

Relationship Between Incarceration Frequency and Human Immunodeficiency Virus Risk Behaviors of African American Inmates

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Funding/Support: This research was supported by a grant from the Illinois General Assembly and the Illinois Department of Public Health.

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Objective: We examined the relationship between frequency of incarceration and preincarceration risk behaviors and determined the demographic factors associated with risk behaviors among a sample of African American inmates.

Methods: We surveyed 229 (102 female and 127 male) randomly selected inmates. Risk behaviors between inmates serving their first prison sentence and those who had been incarcerated in prison more than once were compared using the χ^2 test. Multivariate logistic regression analysis was used to determine factors associated with risk behaviors.

Results: For most risk behaviors, there were no significant differences between inmates serving their first prison sentence and inmates incarcerated more than once; however, male inmates who had been incarcerated more than once were more likely to report having had multiple vaginal sex partners (OR, 2.42; 95% CI, 1.10-5.32; $P = .03$). No demographic variable was found to be independently associated with risk behaviors.

Conclusions: Frequency of incarceration did not affect preincarceration human immunodeficiency virus (HIV) risk behaviors among this sample of African American inmates. HIV prevention efforts should be directed at addressing the individual and structural factors associated with high-risk behaviors among African Americans.

Keywords: risk behaviors ■ HIV/AIDS ■ African Americans

J Natl Med Assoc. 2009;101:308-315

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INTRODUCTION

Compared with other racial groups, African Americans are disproportionately affected by the human immunodeficiency virus (HIV) and AIDS. Although they make up only 12% of the US population, African Americans accounted for 45% of all HIV/AIDS cases diagnosed in 2006, compared with 17% for Hispanics and 35% for whites.¹ HIV incidence rate was 7 times as high among blacks as among whites.¹ In the same year, blacks represented about half (46%) of all cases of HIV in the United States, and the HIV prevalence rates were 1715 per 100 000 among blacks, 585.3 per 100 000 among Hispanics, and 224.3 per 100 000 among whites.² The HIV prevalence rate among African American men was 6 times the rate among white men (2388 per 100 000 vs 395 per 100 000), and the prevalence rate among African American women was 18 times the rate among white women (1122 per 100 000 vs 63 per 100 000).³ The disproportional higher rates of HIV/AIDS is even more alarming among young blacks; 11 554 (61%) of the estimated 18 849 people under the age of 25 years diagnosed of HIV/AIDS between 2001 and 2004 were black.⁴ For AIDS specifically, in 2005, the rates of diagnoses for black adults and adolescents were 10 times the rates for whites and 3 times the rate for Hispanics. Similarly, the rate of AIDS diagnoses for black women was almost 23 times that of white women; and for black men, it was 8 times that of white men.⁵

The male and female incarcerated population in the United States has increased greatly within the last 2 decades largely due to drug policy.^{6,7} This increase is greatest within the African American population. Compared to 1984, when the rate of incarceration of African American men was 1 in 30, in 1997, the proportion of African American men likely to be incarcerated had increased to 1 in 15.⁸ Racial disparities in incarceration are striking. African American men are 6 times more likely than white men and 2 times more likely than Hispanic men to be imprisoned. Similarly, African American women are almost 4 times and 2 times more likely to be imprisoned compared to their white and Hispanic

counterparts, respectively.⁹

The high HIV/AIDS rates among African Americans, who are also disproportionately incarcerated, has led some to link the HIV/AIDS rates to the high incarceration rates among the African American population.¹⁰ Several ways by which incarceration can impact HIV/AIDS among the African American population have been described in the extant literature. High-risk behaviors in prison can result in HIV transmission among inmates, and incarceration disrupts existing sex and family relationships. The unavailability of male sex partners causes women to find new male partners to replace them. Incarceration also negatively impacts employment, housing, and other social aspects of the lives of ex-offenders. These factors may affect HIV risk.¹¹⁻¹⁵

This cross-sectional study of 2 groups of African Americans inmates—those serving their first sentence and those who had been previously incarcerated—compared HIV risk behaviors reported for the 6-month period prior to the inmates' current incarceration. The purpose of this comparison was to examine the influence of incarceration frequency on risk behaviors in the community. We hypothesized that inmates who had been incarcerated multiple times would have significantly higher rates of risk behaviors compared with first-time inmates.

