug users and non-drug users, are more likely to be under the jurisdiction of these institutions, they are more likely than Whites to feel their effects. Also important is the question of whether the HIV-related effects of exposure to the corrections system vary by race and, if so, in what ways. For example, it seems likely, given the high degree of residential segregation in urban neighborhoods that the effect of the corrections system on African Americans outside that system is greater than it is on Whites.[25]

Questions of the role of the corrections system in promoting Black-White disparities in HIV/AIDS extend well beyond the particularities of HIV. Ultimately, they lead us to confront the question of the relationships among incarceration, race, public safety and public health more generally, and to ask whether current approaches to public safety seek to protect the safety of some at the expense of the health of others.

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