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HIGH-RISK HIV TRANSMISSION BEHAVIOR IN PRISON AND THE PRISON SUBCULTURE

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Nearly two million people are currently housed in state and federal prisons. The rate of AIDS infection is 5 times higher in prisons than in the general population. High-risk HIV transmission behaviors take place inside prisons, and there is little doubt that intraprison HIV transmission occurs. What is not well understood is what determines whether high-risk HIV transmission behaviors occur and how they can be prevented inside prison. In this article, an integrated theoretical framework, which merges the importation and deprivation models of inmate behavior, is proposed to explain intraprison high-risk HIV transmission behavior. Data from an inmate survey suggest that sex and tattooing are the two most prevalent intraprison high-risk HIV transmission behaviors and that the majority of high-risk behavior in prison can be attributed to the deprivation model. These data, coupled with insightful inmate comments, carry important policy implications and should inform future HIV education and prevention efforts.

Although HIV is transmitted in an instant during a "risky" behavior or event, many factors affect the likelihood that such a risky behavior or event will occur. In other words, although contracting HIV may occur in a matter of seconds, the behaviors and experiences that ultimately put one in a situation of risk occur over time (an exception to this might involve the risk associated with certain instances of rape). It is not as simple as exchanging tainted blood or semen. HIV transmission involves a behavioral process, and the behaviors that facilitate transmission are not uniformly practiced by all members of society. This explains why certain individuals and groups are at greater risk than others. It is important to understand what leads certain individuals or groups to indulge in risk behaviors at a higher rate than others if one hopes to prevent those behaviors and/or make them safer.

On June 30, 2000, there were 1,931,859 people in prisons and jails in the United States (Beck & Karberg, 2001). Although rates of infection vary from institution to institution and from state to state, it is estimated that the propor-

tion of inmates in state and federal prisons who are infected with AIDS is about 5 times higher than for persons in the general population (Matuschak, 2001). (Similar figures are not available for HIV because it is difficult to estimate the number of people in the general population who are HIV infected). These high estimates are not surprising because prison inmates represent a population that is at high-risk of contracting HIV and therefore developing AIDS, and this level of risk is by no means diminished on entering prison. Many inmates continue to indulge in high-risk HIV transmission activities after entering prison. In fact, inmates sometimes engage in a greater number of high-risk HIV transmission behaviors and engage in these behaviors more frequently than members of the general population (Pagliaro & Pagliaro, 1992).

Although estimates vary, research indicates that a substantial proportion of inmates engage in sexual contact while in prison. Wooden and Parker (1982) estimated that more than 65% of 200 inmates in California engaged in consensual homosexual sex while in prison. Nacci and Kane (1983) concluded that 30% of 330 inmates in 17 federal prisons engaged in consensual sex while in prison. Tewksbury (1989) found that 19% of 150 inmates and Saum, Surratt, Inciardi, and Bennet (1995) estimated that only 2% of 101 inmates engaged in homosexual activity while in prison. The majority of this sexual contact is likely of the unsafe variety because few correctional facilities address the issue of intraprisn sex or distribute condoms, the most effective mechanism for preventing the sexual transmission of HIV. Most state prison systems (96%) and all but four jails consider condoms to be contraband and do not allow them inside facilities (Hammett, Harmon, & Matuschak, 1999). The fact that much of the sexual contact occurring in male prisons is of the same-sex anal variety does nothing but further increase the risk of HIV transmission behind bars. Anal intercourse is considered to be significantly more risky than either vaginal intercourse or oral sex because the mucosal lining of the rectum is significantly more susceptible to rupture, thus making vaginal and oral linings and therefore more susceptible to rupture, thus making HIV transmission more likely (Schoub, 1995). Although specific estimates of the prevalence of intraprisn anal intercourse in particular are hard to come by, research indicates that it does occur (Davis, 1982; Lockwood, 1994; Saum et al., 1995).

Whereas the research discussed above covers voluntary participation, rape, another fact of prison life, occurs involuntarily. The taboo nature of rape in society and prison makes estimating its prevalence problematic; however, it does occur and is germane to any discussion regarding HIV transmission inside prison. In an early study by Davis (1982), it was found that 2,000 of 60,000 (3%) Philadelphia jail inmates had been sexually assaulted, two

thirds of whom endured "completed" rapes. Wooden and Parker (1982) estimated that 14% of 200 inmates had been sexually assaulted inside prison. A more current study by Lockwood (1994) found that 25 of 89 (28%) New York State prison inmates had been the target of sexual aggression, but only 1 had endured a completed rape. Struckman-Johnson, Struckman-Johnson, Rucker, Bumby, and Donaldson (1996) determined that 12% of almost 500 male inmates were sexually assaulted. Hensley (2000) reported that 14% of 174 inmates had been sexually threatened and 1% had endured rape. Struckman-Johnson and Struckman-Johnson (2000) found that 21% of 1,788 inmates had experienced at least one incident of pressured or forced sex and 7% of them endured a completed oral, anal, or vaginal rape while in prison.

Estimates of the prevalence of intravenous drug use (IDU) inside prison also indicate that HIV transmission risk may accelerate upon entry into prison. Forty percent of inmates report knowledge of needle sharing inside prison, and of those who inject drugs inside prison, 40% report sharing injection equipment with others (Monroe, Colley-Niemeyer, & Conway, 1988). Eleven percent of Canadian federal prison inmates report injecting drugs inside prison, only 57% of whom thought the equipment they used was clean (Correctional Service Canada, 1996). Although the proportion of inmates who continue to inject drugs once inside prison seems to decrease, those inmates who continue to inject are more likely to share equipment and less likely to clean the shared equipment between uses. Injection equipment and bleach, which is used to clean the equipment, are difficult to acquire in the correctional setting because they are considered contraband (Mahon, 1996). Furthermore, they are sharing injection equipment with a population (fellow inmates) that has a very high rate of HIV/AIDS infection (Gore, 1995; Thomas, 1990; Turnbull, Dolan, & Stimson, 1992).

An additional high-risk HIV transmission activity that continues to occur inside prison is tattooing. Because needles, which are used to make tattoos, are considered contraband, they are difficult to obtain in the correctional setting. The shortage of needles causes many inmates to share tattooing equipment, thereby accelerating their risk of contracting HIV (Doll, 1988; Mahon, 1996).

Much of the research on intraprisn HIV transmission has been epidemiologic in nature. Researchers have sought to determine if HIV is transmitted inside prison, how HIV is transmitted inside prison, and how often HIV is transmitted inside prison. Researchers have dedicated little time to explaining why HIV is transmitted inside prison or what leads inmates to indulge in high-risk behaviors that are known to facilitate HIV transmission. A tested theoretical framework that helps explain the factors that lead certain groups, specifically the incarcerated population, to practice risky behaviors

could prove to be valuable in the effort to reduce those factors and ultimately the specific behaviors and events that facilitate intraprison HIV transmission.