METHODS

Sample

Data for this study emanated from data collected from a larger cross-sectional study that described the HIV risk behaviors of male and female inmates prior to and during incarceration. For the larger study, participants were selected through a multistage sampling technique. Of the 47 correctional facilities in Illinois, 17 facilities were randomly selected, of which 15 were male and 2 were female facilities. Three (20%) of the selected male facilities were of maximum security and 7 (47%) of medium security, while 5 (33%) were minimum-security facilities. Both female facilities selected were medium-level facilities.

Inmates were eligible to participate in the study if they were at least 18 years old; if they had been continuously incarcerated for at least 6 months during the current incarceration; and if they could speak, write, and understand English. A list of eligible participants for each facility was created from the current inmate list provided by the Illinois Department of Corrections, and the required numbers of participants per facility were randomly selected from the list. The actual number of inmates selected from each prison depended on the overall number of inmates in the prison. Two thousand inmates were selected, of which 1819 completed the surveys, giving a participation rate of 91%.

This subanalysis focused on the 229 (102 females and 127 males) African Americans who had spent less

than 1 year in prison during the present incarceration. This limitation was imposed to reduce recall bias in participant's self-reporting of preincarceration behaviors. The study protocol was approved by the institutional review board at Chicago State University.

Questionnaire

Data were collected using a structured questionnaire. On data collection days at the facilities, potential participants were gathered in a hall by prison officials. A member of the research team read a recruitment script that informed participants of the purpose of the study, eligibility criteria for participation, and the potential risks and benefits of their participation. Inmates who refused participation were required by prison personnel to leave the room before data collection could continue. An informed-consent script that allowed a waiver of documentation¹⁶ was read to inmates who agreed to participate in the study. Verbal informed consent was obtained prior to participants filling out the survey.

The development of the instrument is reported in a separate manuscript.¹⁷ The HIV risk behaviors included injection drug use (IDU), sharing injection equipment, and sexual practices. To assess how many times participants had been incarcerated, they were asked an open-ended question: "How many times have you been in prison including this time?" And to assess how long they had been in prison during the current incarceration, they were asked, "How long have you been in prison now?" (<1 year, 1-3 years, 4-6 years, 7-9 years, and ≥10 years). Questions on incarceration history were limited to prison sentences; prior jail terms were not assessed.

Information was sought about the number of anal and vaginal sex partners that participants had had in the 6 months before arrest. Verbal explanation was provided for the meanings of anal and vaginal sex. Participants were also asked how often they used condoms for anal and vaginal sex intercourse in the 6 months before they were arrested. Responses were "never used a condom, rarely used a condom," "sometimes used a condom," "most of the time used a condom," and "always used a condom."

Participants were asked if they had ever injected drugs, ever shared needles, injected drugs in the 6 months before arrest and shared needles in the 6 months before arrest. Responses could be either yes or no.

Variables

For the relationship between frequency of incarceration and HIV risk behaviors, the dependent variable was the number of times inmates had been incarcerated, operationally defined as once or more than once. The independent variables were behaviors and practices during the 6 months before arrest: condom use for anal and vaginal sex, IDU, and needle sharing. The associations between demographic factors (age, gender, marital status, sexual orientation, and number of times incarcer-

ated) and the outcomes of interest, condom use, number of sex partners in the 6 months before arrest, and lifetime IDU were also explored. Numbers of anal and vaginal sex partners were combined with participants reporting zero to 1 anal or vaginal sex partners compared to those reporting 2 or more anal and/or vaginal sex partners.

