Annotated Bibliography:

Sexual Behavior and STDs and the Need for Condoms in Prisons

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Organization of Entries

This publication is a compilation of select journal articles and reports related to the need for condoms in the prison system. The bibliography was developed by conducting an extensive literature search utilizing MEDLINE (The National Library of Medicine's premier bibliographic database) and web-based resources.

The entries are grouped by major topic areas printed in large, boldfaced type under which they are arranged alphabetically by author. The major topics include: economic analyses, hepatitis, HIV transmission, prevention, sexual assault, sexual behavior, sexually transmitted diseases, and prison releasees.

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ECONOMIC ANALYSES

Tuli K, Kerndt PR. Preventing sexually transmitted infections among incarcerated men who have sex with men: A cost-effectiveness analysis. Sexually Transmitted Diseases(in press). 2008;35(12).

We assessed the cost-effectiveness of a screening, treatment, and condom provision intervention for inmates of a segregated unit for men who have sex with men at the Los Angeles County Men's Jail. We conducted the study to determine whether the intervention provides good value for money. We used a mathematical model to examine the effect of 10 years of intervention on sexually transmitted infections in 3 scenarios for incarcerated men who have sex with men: (a) no sex; (b) sex as before incarceration; (c) as in #2 and condom use by 20% of screened inmates. We calculated cost-effectiveness ratios as net cost per infection averted after subtracting averted treatment costs from intervention costs. Modeling suggests that the intervention could avert 339 chlamydia, 276 gonorrhea, and 241 syphilis infections in scenario 1 (net cost $179,121); 593 chlamydia, 586 gonorrhea, and 367 syphilis infections in scenario 2 (with cost saving); and 746 chlamydia, 791 gonorrhea, 3 HIV, and 443 syphilis infections in scenario 3 (with cost saving). Modeling indicates that the intervention can avert many sexually transmitted infections at low cost and can save costs in a scenario in which inmates continue to engage in sexual activity as they do outside jail. Modest success in efforts to promote condom use among inmates results in additional cost saving.

HEPATITIS

Calzavara L, Ramuscak N, Burchell AN, et al. Prevalence of HIV and hepatitis C virus infection among inmates of Ontario remand facilities. Canadian Medical Association Journal. 2007;177(3):257-261.

Each year more than 56,000 adult and young offenders are admitted to Ontario's remand facilities (jails, detention centres and youth centres). The prevalence of HIV infection in Ontario remand facilities was last measured over a decade ago, and no research on the prevalence of hepatitis C virus (HCV) infection has been conducted in such facilities. We sought to determine the prevalence of HIV infection, HCV infection and HIV-HCV coinfection among inmates in Ontario's remand facilities. A voluntary and anonymous cross-sectional prevalence study of HIV and HCV infections was conducted among people admitted to 13 selected remand facilities across Ontario between Feb. 1, 2003, and June 20, 2004. Data collection included a saliva specimen for HIV and HCV antibody screening and an interviewer-administered survey. Prevalence rates and

95% confidence intervals were calculated and examined according to demographic characteristics, region of incarceration and self-reported history of injection drug use. In total, 1,877 participants provided both a saliva specimen and survey information. Among the adult participants, the prevalence of HIV infection was 2.1% among men and 1.8% among women. Adult offenders most likely to have HIV infection were older offenders ($\geq$ 30 years) and injection drug users. The prevalence of HCV infection was 15.9% among men, 30.2% among women and 54.7% among injection drug users. Adult offenders most likely to have HCV infection were women, older offenders ($\geq$ 30 years) and injection drug users. The prevalence of HCV-HIV coinfection was 1.2% among men and 1.5% among women. It was highest among older inmates and injection drug users. Among the young offenders, none was HIV positive and 1 (0.4%) was HCV positive. On the basis of the study results, we estimated that 1,079 HIV-positive adults and 9,208 HCV-positive adults were admitted to remand facilities in Ontario from April 1, 2003, to March 31, 2004.

Jurgens R. HIV/AIDS and HCV in prisons: An annotated bibliography: International Affairs Directorate, Health Canada, 2007. Available at: http://www.hc-sc.gc.ca/ahc-asc/pubs/int-aids-sida/hiv-vih-aids-sida-prison-carceral-eng.php.