For a variety of reasons, some choose to involve themselves in risky behaviors whereas others do not. With the exception of rape, the risky events that lead to transmission in the prison setting, namely, unprotected sex, IDU, and tattooing, are essentially behaviors chosen by the participants, and many things affect the decision to indulge in such risky events. It is the preprison characteristics, behaviors, and experiences of an inmate and the current, or in-prison, characteristics, behaviors, and experiences of an inmate that work together to determine whether these risky events will be practiced by a given inmate. Contracting HIV is more of a process than an event, and understanding this process both substantively and theoretically will assist in the effort to make risky events less common and/or less dangerous. Reducing the risk, and ultimately the incidence of infection, will improve not only inmate health but also public health, as most inmates serve relatively short prison sentences of fewer than 3 years (Ditton & Wilson, 1999).

What percentage of prison inmates indulges in high-risk HIV transmission activities? Of those who indulge in high-risk activities, what percentage of them indulged in that same activity prior to incarceration? Are high-risk HIV transmission behaviors imported into prison with inmates as part of the criminal subculture or are these behaviors in response to the characteristics of confinement or the deprivations imposed by imprisonment? A theoretical framework is proposed in the next section that will help organize information related to such questions. The third section covers the methodology employed to test the theoretical framework, and the fourth section presents the findings related to the survey responses. The fifth section further conveys the inmate perspective by presenting inmate comments in a codified fashion. The final section discusses the implications and limitations of this study and the need for additional research in this area.

THEORETICAL FRAMEWORK

Sociology and criminology share rich theoretical traditions that have sought to explain inmate behavior and the prison subculture. However, to date, few researchers have drawn on this theoretical tradition to explain HIV transmission in prison. In this article, an integrated theoretical framework is proposed that outlines intraprison HIV transmission as a process, rather than how it is conventionally viewed, as an event. The framework is integrated because it incorporates two existing, though often competing, theoretical perspectives, namely, the deprivation and importation models of inmate

behavior. The framework is process oriented because it involves the accumulation of preprison characteristics, experiences, and behaviors and in-prison characteristics, experiences, and behaviors of inmates. In other words, preprison and in-prison factors are theorized to coalesce to affect the behavioral tendencies of inmates and establish the level of intraprison HIV transmission risk.

A major tenet of the study of the prison and the inmate subculture is the process of prisonization. The concept of prisonization was popularized by Donald Clemmer in 1940. Clemmer's efforts laid the groundwork for several other researchers, and theoretical explanations of the existence of a prison subculture began to garner significant academic attention. Clemmer encouraged readers to think of the prison as a self-contained world that is vastly different from the rest of society. Prisonization refers to the process of adjusting to the prison environment, which has its own set of morals, laws, rules, social relations, patterns of behavior, and problems. The bulk of the literature on prisonization focuses on the conditions of incarceration, the prison subculture, individual inmate characteristics, and the behavioral patterns of inmates. Researchers and readers alike soon learned that life inside prison was dramatically different than life outside, and several researchers sought to explain why the inmate subculture exists and why it embodies a different, often dangerous and taboo, lifestyle. Underlying Clemmer's notion of prisonization is a stimulus of deprivation that results in a patterned response. The response of many inmates is to develop and perpetuate the inmate subculture to cope with the deprivations imposed by incarceration.

Evolving from the early work on the prison community and prisonization, two competing theoretical models were developed to explain the prison subculture and the patterns of inmate behavior. These models are the deprivation and importation models. Although Clemmer (1940) was more encompassing in his approach, deprivation and importation researchers provide more focused insight by identifying the specific factors that lead to the development and maintenance of the prison subculture and resulting patterns of inmate behavior.

The deprivation model, which is an extension of the prisonization hypothesis, assumes that particular characteristics of prison life affect an inmate's attitude, self-image, values, and behavior, which once changed produce a unique culture that embodies certain behaviors and viewpoints. The prison environment deprives inmates of certain needs, and it is believed that the absence of these needs leads to behavioral changes in the inmate, known as modes of response. Gresham Sykes (1958), in his classic study *The Society of Captives*, referred to the loss of these basic needs as the "pains of imprisonment." The pains are produced by the loss of liberty, goods and services, het-

crosscut relationships, autonomy, and security. The loss of these basic needs results in an array of behavioral responses, most of which involve the adherence to an "inmate code," which opposes the institutional authority of the prison staff. As a result, the inmates' modes of response often entail the internalization of deviant normative prescriptions, a feature of the inmate social system that carries special importance in a study of this kind. Sykes went on to explain how the pains of imprisonment and the modes of response construct and maintain the inmate subculture. It is the adherence to the inmate code that helps inmates neutralize the pains of imprisonment, become prisonized, survive, and cope with incarceration (Sykes, 1958).

Although deprivationists believe prison changes people and view prison as radically different from society, importationists view prison as simply an extension thereof. The importation model was first proposed by Clarence Schrag (1961), who held that the values of the prison subculture are imported into prison from the outside world. Importationists argue that criminals foster certain attitudes in society and these tendencies remain intact when the criminal is incarcerated and guide his or her behavioral responses to imprisonment. John Irwin's (1970) classic work, *The Felon*, further claims that inmate behavior is not merely a reflection of the unique deprivations of imprisonment but an extension of the behavioral patterns of the inmates prior to incarceration. In other words, the preprison characteristics, behaviors, and experiences of inmates are imported into the prison with the inmate. In a classic study, Irwin and Cressey (1962) identify several subcultures that are found in both the general population and inside prison. These subcultures are used to illustrate how particular components of the inmate social system exist in the general population and follow prisoners inside, thus shaping inmate behavior, the prison subculture, and the correctional environment.

Historically, the deprivation and importation models have been employed in a mutually exclusive manner. Early researchers either endorsed the importation model and sought to measure to what extent inmates bring their subcultures to prison with them, or they endorsed the deprivation model and tried to determine to what extent inmates adapt to incarceration by adhering to an inmate code that is institutionally born. Several researchers, however, eventually acknowledged the viability and value of theoretical integration in prison subculture research (Akers, Hayner, & Gruninger, 1977; Grapendaal, 1990; Title, 1972). Despite their insight, prison subculture research did not experience widespread integration until the late 1980s and early 1990s. Today, integration is commonplace and a number of recent studies have simultaneously tested the models.

Reisig and Ho Lee (2000) conducted a prison subculture study in several Korean prisons. Their results suggest that deprivation plays a more signifi-

cant role in constructing the prison subculture than the importation model. This finding manifested itself at both the individual and aggregate levels. Paterline and Petersen (1999) examined the structural and social psychological determinants of prisonization by integrating measures of importation, deprivation, and inmate self-conceptions. They found that deprivation model variables were a better predictor of inmate responses than importation model variables, but they also found that the integration of the two models produced the most explanatory power. Stevens (1994) found that the prison environment affects inmate violence levels regardless of the personal attitudes of inmates toward violence prior to their confinement. This finding suggests that deprivation plays a substantive role in affecting inmates' attitudes toward violence. Stevens concluded that some inmate values and attitudes seem to be shaped before their entry into prison, which supports the importation model, but not to the extent that some research would like us to believe. Lawson, Segrin, and Ward (1996) found support for both models and endorsed future theoretical integration in prison subculture research. Grapendaal (1990) also found support for both models; however, he concluded that deprivation is of greater importance. Cao, Zhao, and Van Dine (1997) employed both models, and their data indicate the importation model is a stronger predictor of prison rule violations, a measure of prisonization.