Statistical Analyses

Analyses were performed using the SPSS software version 16 (SPSS Inc, Chicago, Illinois) for Windows (Microsoft Corp, Redmond, Washington). The data set was stratified by sex, and demographic characteristics were compared among first-time offenders and recidivists. Mean age was compared using the *t* test for independent samples, while other variables were compared using the χ^2 test. Risk behaviors were compared between men and women using the χ^2 test. The relationship between the risk behaviors and number of times participants had been incarcerated was analyzed separately for males and females using either the χ^2 test or the Fisher's exact test. The association between sociodemographic characteristics (age, sex, marital status, sexual orientation, and frequency of incarceration) and the risk behaviors was ascertained using univariate and multivariate logistic regression analysis. When 1 risk behavior was a dependent variable, the other risk behaviors were included as independent variables. Variables with *P* values of .25¹⁸ and above in the univariate analysis were entered simultaneously into a multivariate model. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated.

RESULTS

Sample Characteristics

Of the 241 African American inmates who met the eligibility criteria, 229 (95%) who had complete data were studied. One hundred two (44.5%) of the sample were women and 127 (55.5%) were men.

Men and women who had been incarcerated 2 or more times were significantly older than those incarcerated for the first time (Men: mean age difference = 7.2 years; 95% CI, 3.7-10.7 years; women: mean age difference = 7.9 years; 95% CI, 3.8-12.0 years). About an equal proportion of men and women (58%) had never been married, and there were no significant differences in marital status among persons incarcerated once or more than once. More than 90% of the men and 60% of the women identified as heterosexual. There were no differences in sexual orientation of men and women based on the number of times they had been incarcerated. More than 90% of the sample had obtained an HIV test (Table 1).

Preincarceration HIV Risk Behaviors

About a quarter (23%) and more than half (56%) of the inmates reported having had multiple anal and vaginal sex partners, respectively, in the 6 months before they were arrested. More than 85% of the inmates reported inconsistent condom use with their vaginal sex partners. Women were less likely to have used condoms consistently with their anal sex partners (OR, 0.29; 95% CI, 0.10-0.83). IDU was low (8%) among our sample and needle sharing was even lower; 3% of all inmates (39% of inmates who had ever injected drugs) reported ever sharing needles (Table 2).

Table 1. Demographic Characteristics of Male and Female Inmates, by Number of Times Incarcerated

	Females (n = 102)			Males (n = 127)		
	Once	≥2 Times	Mean Age Difference (95% CI)	Once	≥2 Times	Mean Age Difference (95% CI)
Age, y (mean [SD])	32.8 (10.8)	40.7 (8.7)	7.9 (3.8-12.0) ^a	28.8 (9.2)	36.0 (7.9)	7.2 (3.7-10.7) ^b
	Once	≥2 times	<i>P</i> Value	Once	≥2 Times	<i>P</i> Value
Marital status						
Never married	60.5	56.2	0.09	58.3	57.1	0.09
Married/living with someone as married	13.2	29.7		27.8	28.6	
Separated/divorced/widowed	26.3	14.1		13.9	14.3	
Sex orientation						
Heterosexual	64.5	61.2	0.77	96.3	97.4	0.77
Nonheterosexual	35.5	38.8		3.7	2.6	
Ever had an HIV test						
Yes	94.7	95.2	0.91	97.2	87.9	0.11
No	5.3	4.8		2.8	12.1	

^a *P* = .0002.

^b *P* = .0001.

Men and women in the study were stratified based on the number of times they had been incarcerated (once, 2 or more times), and their preincarceration HIV risk behaviors were compared. Between 19% and 25% of the sample reported having had 2 or more anal sex partners during the 6 months before they were arrested; however, number of anal sex partners was not influenced by number of times of incarceration. Among women, 63% of participants incarcerated the first time had 2 or more vaginal sex partners in the 6 months before arrest, compared with 45% of women who had been incarcerated more than once. Among men, 66% of those who had been incarcerated more than once reported that they had had 2 or more partners, compared with 44% of those who were incarcerated the first time (OR, 2.42; 95% CI, 1.10-5.32; $P = .03$). Consistent condom use for both anal and vaginal sex in the 6 months before arrest was low; the highest rate for any group was 25% for anal sex among men who had been incarcerated once. There were no significant differences in IDU or needle sharing among first time offenders and recidivists for either men or women (Table 3).