With the exception of this last study, the above studies largely seem to support the predictive ability of the deprivation model over the importation model. However, a number of the authors found that integration of the two models provides more explanatory value than either of the two models employed independently. It should be noted that none of the prison subculture studies examined the specific activities that facilitate HIV transmission in prison. In this sense, the present study is unique as it employs an integrated process-theoretic model to explain specific activities that have the potential to transmit HIV inside prison. Only by understanding why these events and behaviors occur can researchers and practitioners design and implement strategies that can make these activities less common and/or less dangerous.

The mere individual application of these models would be of limited utility, especially in an attempt to explain the events and behaviors that facilitate HIV transmission in prison. The deprivation and importation models actually complement each other nicely, in an end-to-end format, to explain how the preprison characteristics, experiences, and behaviors of inmates coalesce with the in-prison characteristics, experiences, and behaviors of inmates to create a subculture and a situation that embody high-risk HIV transmission behavior and events.

The linear nature of the deprivation and importation models becomes readily apparent when the various high-risk events and behaviors that likely

facilitate HIV transmission are considered. It is important to learn about who and what inmates are prior to incarceration to better understand what characteristics, experiences, and behaviors, as well as the level of risk, they import into prison. Following is a review of what the importation and deprivation models suggest about the activities that likely facilitate HIV transmission in prison.

First, inmates are demographically similar, in terms of age, socioeconomic status, and race, to people who are at relatively high risk of contracting HIV in the general population. Second, some inmates adhered to preprison lifestyles that put them at significant risk of contracting HIV. Irwin (1970) identified three sexual roles that inmates import into prison: the homosexual who is likely to continue to partake in homosexual liaisons, the "punk" who is submissive and likely to be preyed upon, and the "wolf" who needs to sexually dominate others. Inmates playing each of these roles may import their lifestyles and continue to be involved in high-risk HIV transmission behaviors inside prison. Similarly, some inmates import their injection drug-using lifestyle into prison. Some inmates enjoy obtaining tattoos as part of their preprison lifestyle. Inmates who import certain high-risk traits, or histories, are likely to adapt to prison by maintaining their identity and continuing to adhere to their high-risk lifestyles. Whether inmates import their sexual, IDU, or tattooing proclivities, these activities may continue inside prison and place inmates at risk of contracting HIV (Irwin, 1970).

In addition to the high-risk HIV transmission characteristics that inmates import into prison, the deprivations associated with imprisonment and the conditions of confinement cause some inmates to indulge in high-risk HIV transmission activities. Obviously, not all inmates import high-risk HIV transmission characteristics into prison. Many inmates, some of whom display no high-risk behavioral characteristics upon entering prison, become prisonized and respond to the deprivations of imprisonment by having sex, injecting drugs, and obtaining tattoos. Some inmates respond to the deprivation of heterosexual relationships by experimenting sexually with fellow inmates of the same sex. Some inmates, due to the deprivation of security, cannot defend themselves and become partners in coercive homosexual liaisons. Some inmates respond to the deprivations of imprisonment by seeking psychological escape in the form of intravenous drugs. Others respond to the deprivation of security by trying to appear tough to avoid becoming the target of victimization, and tattooing is one way to obtain a label of toughness. Intraprison sex, intravenous drug use, and tattooing are high-risk HIV transmission behaviors, but the deprivation of goods and services renders these events and behaviors even more risky. Most inmates do not have access to condoms, clean needles, or bleach, which are preventive mechanisms that are

readily available and used in the general population to make high-risk HIV transmission activities less risky. Inmates are not able to diminish their risk by using such products due to the deprivations imposed by imprisonment.

Most of the research on intraprison high-risk HIV transmission activities in the context of HIV and AIDS has taken a traditional epidemiologic approach, in which the emphasis is placed on determining if, how, and how often HIV is transmitted in the prison setting. These efforts offer some important insights into the risky activities that occur in prison, but from a preventive perspective, it is equally as important to understand why these risky events occur, which is an aim of this study. Gaining a better understanding of high-risk HIV transmission activities, the environment in which they occur, the inmate subculture that seems to encourage or support them, and the inmates who partake, will prove helpful in the effort to determine why risky activities occur and how they can be prevented and/or made safer.

METHODOLOGICAL APPROACH

This study uses a mailed inmate survey to capture the inmate perspective on some of the matters discussed above. Questions delve into the preprison and in-prison experiences and behaviors of inmates. The intent is to shed some light on whether high-risk HIV transmission activities are more a product of importation or in response to deprivation. These components make up the integrated process theory of intraprison HIV transmission, and the answers to the survey questions are used to test, albeit imperfectly, the theoretical framework previously outlined.

For well over a year, numerous efforts were made to gain permission from a department of corrections in a state located in the southeastern United States to interview prison inmates, and despite many encouraging conversations and accommodating virtually every requirement of the department of corrections, the request to interview inmates was eventually denied. In the end, the department of corrections decided that interviewing inmates about matters related to HIV/AIDS posed a security risk and that it was logistically impossible to accommodate the risk and provide the necessary security.

Because the request to interview inmates was denied, it was decided that surveying inmates by mail was the next best approach. Obviously, the use of a mail survey is not ideal. Many of the inmates simply would not respond. Others would not remain interested if asked more than a few (10-15) questions; thus, it was important that the survey be well focused and relatively brief. Some of the inmates would not be able to read or understand the questions. In addition, there was no way of assessing the validity of the inmate responses.

Regardless of the shortcomings related to surveying inmates, it was the best methodological option.

A purposive sampling technique was employed to select prisons from which to sample inmates. Efforts were made to select a variety of prisons from around the state with varying levels of security. A minimum, medium, and maximum security prison were randomly selected from each of four state regions. However, there was not a minimum security institution located in one of the regions, so only a medium and maximum security prison were selected from this region. Eleven prisons were selected in all. From these 11 prisons, the department of corrections randomly selected 500 male inmates and provided their names, unique identification numbers, and where they were housed. Each inmate was then mailed a survey and a postage-paid return envelope. Women were excluded from the sample because the transmission dynamics of HIV/AIDS are likely substantially different for women in the correctional setting. Therefore, it seemed appropriate to separate the female and male cases to ensure the analyses were valid for a specific population, and it was necessary to focus efforts on only one population. In hope of increasing the response rate, 4 weeks after the survey was mailed, each inmate who had not responded was sent a follow-up survey and a postage-paid return envelope. Typically, a minimum of two follow-up surveys are mailed because people often forget about responding or are simply too engaged given the busy schedule of an average person in society. However, because inmates are a captive audience and have fewer demands on their time than the average citizen, it was deemed that one follow-up mailing would be sufficient. Additional follow-up mailings would likely have only a negligible effect on the response rate. Four weeks after the second survey mailing (8 weeks from the initial mailing), inmate responses were no longer recorded or included in the analyses.

It is methodologically valuable to survey a diverse cross section of inmates about a variety of issues related to the prison environment and the inmate subculture in the context of HIV/AIDS and the activities that facilitate transmission. Mailing the survey to a large, randomly selected sample was the best and simplest way of obtaining responses from a diverse collection of inmates; however, it was impossible to have any control over which inmates responded to the survey. The survey that was mailed to inmates is presented in the appendix. These questions are geared toward improving understanding of the preprison and in-prison experiences and behaviors of inmates. In addition, the responses were used to test, albeit imperfectly, the theoretical framework previously outlined.

For the questions that were used in the survey analysis, inmates were asked to estimate the percentage of inmates they know who indulge in a par-

ticular activity, a methodological tactic typically used when surveying inmates. The mean percentage for each question is presented so as to convey the average opinion of the inmates who responded to the survey. In addition, inmates made comments at the end of the survey, which are also presented because they help generate understanding of the high-risk HIV transmission activities that occur in the correctional setting and bolster the survey responses.

FINDINGS

Of the 500 surveys that were mailed to randomly selected male inmates from 11 state prisons representing various security levels and geographic locations, 222 never reached the inmates. Of these 222, 8 were returned because the inmate was released between the time his name was obtained from the state department of corrections and the time the survey was sent (5 days), and another 214 surveys were returned because staff at four of the prisons did not distribute the surveys. Prisons screen all inmate mail, and for unknown reasons, the survey was deemed to be inappropriate by staff at these 4 institutions. These prisons were contacted, and each indicated that they were unwilling to distribute the surveys unless the central department of corrections office instructed them to do so. Prison staff members have the discretion to reject inmate mail, and little could be done to avoid losing this portion of the sample. Therefore, 278 surveys seemingly reached inmates at the 7 correctional facilities remaining in the sample.

It is difficult to know if these four prisons refusing to distribute the survey affected the representativeness of the sample. Three of the four institutions are not at all unique in terms of security level or the custody grades of inmates they house. All three accept minimum-, medium-, and close-custody-risk inmates and have a 4 or 5 security designation, on a scale ranging from 3 to 7, with 7 being the most secure. The fourth, on the other hand, is a youthful offender institution housing males between the ages of 19 and 24. It accepts minimum- and medium-risk inmates and has a security designation of 3. Given that the institutions that excluded themselves from the study are not dramatically different than those that did distribute the survey, it seems unlikely that excluding the four prisons had a major impact on the sample, but this possibility cannot be ruled out.

Of the 278 surveys mailed, 134 were returned. Several of the respondents (13) returned the survey but did not answer any of the questions. These surveys are obviously not included in the analysis; therefore, 121 surveys (44% of those that seemingly reached inmates) were returned and deemed usable.

Of the 121 respondents whose surveys were deemed usable, the average age was 36. The youngest respondent was 20, and the oldest respondent was 69. Fifty-eight of the respondents were White (43%), 44 were Black (33%), 16 were Latino (12%), 3 were Native American (2%), and 4 were of another race (3%). Eleven of the respondents had been in prison for less than 1 year (8%), 32 for 1 to 3 years (24%), 33 for 4 to 8 years (25%), and 48 for 8 or more years (36%).

Compared to the state prison population, this sample seems to be fairly comparable in terms of age. On June 30, 2000, the average age of state prison inmates was 36. The youngest inmate was 14 and the oldest 88. The sample has the same proportion of White inmates as the state prison population but a lower proportion of Black inmates and a higher proportion of inmates of other races. On June 30, 2000, 54% of state inmates were Black, 43% were White, and 2% were of other races. In terms of time served, the sample consists of inmates who have served more time than the state prison population. As of June 30, 2000, 34% of state prison inmates had been in prison for less than 1 year, 31% for 1 to 3 years, 23% for 4 to 8 years, and 12% for 8 or more years (Department of Corrections, 2001).

INMATE RESPONSES TO SURVEY QUESTIONS

It is simplest to report the mean response to each question, so as to convey the general opinion of the respondents. In response to the question, "Of the inmates you know, what percentage of them have gotten tattoos inside prison?" the 121 respondents reported a mean of 53%. In other words, the respondents reported that about half of the inmates in prison get tattoos inside prison. When asked, "Of the inmates you know who have gotten tattoos inside prison, what percentage of them do you think had tattoos before coming to prison?" the 121 respondents reported a mean of 44%. In other words, the respondents reported that of the inmates who get tattoos inside prison, about 44 percent of them had tattoos before coming to prison.

When asked, "Of the inmates you know, what percentage of them have injected drugs inside prison?" the 121 respondents reported a mean of 19%. In other words, the respondents reported that only about 19% of inmates in prison inject drugs inside prison. When asked, "Of the inmates you know who have injected drugs inside prison, what percentage of them do you think injected drugs before coming to prison?" the 121 respondents reported that of the 19% of inmates who inject drugs inside prison, a mean of 52% of them injected drugs before coming to prison. When asked, "Of the inmates you know who have injected drugs inside prison, what percentage of them share injection equipment with other inmates inside prison?" the 121 respondents

TABLE 1: Mean Percentage Responses on Inmate Survey ($n = 121$)

	Sex	Intravenous Drug Use	Tattooing
Percentage of inmates who indulge in each high-risk HIV transmission behavior	44.0	19.0	53.0
Percentage of those inmates who indulged in each high-risk behavior prior to incarceration	30.0	52.0	44.0

reported a mean response of 41%. This suggests that despite the illegality of drug injection equipment in prison, only about 41% of inmates who inject share equipment.

When asked, "Of the inmates you know, what percentage of them have had sexual contact with other inmates inside prison?" the 121 respondents reported a mean response of 44%. When asked, "Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them do you think had sexual contact with someone of the same sex before coming to prison?" the 121 respondents reported that of the 44% of inmates who have sex inside prison, only 30% of them had sexual contact with someone of the same sex before coming to prison. This suggests that the majority (70%) of inmates who have sex in prison did not have homosexual relations prior to imprisonment, which supports the deprivation hypothesis. When asked, "Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them have had oral sex?" the 121 respondents reported a mean of 58%. When asked, "Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them have had anal sex?" the 121 respondents reported a mean of 51%. When asked, "Of the inmates you know, what percentage of them have been raped inside prison?" the 121 respondents reported a mean of 16%. However, many of the inmates made comments indicating there are different types of rape, such as forced and coerced. It is unclear whether both forms of rape have been included in the inmates' estimations of how prevalent rape is inside prison. The comments indicating there are several conditions under which rape occurs are presented in the Comments section. The mean percentage responses to some of the key survey questions are summarized in Table 1.

Interpretation of the Inmate Responses

The responses to the survey questions are interesting and show some support for both the deprivation and importation models. In general, the respondents indicated that tattooing behavior is fairly common in prison, with about

53% of inmates getting tattoos. They also suggested that, although some inmates who get tattoos come in with tattoos, many do not, which seems to support both theoretical models.

The respondents indicated that injection drug use is somewhat rare, with only about 19% of inmates injecting drugs inside prison. Of the inmates who inject drugs inside prison, it seems that about 52% of them were injection drug users before coming to prison. This suggests that injection drug behavior can be imported into prison but can also occur in response to the prison environment (deprivation). Surprisingly, the respondents reported that only about 41% of the inmates who inject drugs inside prison share injection equipment. This contradicts some of the literature (Jurgens, 2000; Mahon, 1996), which suggests rates of needle sharing are quite high because injection equipment is difficult to acquire in correctional institutions. It may be that inmates in this state are fairly adept at acquiring injection equipment or that correctional officers in this state are less effective at keeping injection equipment out of prisons.