Factors Associated With Risk Behaviors

Separate analyses were done for men and women. To determine the factors associated with inconsistent condom use, the independent variables included in the model were demographic characteristics (age, sex, marital status, and sexual orientation) and the other risk behaviors, multiple sex partners, and IDU. Frequency of incarceration was not included in the model to examine factors associated with inconsistent condom use and IDU because of the lack of significant association in the bivariate analysis (Table 4). Frequency of incarceration was included in the model to examine factors associated with multiple sex partners because there was a significant association in bivariate analysis (Table 4). In multivariate analysis, none of the variables were independently associated with the risk behaviors.

DISCUSSION

Contrary to our hypothesis, among this sample of African American inmates, rates of HIV risk behaviors (inconsistent condom use, multiple sexual partners, and IDU) were largely similar among first-time offenders

Table 2. Sex and Injection Drug Use Behaviors Among Male and Female Inmates

Behavior	n	Frequency (%)	Females (n = 102)	Males (n = 127)	OR (95% CI)
Anal sex partners in the 6 months before arrest	229				
0-1 partner		177 (77.3)	81 (79.4)	96 (75.6)	
≥2 partners		52 (22.7)	21 (20.6)	31 (24.4)	1.25 (0.66-2.33)
Vaginal sex partners in the 6 months before arrest	229				
0-1 partner		100 (43.7)	49 (48.0)	51 (40.2)	
≥2 partners		129 (56.3)	53 (52.0)	76 (59.8)	1.38 (0.81-2.33)
Condom use with anal sex partners in the 6 months before arrest	111				
Inconsistent		90 (81.1)	47 (90.4)	43 (72.9)	
Consistent		21 (18.9)	5 (9.6)	16 (27.1)	0.18 (0.03-0.31) ^a
Condom use with vaginal sex partners in the 6 months before arrest	224				
Inconsistent		195 (87.1)	88 (88.0)	107 (86.3)	
Consistent		29 (12.9)	12 (12.0)	17 (13.7)	1.16 (0.53-2.57)
Ever injected drugs	229				
No		211 (92.1)	90 (88.2)	121 (95.3)	
Yes		18 (7.9)	12 (11.8)	6 (4.7)	0.38 (0.14-1.05)
Injected drugs in the 6 months before arrest ^b	18				
No		9 (50.0)	5 (41.7)	4 (66.7)	
Yes		9 (50.0)	7 (58.3)	2 (33.3)	-
Ever shared needles ^b	18				
No		11 (61.1)	7 (58.3)	4 (66.7)	
Yes		7 (38.9)	5 (41.7)	2 (33.3)	-
Shared needles in the 6 months before arrest ^c	7				
No		4 (57.1)	3 (60.0)	1 (50.0)	
Yes		3 (42.8)	2 (40.0)	1 (50.0)	-

^a $P = .02$.

^b n = number of participants who had ever shared needles.

^c n = number of participants who had ever injected drugs.

and those who had been incarcerated multiple times. A study by Wohl et al of the impact of incarceration on HIV risk among African American men found that incarceration was not a risk factor for infection.¹⁹ The only behavior that was significantly higher among persons who had been incarcerated 2 or more times compared to first-time offenders was multiple vaginal sex partners among men. Previous studies of incarcerated men have reported similar findings.^{20,21}

The implication of multiple sex partners among previously incarcerated men is the increased risk of HIV transmission to their primary female partners, a concern that has been documented in literature.²² Hence, it is critical that prior to their release from prison, incarcerated men should be educated about safe sex practices and linked to HIV prevention services in their communities. Furthermore, the potential HIV risk to female partners of male ex-offenders highlights the need for HIV prevention services for these women. Partners and spouses of incarcerated men need to be identified, educated about prevention of HIV and other STIs, and taught to negotiate safe sex with their partners.