The respondents indicated that about 44% of inmates have had sexual contact inside prison. Of the 44%, only about 30% of them had homosexual contact with someone before coming to prison, which largely supports the deprivation hypothesis. Inmates who are willing to have sex with men undoubtedly come to prison (importation), but it seems that the majority (70%) of inmates who have sex in prison are responding to the deprivation of heterosexual relationships or are victims due to various other prison deprivations. The respondents seemed to believe that oral and anal sex are equally as common among those who have sex inside prison (58% and 51%, respectively). Finally, respondents suggested about 16% of inmates are raped inside prison. These data indicate that both deprivation and importation account for some portion of each of the high-risk HIV transmission activities that occur in prison.

INMATE COMMENTS RELATED TO THE SURVEY CONTENT

What is perhaps more interesting than the responses to the survey questions are the inmate comments, in which many inmates urged further contact, several asked for legal advice, and a few requested assistance with various matters, such as getting a job, starting a band, distributing artwork, and receiving a picture of their favorite college football team. Several of the inmates, however, made very insightful comments. It is these comments that help paint a picture of what living in prison is all about and why the events

and behaviors that likely facilitate HIV transmission in prison occur and how they can be prevented.

The comments are as diverse as the inmates who provided them, but the comments have been categorized so as to connote their general perspective. Inmate comments are placed into three categories: (a) statements supporting importation, (b) statements supporting deprivation, and (c) comments on behavior and policy matters. Inmate comments are presented and discussed within these categories and in this order. All inmate comments are reproduced verbatim. Any explanatory statements that have been added appear inside brackets.

Inmate Comments in Support of the Importation Model

Several of the inmate comments seem to support the importation model by indicating that certain events and behaviors are a part of the inmates' lifestyles before they come to prison.

I don't know of anyone who has injected drugs but I know of quite a few who smoke pot or crack and the ones who have done it here also did it before coming to prison.

As for I.V. drug use, it's rare and the people who do it, did it on the street when it does occur, they almost have to share the needle because they are so difficult to obtain.

In response to the question about what percentage of inmates inject drugs inside prison or injected drugs before coming to prison, one inmate said,

All of them or darn close.

The following respondents indicate that tattooing behaviors are often imported into prison, but the second respondent indicates that the age of the inmate seems to play some part in determining tattooing behavior.

A lot of guys have them [tattoos], about 86% of them have tattoos all over there bodies. 70% had tattoos before they came to prison.

Questions 5 and 6 mainly depends on age brackets; 18-30 90% will either get tattoos and will get their old tattoos redone; 30-45 90% of the ones with tattoos will get them redone and the ones without tattoos at least 95% don't care for any; 45 or older don't worry about it no more.

Most already had them but the ones who didn't can't get a better deal than in prison from the outside and some of the best "ink slingers" come from prison.

This second comment suggests that younger inmates will get tattoos if they do not already have them, which actually supports the deprivation model, or get their tattoos redone if they already have some. According to this comment, older inmates are less likely to get tattoos at all, which seems to support the importation hypothesis in that the older inmates adhere to their preprison behavioral tendencies. Older inmates with tattoos get them redone, and older inmates without tattoos do not bother getting any inside prison.

Inmate Comments in Support of the Deprivation Model

Although several comments seem to support the importation model, many more seem to support the deprivation model. These comments suggest that the deprivations imposed by prison—the loss of liberty, goods and services, heterosexual relationships, autonomy, and security—elicit modes of response by inmates. These modes of response can take the form of events and behaviors that likely facilitate HIV transmission in prison.

The following comment simply indicates that very few of the inmates who have sex in prison had sexual contact with someone of the same sex before coming to prison.

About 23% of men in here are homosexuals, 15% of them were gay before they came to prison.

The following comment suggests several deprivations lead to high-risk behavior:

The tattoos are a macho part of being in prison—trying to appear strong so as not to be preyed upon by homos “mostly blacks intimidating whites.” The sex thing is limited, books—used to allow sexually explicit books in here now they don’t. Also—when you get a visit from wife or girl friend you are allowed one hug and one kiss only—-which makes it all that much harder on the woman—divorce rates are high in prison. Homos run rampant in prison—-they actually allow people with AIDS to work in the kitchen.

The respondent indicates that inmates get tattoos to gain status and appear tough so as to not be preyed upon (deprivation of security), he alludes to the idea that prison officials have taken away pornography and that this affects the amount of sexual activity that occurs inside prison (deprivation of goods and services), and he implies that due to limited contact with loved ones, inmates seek other contact (deprivation of heterosexual relationships).

The following comment indicates that acquiring tattoos is part of being in prison:

The tattoo section; it’s like a rite of passage, almost everyone gets at least one in county jail or here (prison).

The following comment suggests that the decision to remove pornography from prisons has had a direct effect on prison sex. In fact, this inmate believes that removing pornography has not only resulted in an increase in homosexual sex but an increase in the transmission of HIV.

The reason homosexuality ratings are so high is because they have taken and stopped all adult magazines from coming into the prison system. There has also been an out spread of the H.I.V. virus cause of this. Some people get released and spread it to others. The Department of Corrections is promoting homosexuality by taking this type of action.

The following comments suggest that the deprivation of autonomy and security result in inmates’ being able to coerce and force more vulnerable and lonely inmates into sexual relationships.

The answer to my No. 14 [question regarding rape] may seem kind of high to you. But you must understand there are more ways to rape someone than just by force. Most guys are young and scared just by being in here the first place, so it not hard to talk someone young into doing thing that they wouldn’t ever think of doing other wise. Plus threat will work also, if you are bigger than them. And then alot of these guy are lonely. So just shown them a little tender loving care T.L.C. and you can get about the same thing.

Question #14 [question regarding rape] Most of the people (85-90%) what are referred to in here as (punk or girls) were raped in one way or another. There are two kinds of rape in prison, in my opinion. Forced to physically and forced to out of fear before in get physical. Fear is by far the most widely used tactic to get people to do things they wouldn’t do on the out side. Now a days it [rape] doesn’t happen as much, but the people I know, I was raped and he became a homosexual.

The following comments are similar in that they indicate why inmates indulge in or are pressured into having sexual relations in prison or using drugs.

Most of what happens inside is due to peer pressure or due to debts owed from gambling or borrowing from another.

They get raped not by force, but by pressure or influence that they cannot avoid. The reason it's higher in prison is because of pressure others put on those who are "weak", "raped", or want protection and also those who don't have money coming in and want things to eat, gamble, drugs.

Due to the deprivation of security and autonomy, it seems that inmates are pressured into sex. Inmates who are pressured either owe something, which they probably borrowed because of the deprivation of goods and services, or are unable to fend off more powerful predators (deprivation of security).

The following comment indicates that inmates use drugs to escape the stresses of prison. The inmate goes on to suggest that because he is in a "soft camp" with a lot of "new coks" (first-timers) who are serving relatively short sentences, few of the inmates are willing to do anything wrong. In other words, the deprivations have not yet taken their toll. This portrayal supports the deprivation hypothesis in that it indicates persons serving shorter sentences do not respond to the deprivations in the same way as inmates serving longer sentences.