The lack of association between frequency of incarceration and rates of risk behaviors among the study par-

ticipants may suggest that the factors that predispose African Americans to HIV are individual and structural factors present in the community and that affect them irrespective of incarceration. Indeed, as observed by Harawa et al, “persons at risk for incarceration are more likely than others to be at high risk for HIV infection.”²³ Hence, the same factors that predispose African Americans to crime probably predispose them to HIV infection. Some of these factors are individual behaviors, cultural factors that affect behavior, and structural factors. Indeed some of the structural factors have been identified: poor socioeconomic status,²⁴ few employment opportunities,²⁵ homelessness,²⁶ and poverty.^{27,28} Further studies are required to determine how these factors interact to increase HIV risk.

The lack of identifiable independent factors associated with inconsistent condom use, multiple sex partners, and IDU among our study population suggests that these risk behaviors are evenly spread among all demographic and risk groups. Hence, HIV prevention interventions are necessary for entire African American populations. While behavior-change programs are essential for individual behaviors, structural interventions are also required. Of particular importance are structural

Table 3. Comparison of HIV Risk Behaviors Between Male and Female Inmates, by Number of Times Incarcerated

	Females			Males		
	Once (%)	≥2 Times (%)	OR (95% CI)	Once (%)	≥2 Times (%)	OR (95% CI)
Anal sex partners ^b						
0-1	76.3	81.2	0.74 (0.28-1.97)	80.0	74.7	1.18 (0.47-2.96)
≥2	23.7	18.8		20.0	25.3	
Vaginal sex partners ^b						
0-1	36.8	54.7	0.48 (0.21-1.10)	55.6	34.1	2.42 (1.10-5.32) ^a
≥2	63.2	45.3		44.4	65.9	
Condom use, anal sex ^b						
Not always	100.0	90.9	–	75.0	79.5	0.77 (0.19-3.05)
Always	0.0	9.1		25.0	20.5	
Condom use, vaginal sex ^b						
Not Always	91.9	87.1	1.68 (0.42-6.77)	96.8	87.5	4.29 (0.53-34.65)
Always	8.1	12.9		3.2	12.5	
Ever injected drugs						
No	89.5	87.5	1.21 (0.34-4.84)	97.1	94.5	1.92 (0.22-17.04)
Yes	10.5	12.5		2.9	5.5	
Injected drugs ^{b,c,d}						
No	33.3	37.5	–	100.0	60.0	–
Yes	66.7	62.5		0.0	40.0	
Ever shared needles ^{c,d}						
No	66.7	50.0	–	100.0	60.0	–
Yes	33.3	50.0		0.0	40.0	
Shared needles ^{b,e}						
No	100.0	66.7	–	–	50.0	–
Yes	0.0	33.3			50.0	

^a P < .05

^b Refers to behavior in the 6 months before arrest.

^c Sample size corresponds to number of participants who had ever injected drugs.

^d Sample size is small, OR (95% CI) not calculated.

^e Sample size corresponds to number of participants who had ever shared needles.

interventions for ex-offenders to ensure their successful reintegration into the community: employment opportunities, reforms in the welfare policy to remove restrictions such as access of ex-offenders convicted for drug crimes to benefit programs,^{29,30} access to health care, reestablishment of social networks, creation of social capital, and safe housing. These interventions have the capability to reduce both crime and HIV infection in the African American population.

Our study is not without limitations. Because we collected information on behaviors that occurred in the 6 months before the participants were arrested, there is a potential for recall bias. However, we do not think recall bias affected our results significantly because our study participants had spent less than 1 year in prison during

the current incarceration. Although, the survey was self-administered, social desirability bias may have played a role in our findings, causing a possible underestimation of reported risk behaviors. In addition, our classification of first-time offenders was not entirely accurate since we did not collect information about prior jail sentence. Furthermore, failure to identify independent factors associated with the risk behaviors may be due to small sample sizes and, hence, low statistical power. The lack of inclusion of some important independent variables, such as education, is also a limitation. This may have precluded the identification of independent variables which otherwise may be associated with the risk behaviors.

In conclusion, frequency of incarceration did not affect HIV risk behaviors among our sample of African

Table 4. Logistic Regression Analysis of Factors Associated With Risk Behaviors Among Inmates

	Inconsistent Condom Use		Multiple Sex Partners		Ever Injected Drugs	
	Unadjusted OR	Adjusted OR	Unadjusted OR	Adjusted OR	Unadjusted OR	Adjusted OR
	95% CI	95% CI	95% CI ^a	95% CI ^b	95% CI ^a	95% CI ^b
Females						
Age, y						
<30	1	–	1	1	1	1
30-39	0.83 (0.12-5.48)		1.33 (0.36-4.96)	1.09 (0.23-5.21)	0.38 (0.07-1.89)	0.59 (0.11-3.21)
≥40	0.73 (0.12-4.36)		0.38 (0.11-1.15) ^a	0.38 (0.09-1.67)	0.34 (0.08-1.54) ^a	0.69 (0.14-3.48)
Marital status						
Never married	1	–	1	1	1	–
Married/living with someone as married	0.48 (0.05-4.36)		0.40 (0.15-1.06) ^a	0.49 (0.16-1.42)	0.68 (0.13-3.51)	
Separated/divorced/widowed	2.12 (0.45-9.91)		1.33 (0.42-4.23)	1.75 (0.44-6.92)	1.39 (0.32-6.02)	
Sexual orientation						
Heterosexual	1	1	1	–	1	1
Nonheterosexual	2.61 (0.54-12.62) ^a	2.87 (0.58-14.32)	1.68 (0.63-4.54)		4.18 (1.14-15.39) ^a	3.32 (0.83-13.25)
Number of times incarcerated						
Once	–	–	1	1	–	–
≥2 times			0.49 (0.20-1.18) ^a	0.70 (0.24-2.04)		
Number of sex partners						
1	1	1	–	–	1	–
≥2	0.40 (0.10-1.60) ^a	0.54 (0.11-2.74)			1.16 (0.32-4.14)	
Condom use						
Inconsistent	–	–	1	1	1	–
Consistent			0.42 (0.13-1.60) ^a	0.30 (0.07-1.39)	1.77 (0.19-16.40)	
Ever injected drugs						
No	1	–	1	–	–	–
Yes	1.77 (0.19-16.40)		1.16 (0.32-4.14)			

^a P < .25

^b P < .05

American inmates. To reduce the high HIV infection rates among the African American population, there is an urgent need to address the individual and structural factors fueling the epidemic. Public health professionals, minority community and political leaders, the corrections system, philanthropists, and academic researchers all have vital roles to play in proposing, developing, implementing, and evaluating the effectiveness of individual and structural interventions designed to reverse the current HIV epidemic among African Americans and other minority groups. These interventions also have the potential to reduce incarceration rates among African Americans.

ACKNOWLEDGMENTS

Thanks to Dr Mainza Lukobo-Durrell for her role in initiating the questionnaire, securing institutional review board approval and making the initial contacts with the Illinois Department of Corrections (IDOC). Thanks to research assistants Josie McDonald, Wayne Scott-Williams, Jerry Goldstein, Dr Emmanuel Osunkoya, and Angella Roberts for their dedication throughout the data collection period. Thanks also to State Representative Constance Howard, for cosponsoring the bill that created the Illinois African American HIV/AIDS Response Act and for her personal involvement in establishing the collaboration between the HIV/AIDS Research and Policy Institute and IDOC. Finally, thanks to IDOC officials for their support in facilitating data collection.