You got to understand drug is a escape from here that's why we go on trips here. . . . it make times go by . . . this is a soft camp they picking the inmate to send here, not being old timers all new coks with a little time so they not going to shake nothing . . . they scared to do anything so it slow here. But other places are real sweet, wine and the rest, just as long you got Money you in shape.

The following comment indicates that needles are hard to come by in prison, which suggests that inmates who inject drugs inside prison likely share injection equipment. The inmate also indicates that the amount of sexual activity that an inmate is involved in is directly related to the amount of time he has spent in prison. This strongly supports the original prisonization hypothesis proposed by Sykes (1958). The longer an inmate is deprived of heterosexual relationships and the comforts of home, the more the inmate becomes "prisonized" and indulges in behaviors associated with the inmate subculture.

Regarding the tattoo issue: it's regarded as status. Drugs: the needles are almost nil here. Sex: due to the length of sentence determines more accurately if there is sexual activity and the extent of that activity with no regard to spouse or girl friend.

In response to the question about what percentage of inmates inject drugs inside prison or share injection equipment, one inmate said,

I'd say almost all of them . . . because needles are very hard to come by in here, but not impossible.

The following comments indicate that most of the inmates who have sex in prison have long sentences, thus supporting the deprivation model.

There are quite a few homosexuals, most have a great deal of time [are serving long sentences].

It's amazing to me what these men will do for their pleasure to me it's very sick. When I see a new young inmate come in here you can watch the wolves stare and that inmate over! It's sick. This is what happens in here especially those with long time, and the officers look the other way!

The following comment suggests that young inmates are more likely to have sex in prison and the inmates who have been convicted of sexual crimes are more likely to become gay inside prison.

Most of all sexual convicted inmates tend to become gay or bi-sexual. Most young guys ages 15 to 23 tend to start the gay acts.

The following comment illustrates why many inmates indulge in sex in prison. The comment indicates that very few inmates who have sex in prison had sex with someone of the same sex before coming to prison. The inmate goes on to explain that relationships in prison are primarily in response to loneliness, thus strongly supporting the deprivation hypothesis.

[in response to the question concerning what percentage of inmates who have sex in prison had sex with someone of the same sex before coming to prison] Probably very few has ever liked the same sex. Prison is one of the loneliest place's in the world And in you will find yourself loving someone or something That you never thought could be. For example, A inmate use to walk around with a beetle bug in his pocket. He loved that bug. He die with the bug in his pocket. One of the greatest Power in the world is love.

The following comment supports both the importation and deprivation models. The respondent indicates that inmates are "trapped by their lifestyle of crime," which seems to support importation, but he goes on to discuss how inmates must become prisonized to survive, thus supporting the deprivation model.

Prisoners are mostly a society of persons who are trapped by their lifestyle of crime and consequently forced to live and act according to the ways of the

majority of the prison population out of ignorance and in some cases for survival. Those who will not or do not conform to their ways in my opinion will eventually become martyrs.

The following comment alludes to the deprivation of security and how it affects the behavior of inmates.

... most institutions are under staffed which is why inmates can get away with tattooing, doing drugs, raping and robbing other inmates. The staff they do have most are out of shape and couldn't even run the short distance of the compound to help you if you needed it. There's a lot of things that could be changed for the better of all if D.O.C. would just try.

The following comments indicate that guards encourage homosexual behavior and why.

The sexual activity is rampant and encouraged by guards. Guards believe that the sex will provide release for sexual tension; this is faulty logic though, as more tension is produced from the dislike of homosexuals, the bartering of homosexuals, and the protection of gays by other prisoners.

I sincerely believe that the promiscuous sexual activity here is encouraged to alleviate the tension here. The authorities it is my belief don't give a damn if we kill each other so what's they say he is a fag or they are just inmates. Who cares.

The following comments support deprivation by indicating that needles are difficult to obtain and how this likely contributes to needle sharing, a behavior known to facilitate HIV transmission (deprivation of goods and services).

... the needles aren't really used because of the fact there there close to impossible to get. If one was to surface I'm sure every dope head on the compound would use the same needle. As far as homosexual activity goes, the ones I know that are involved in that which isn't many have not had sex with another male on the street. As for injecting drugs, there are no needles on the compound. The only place you're going to get a needle, is in medical. And that's like asking the devil for a glass of ice water.

The following statements indicate that tattooing is often not a result of importation.

A lot of blacks are getting tattoos, just passed a cell and a friends getting one finish and got 3 friend that never had a tattoos in there life tell they come to prison.

I can see more here with tattoos in their stay So I assume they have it done while here.

One inmate wrote back and said he wanted to know what the survey was for before he answered it. He was told about the general mission of the survey, which is to determine if high-risk HIV transmission behaviors are imported into prison or in response to deprivation. He responded, and one of his comments directly addressed this issue.

"Imported"? How can you say what on a man mind you lock his ass up for life, sure he going to get high, fight, pick on weak prick maybe even get him ash of ass or head, you say imported [author's name] when a man been in the chaingang for 15-20 year he changes with time his mind work different.

This comment does not refute the importation hypothesis, but it certainly suggests that living in prison takes its toll. This toll of prisonization/deprivation results in inmates' changing and behaving in ways they likely never would have had they not been incarcerated.

Inmate Comments Related to High-Risk Behaviors and Policy Matters

The following comments are simple statements indicating that high-risk HIV transmission behavior does occur inside prison.

I was raped at [anonymous] Correctional Institution in 1993. I was hit and knocked out and that's when I was taken advantage of. I thank you for your time.

It's not hard to get drugs in the prison system. Sometimes crooked prison guards bring it through the gates! I even had one guard bring me cigarettes, and they are not supposed to do that!

I don't personally know of anyone who has had sex in prison but I have heard of several people who have been forced to have sex.

The biggest problem in prison is ignorance and that's why they have sex and share needles . . . Assholes believe that they can have sex with someone known to be infected with HIV and as long as they wash their dicks off they won't contract HIV. Ignorance!

I believe that more emphasis should be placed on the effects of sharing tattoo needles in prison rather than on I.V. needles. In my experience, from speaking to other inmates, more inmates have contracted diseases, i.e.: Hepatitis and T.B. from sharing improperly cleaned tattoo needles than from sharing injection equipment.

I don't really hang out with other inmates but I see a lot of nasty stuff. Some love to have sex with other men its like their life its unreal. Im lucky Ive only got 11 months left at the max. You even got officers that have sex with inmates.

I hope they all catch AIDS they deserve it to me . . . I haven't heard or seen injections by needles but I also don't doubt it. But there are a shit load of other drugs mainly supplied by officers. . . . Probably everyone who injects shares. I am assuming that this survey has a lot to do with the AIDS rate of prisoners. Well, here at [anonymous correctional institution] the rate is sky-high! I believe 1 out of every 18 inmates here are full blown cases. I myself am clean, and perfectly heterosexual. The major factor here is the homo's, and not really so much of the I.V. drug use or tattooing! I have plenty of tatt's, but I'm smart enough to make sure everything is clean.