Table 4. Logistic Regression Analysis of Factors Associated With Risk Behaviors Among Inmates (*cont*)

	Inconsistent Condom Use		Multiple Sex Partners		Ever Injected Drugs	
	Unadjusted OR	Adjusted OR	Unadjusted OR	Adjusted OR	Unadjusted OR	Adjusted OR
	95% CI	95% CI	95% CI ^a	95% CI ^b	95% CI ^a	95% CI ^b
Males						
Age, y						
<30	1	1	1	1	1	—
30-39	1.37	1.26	0.65		1.03	
	(0.29-6.51)	(0.26-6.08)	(0.25-1.68)		(0.14-7.63)	
≥40	2.42	2.29	0.68		1.11	
	(0.56-10.44) ^a	(0.52-9.99)	(0.26-1.82)		(0.15-8.27)	
Marital status						
Never married	1	—	1	1	1	—
Married/living with someone as married	0.47		0.51	0.44	9.60	
	(0.09-2.34)		(0.22-1.21) ^a	(0.14-1.33)	(1.03-89.49) ^b	
Separated/divorced/widowed	1.60		1.14	0.49	4.24	
	(0.38-6.76)		(0.33-3.93)	(0.12-1.94)	(0.25-71.18)	
Sexual orientation						
Heterosexual	1	—	1	1	—	—
Nonheterosexual	6.71		0.13	0.06		
	(0.54-83.47)		(0.01-1.52)	(0.03-1.04)		
Number of times incarcerated						
Once	—	—	1	1	—	—
≥2 times			1.67	2.29		
			(0.73-3.83) ^a	(0.81-6.50)		
Number of sex partners						
1	1	1	—	—	1	—
≥2	0.42	0.44			1.05	
	(0.13-1.36) ^a	(0.14-1.43)			(0.18-5.98)	
Condom use						
Inconsistent	—	—	1	1	1	—
Consistent			0.42	3.08	2.57	
			(0.13-1.36) ^a	(0.25-37.13)	(0.46-14.30)	
Ever injected drugs						
No	1		1			—
Yes	2.57		1.05			
	(0.46-14.30)		(0.18-5.98)			