This location is of a higher percentage rate than most other locations—tattoos are easier to obtain and the sex issue is rampant here by comparison to other locations. The drug issue is predominantly pot, alcohol—home made—, and crack cocaine. The rape issue is low to almost nil because there's a greater amount of openly homosexual people to take up the demand.

The tattoo's you can see them accumulate them on their selves.

Every body know what prison is about, the tattoos, punks, drugs etc.

The amount of homosexual encounters is commonplace with almost all black males and anyone of any race. They just don't seem to care about contracting HIV or AIDS and taking it to the streets. It's appalling.

The following comment indicates that many of the inmates who inject drugs inside prison also deal drugs inside prison to support their expensive habit.

I've only known 3 guys and they were dealing drugs in prison. That's how they can afford it. (example: 1 gram on street = \$60 to \$100 dollars. 1 gram in prison = \$400 to \$700 dollars).

In response to the question asking what percentage of inmates who have sex in prison indulge in oral sex, one inmate wrote,

The reason this if high is because they start with oral sex.

In response to the question asking what percentage of inmates who have sex in prison indulge in anal sex, one inmate wrote,

The people who do the pressuring this is the "prize" to them. And they mostly succeed in the long run.

The following comments are about how and why the prevalence of high-risk HIV transmission behavior has changed over time.

I based my answers [to the survey questions] on mostly the first 10 years I observed of the going ons of your questions. The last 12 to 14 years I've served, which with the turnover, turnaround rate of (state's) D.O.C., well [author's name], you just don't see hardly any of what your survey's land upon. This system is now filled with non-criminals! Mostly behind crack or some spur of the moment crime to get money for crack. Then its who can make a deal first to get off the lightest.

The percentage of these answers have been steadily declining over the years. I have been in prison for 17½ years, and before AIDS the percentages were way higher. Security has also gotten tougher because of lawsuits and investigations into the D.O.C. making it harder to get drugs into the system. Also urine analysis has caused most people to stop drug use.

. . . in the 80's injectable drugs and "injection equipment" were much more readily available.

These responses indicate that inmates have been deterred from high-risk events and behaviors by drug testing, intensified security, and HIV/AIDS. The following comments are related to correctional policy matters.

Due to the security here at [anonymous] Correctional Institution the following acts, sex, tattooing, fighting, gambling, stealing, drugs, are going on because the officers are not doing their job. By law an officer is required to be on the floor in each wing at all times but there never is. One Sgt. and two or three officers stay in the officer station through their whole 8 hour shift in the air conditioning [most prisons in the state are not air conditioned], not supervising or controlling the inmates. The dorms are running wild at free will. The officers have no idea of whats going on in here because their in the officer's station.

As to the drug use; The [DOC] does try to keep on top of that problem. Although it is a problem that is in every part of our society today. As to your questions about homosexual activity—It is my opinion that the [DOC] condons and actually promotes such behavior between inmates. The [DOC] has taken steps to place restrictions on contact with outside friends and family by making it expensive to call (.30 per minute, average call), too far to travel for visiting, and by not allowing indigent prisoners more than one "free" postage paid letter per month. Meanwhile they allow male homosexuals to wear altered uniforms; laugh and joke about their "lovers" house them in areas that are "blind spots" so that their activity isn't easily observed by staff. Silence condons consent, and [DOC] does condon such activity while trying to restrict the "straight" inmates contact with his family and friends by making contacts expensive, limited and unpleasant.

Prison has become a breeding ground for criminals. The longer you stay in here the worse it gets. Getting us back on the street sooner, working, paying taxes, instead of costing the taxpayers more money is the answer.

A lot of people get referred to drug programs but from what I have seen you must be lucky to get there. I guess not enough classes for all who need it.

All these unrighteous behavior can be stop. Only if those who are in charge of D.O.C. would enforce the staff, officer and whoever ever works in the department to do the right thing....Stabbing drugs can all be stop only if the officials are doing the right thing.

DISCUSSION

It is important to discuss the imperfections of the survey data. First, these data in no way convey the frequency of each high-risk activity or the relative HIV transmission risk posed by each activity in the correctional setting. These data simply represent inmate perceptions of the percentage of inmates they know who indulge in a particular activity. Knowing that a given respondent believes x% of inmates he knows have sex in prison in no way conveys how frequently each of those inmates have sex or how risky the sex they have actually is. Second, there is no way to know if the respondents understood the questions. Respondents could have very well misunderstood what was being asked, which would substantially affect the accuracy of their responses. Third, the survey questions are designed to gauge inmate perceptions, which may or not be ontologically accurate. The inmates may have understood exactly what the questions were asking, but the validity of their responses is dependent on the accuracy of their perceptions, and many of the respondents could hold perfectly inaccurate perceptions about the inmates they know and the behaviors those inmates indulge in. Fourth, although the initial sample was selected randomly, it is difficult to know if the inmates who responded are at all representative of the larger inmate population. The respondents are similar to the statewide prison population in terms of age, race, and mean length of sentence, and they are evenly distributed between minimum, medium, and maximum security. However, there is no way to assess whether the survey respondents are similar to the statewide population in terms of behavior or what they perceive about behavior. Although the data are imperfect, they do provide some insight into what inmates perceive about high-risk HIV transmission behavior both prior to and inside prison. Despite the methodological limitations of employing these data, doing so is of both theoretical and substantive use.

Theoretically, this study supports integration of the deprivation and importation models when explaining the universe of high-risk HIV transmission behaviors that occur inside prison. However, although both deprivation and importation account for some portion of each high-risk behavior, it is

clear that certain behaviors can be largely explained by a single model. Sex in prison, for example, can be largely explained by the deprivation model. These findings are informative and provide support for further theoretical integration; although behavior specific, and sometimes independent, application of these models can still be effective when explaining certain behaviors.

Beyond the theoretical contribution, these findings are substantively informative and carry important policy implications. Although it is difficult to have great confidence in the validity of the inmate responses to the survey questions, the coupling of the responses and the inmate comments bolsters the validity of the data. The data indicate what proportion of inmates indulge in various high-risk HIV transmission behaviors, and this information is needed so correctional and public health officials understand the potential risk of contracting HIV inside prison.

In addition, this study carries some important policy implications that correctional and public health officials ought to consider. Deprivation and the conditions of confinement seem to explain much of the sex occurring in prison, which suggests that intraprison sex could be prevented by changing the prison environment. The inmates commented on various conditions of confinement that lead to sex in prison. Several inmates indicated that because pornography was removed from prisons, sexual activity has been on the rise. Pornography may have provided a sexual outlet, which once removed resulted in inmates looking for alternative, sometimes more dangerous, outlets. Allowing pornography inside prisons might result in less sex and therefore fewer instances of HIV transmission risk, at least according to some of the inmates who responded to the survey. Several inmates cited limited supervision by correctional staff members as a reason sexual activity is common. If correctional officers provided additional supervision, there might be fewer opportunities to indulge in sex and therefore transmit HIV. A few inmates discussed limited contact with loved ones as a reason sexual contact is prevalent among prison inmates. It might be that if inmates had more inmate contact, such as conjugal visits, with their loved ones, then sex between inmates would occur less frequently. Currently, the state under study does not allow conjugal visits. Although no inmates indicated the need for condoms inside prison, the provision of condoms inside prison is an obvious policy implication of this study. Intraprison sex occurs and if inmates used condoms when indulging in risky sexual practices, the risk of contracting HIV inside prison would almost certainly diminish. "Significantly, no system that has adopted the policy of making condoms available in prisons has reversed the policy, and the number of systems that make condoms available continues to

grow every year" (Jurgens, 2000, p. 7). Despite this fact, only 2 out of 51 prison systems (50 state and 1 federal) in the United States provides condoms to inmates (Hammett et al., 1999).

IDU, although not as common as tattooing and sex inside prison, is a high-risk behavior, and knowing that it does occur suggests that certain policies might be in order to prevent IDU and/or make it safer. Several comments suggest that inmates might inject drugs to escape the reality in which they find themselves. Being locked up takes its toll, and some inmates respond by getting high on whatever drugs may be available. Making prison environments not so psychologically taxing could reduce reliance on mind-altering substances and therefore the risk of contracting HIV inside prison. A couple inmates indicated that inmates use drugs less often since the prisons started testing inmates for drugs. It might be that testing inmates for drugs more regularly would reduce IDU and therefore the risk of contracting HIV; however, testing is often believed to be more expensive and less effective than public health responses, such as drug education and rehabilitation approaches (A. G. Bird, S. Gore, & cosignatories, letter to M. Forsyth, Secretary of State for Scotland, September 14, 1995). In addition, there is evidence that drug testing causes inmates to switch from low-risk drugs like marijuana, which can remain in urine for up to 30 days, to higher-risk drugs like cocaine and heroin, which can only remain in urine for a few days (Jurgens, 1996; Riley, 1995). Although no prison systems in the United States officially make bleach available to inmates for the purposes of cleaning drug injection equipment, a number of international systems make bleach available and have not experienced any negative consequences as a result (Jurgens, 2000). Similarly, no prisons in the United States furnish sterile injection equipment, yet several international prisons, many of which are in Switzerland, provide clean injection equipment, and needle sharing and HIV transmission is down as a result (Jurgens, 2000). As one Swiss official put it,

Given that all we can do is restrict, not suppress, the entry of drugs, we feel it is our responsibility to at least provide sterile syringes to inmates. The ambiguity of our mandate leads to a contradiction that we have to live with. (Lachat, 1994)

Another policy option would be to provide methadone maintenance to inmates who are addicted to opiates. Methadone maintenance has proven to be a successful approach to reducing drug injection and therefore HIV transmission risk, and several groups have called for the introduction of methadone programs in prison (Advisory Committee on the Misuse of Drugs, 1993; World Health Organization, 1993). McLeod (1991) indicated that

methadone maintenance is likely the most effective way to prevent needle sharing in prisons.

Tattooing, a behavior often thought to be relatively safe in the community, is believed to be a high-risk HIV transmission behavior in prison. This is because tattooing and needles, which are used to make tattoos, are not allowed in prison. Inmates, therefore, often share the needles that do exist, thus increasing the risk of transmitting HIV (Heitperm & Eggers, 1989). The present study indicates that tattooing is rather common inside prison. Increasing security and supervision, something inmates who responded to the survey call for, could reduce tattooing. In addition, providing clean tattooing equipment and bleach to sterilize equipment could reduce the HIV risk associated with tattooing inside prison.

There is clearly risk of contracting HIV inside prison as these findings, as well as those from other studies, indicate that high-risk HIV transmission activities occur inside prison and that a decent proportion of inmates indulge in these behaviors. Although a number of policy options already discussed may not be realistic in the United States, a number of international systems have successfully implemented them and are enjoying the benefits. In addition to policy reforms, discussed above, what might be necessary is a new approach to managing HIV risk in prisons and jails. Actively preventing HIV transmission inside prison will require the introduction of programs that contradict current correctional policies and acknowledgment by correctional officials that some behaviors are not preventable, but the benefits of making the behaviors safer would be borne by society, not just those who reside in correctional facilities. As stated by the United Nations Commission on Human Rights (1996),

There is no doubt that governments have a moral and legal responsibility to prevent the spread of HIV among prisoners and prison staff and to care for those infected. They also have a responsibility to prevent the spread of HIV among communities. Prisoners are the community. They come from the community, they return to it. Protection of prisoners is protection of our communities.

This study helps document that high-risk HIV transmission behaviors occur inside prison and that both theoretical models, importation and deprivation, play a role in accounting for these behaviors. This is important knowledge and should help guide future prevention efforts designed to make sex, tattooing, and intravenous drug use less common and/or less risky. Although preventing high-risk behaviors is an important undertaking, preventing HIV transmission ought to be the ultimate goal. This will require a harm reduction

approach not common in the United States. It is significant, however, that where this approach has been undertaken in prisons, it has been successful, not created any problems, and is being supported by prisoners, staff, prison administrators, and the public (Jurgens, 2000).

APPENDIX Inmate Survey

Directions: I am conducting a study about inmate behavior, and I would appreciate your participation. You have been randomly selected from a statewide list of prison inmates. After you answer the questions, please put these sheets in the enclosed envelope and mail it back to me. Returning this survey indicates that you agree to participate in the study.

YOUR IDENTITY WILL REMAIN CONFIDENTIAL AND I WILL HAVE NO WAY OF KNOWING WHO YOU ARE.

Please read each question carefully and fill in the appropriate blank or circle the answer that best describes your belief or situation. Most of the questions ask you to circle a percentage range. Simply circle the range that best estimates your opinion. For example, if you were asked, "Of the inmates you know, what percentage of them lift weights in prison?"; and you believe that about 35 of the 100 inmates you know lift weights in prison, then you would circle 30-40%. This is because 35 divided by 100 = 0.35 or 35%. If 35 of the 70 inmates you know lift weights in prison, then you would circle 50-59%, because 35 divided by 70 = 0.50 or 50%.

I realize your answers may not be perfectly accurate. I am simply asking you to give me your best estimate. If you do not want to answer any of the questions, simply leave that question blank.

1. How old are you? _____ years of age
2. What race are you?
White African American Latino Native American Asian American Other
3. How long have you been in prison?
Less than 1 year 1-3 years 4-8 years 8 or more years
4. When do you expect to get out of prison?

5. Of the inmates you know, what percentage of them have gotten tattoos inside prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
6. Of the inmates you know who have gotten tattoos inside prison, what percentage of them do you think had tattoos before coming to prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

Krebs / HIGH-RISK HIV TRANSMISSION BEHAVIOR

7. Of the inmates you know, what percentage of them have injected drugs inside prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
8. Of the inmates you know who have injected drugs inside prison, what percentage of them do you think injected drugs before coming to prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
9. Of the inmates you know who have injected drugs inside prison, what percentage of them share injection equipment with other inmates inside prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
10. Of the inmates you know, what percentage of them have had sexual contact with other inmates inside prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
11. Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them do you think had sexual contact with someone of the same sex before coming to prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
12. Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them have had oral sex?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
13. Of the inmates you know who have had sexual contact with other inmates inside prison, what percentage of them have had anal sex?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
14. Of the inmates you know, what percentage of them have been raped inside prison?
0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

Thank you for completing this survey and mailing it back to me. Your identity will remain confidential. Please feel free to write any comments below.

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