^a P < .25

^b P < .05

REFERENCES

- Hall HI, Song R, Rhodes P, et al. Estimation of HIV Incidence in the United States. *JAMA*. 2008;300:520-529.
- CDC. HIV Prevalence Estimates—United States, 2006. *MMWR*. 2008;57:1073-1076.
- CDC. New Estimates of U.S. HIV Prevalence, 2006. <http://www.cdc.gov/hiv/topics/surveillance/resources/factsheets/prevalence.htm>. Accessed 10/24/08.
- CDC. Racial/ethnic disparities in diagnoses of HIV/AIDS— 33 States, 2001-2004. *MMWR*. 2006;55:121-125.
- CDC. HIV/AIDS Surveillance Report, 2005. Vol. 17. Rev ed. Atlanta: US Department of Health and Human Services, CDC; 2007:1-46. <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>. Accessed 07/04/08.
- Smoyer A, Blankenship KM. Drug Policy: definition, discussion and state variation. New Haven, CT: Center for Interdisciplinary Research on AIDS, 2004.
- Henderson DJ. Drug abuse and incarcerated women. A research review. *J Subst Abuse Treat*. 1998;15:579-587.
- Maguire K, Pastore AL, eds. Sourcebook of Criminal Justice Statistics. Washington, DC: BJS, 2004. <http://www.albany.edu/sourcebook/> Accessed 07/04/08.
- Sabol WJ, Minton TD, Harrison PM. Prison and Jail Inmates at Midyear. Washington, DC: U.S. Bureau of Justice Statistics. 2007. <http://www.ojp.usdoj.gov/bjs/>. Accessed 07/04/08.
- Zule W, Costenbader E, Coomes C. Effects of incarceration on HIV risk behaviors among drug users. Paper presented at the annual meeting of the American Society of Criminology, November 2007. http://www.allacademic.com/meta/p200846_index.html. Accessed 04/21/08.
- Adimora AA, Schoenbach VJ. Social context, sexual networks, and racial disparities in rates of sexually transmitted infection. *J Infect Dis*. 2005;291(Suppl):115-S122.
- Braman D. Families and incarceration. In Mauer, M. & Chesney-Lind M., eds. *Invisible Punishment: The Collateral Consequences of Mass Imprisonment*. New York, NY: The New Press; 2002:117-135.
- Smith M, Clear TR. Fathers in prison: Interim Report. Draft Report to the Edna McConnell Clark Foundation by the Rutgers University School of Criminal Justice, Newark, NJ, 1997.
- Fagan J. Legal and illegal work: crime, work and unemployment. In: Weisbrod BA, Wirthy JC, eds. *The urban crisis: linking research to action*. Evanston, IL: Northwestern University Press; 1997.
- Grella CE, Anglin MD, Wugalter SE, et al. Reasons for discharge from methadone maintenance for addicts at high risk of IV infection or transmission. *J Psychoactive Drugs*. 1994;26:223-232.
- Code of Federal Regulations, Title 45, Subpart A, Part 46, Subpart C. Additional protections pertaining to biomedical and behavioral research involving prisoners as subjects. §46.303, Definitions.
- Abiona TC, Adefuye AS, Balogun JA, et al. Gender differences in HIV risk behaviors of inmates during incarceration. *Journal of Women's Health*. In press. January 2009.
- Hosmer DW & Lemeshow S. Model-building strategies and methods for logistic regression. In: Cressie N, Fisher NI, Johnstone IM et al, eds. *Applied Logistic Regression*. Hoboken, New Jersey: John Wiley and Sons, Inc; 2000:91-142.
- Wohl AR, Johnson D, Jordan W, et al. High-risk behaviors during incarceration in African American men treated for HIV at three Los Angeles public medical centers. *J Acquir Immune Defic Syndr*. 2000;24:386-392.
- Khan MR, Wohl DA, Weir SS, et al. Incarceration and risky sexual partnerships in a southern US city. *J Urban Health*. 2008;85:100-113.
- Seal DW, Margolis AD, Sosman J, et al. HIV and STD risk behavior among 18- to 25-year-old men released from U.S. prisons: provider perspectives. *AIDS Behav*. 2003;7:131-141.
- Grinstead OA, Faigles B, Comfort M, et al. HIV, STD, and hepatitis risk to primary female partners of men being released from prison. *Women Health*. 2005;41:63-80.
- Harawa N, Adimora A. Incarceration, African Americans and HIV: advancing a research agenda. *J Natl Med Assoc*. 2008;100:57-62.
- Diaz T, Chu SY, Buehler JW, et al. Socioeconomic differences among people with AIDS: results from a Multistate Surveillance Project. *Am J Prev Med*. 1994;10:217-222.
- Travis J, Solomom AL, Waul M. From prison to home: the dimensions and consequences of prisoner reentry. Washington, DC: Urban Institute; 2001.
- Weinreb L, Goldberg R, Lessard D, et al. HIV risk practices among homeless and low-income housed mothers. *J Fam Pract*. 1999;48:859-867.
- Hu DJ, Frey R, Costa SJ. Geographical AIDS rates and sociodemographic variables in Newark, New Jersey, metropolitan area. *AIDS Public Policy J*. 1994;9:20-25.
- Simon PA, Hu DJ, Diaz T, et al. Income and AIDS rates in Los Angeles County. *AIDS*. 1995;9:281-284.
- Allard P. Life sentences: denying welfare benefits to women convicted of drug offences. Washington DC: The Sentencing Project, 2002.
- Piper B, Briggs M, Huffman K, et al. State of the states: drug policy reforms: 1996-2002. NY: Drug Policy Alliance, September 2003. ■

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