The bibliography did not aim to include all documents ever published on HIV/AIDS and/or HCV in prisons – there simply are too many, some are outdated, while others are very difficult to access. Instead, the author undertook an extensive search of the literature and then selected the most relevant materials according to a set of criteria, including: scope of the material (local, regional, national, or international), date of publication, topic(s) covered, whether the material is accessible, and relevance of the document. The aim was to include those publications that are most relevant in a large number of areas, ranging from prevalence of HIV, HCV, and risk behaviours, to a variety of prevention measures, to HIV and HCV treatment, drug dependence treatment, and legal and ethical issues. A number of newsletters, journals, and websites were also included to allow people using the bibliography to more easily locate new materials that will appear after the publication of the second edition of this bibliography.

Khan AJ, Simard EP, Bower WA, et al. Ongoing transmission of hepatitis B virus infection among inmates at a state correctional facility. American Journal of Public Health. 2005;95(10):1793-1799.

We sought to determine hepatitis B virus (HBV) infection prevalence, associated exposures, and incidence among male inmates at a state correctional facility. A cross-sectional serological survey was conducted in June 2000, and susceptible inmates were retested in June 2001. At

baseline, 230 inmates (20.5%; 95% confidence interval [CI] = 18.2%, 22.9%) exhibited evidence of HBV infection, including 11 acute and 11 chronic infections. Inmates with HBV infection were more likely than susceptible inmates to have injected drugs (38.8% vs 18.0%; adjusted prevalence odds ratio [OR] = 3.0; 95% CI = 1.9, 4.9), to have had more than 25 female sex partners (27.7% vs 17.5%; adjusted prevalence OR = 2.0; 95% CI =1.4, 3.0), and to have been incarcerated for more than 14 years (38.4% vs 17.6%; adjusted prevalence OR = 1.7; 95% CI = 1.1, 2.6). One year later, 18 (3.6%) showed evidence of new HBV infection. Among 19 individuals with infections, molecular analysis identified 2 clusters involving 10 inmates, each with a unique HBV sequence. We documented ongoing HBV transmission at a state correctional facility. Similar transmission may occur at other US correctional facilities and could be prevented by vaccination of inmates.

Klein SJ, Wright LN, Birkhead GS, et al. Promoting HCV treatment completion for prison inmates: New York State's hepatitis C continuity program. Public Health Reports. 2007;122(Suppl. 2):83-88.

This article describes the development of a statewide program providing continuity of hepatitis C virus (HCV) treatment to prisoners upon release to the community. We discussed length of stay as a barrier to treatment with key collaborators; developed protocols, a referral process, and forms; mobilized staff; recruited health-care facilities to accept referrals; and provided short-term access to HCV medications for inmates upon release. The Hepatitis C Continuity Program including 70 prisons and 21 health-care facilities, is a resource for as many as 130 inmates eligible to start treatment annually. Health-care facilities provide fairly convenient access to 87.1% of releasees, and 100% offer integrated HCV-human immunodeficiency virus/acquired immunodeficiency syndrome care. As of March 2006, 24 inmates had been enrolled. The program was replicated in the New York City Rikers Island jail. The program is operational statewide, referrals sometimes require priority attention, and data collection and other details are still being addressed.

Macalino GE, Dhawan D, Rich JD. A missed opportunity: Hepatitis C screening of prisoners. American Journal of Public Health. 2005; 95(10):1739-1740.

In 2003, the Centers for Disease Control and Prevention issued recommendations to screen all inmates with a history of injection drug use or other risk factors for hepatitis C. We compared self-reported risk factors for hepatitis C with serostatus from inmates in the Rhode Island Department of Corrections. Of the male inmates who were hepatitis C positive, 66% did not report injection drug use. Risk-based testing

underestimates the hepatitis C virus (HCV) prevalence in correctional settings and limits the opportunity to diagnose and prevent hepatitis C infection.

Macalino GE, Vlahov D, Sanford-Colby S, et al. Prevalence and incidence of HIV, hepatitis B virus, and hepatitis C virus infections among males in Rhode Island prisons. American Journal of Public Health. 2004;94(7):1218-1223.

We evaluated prevalence and intraprison incidence of HIV, hepatitis B virus, and hepatitis C virus infections among male prison inmates. We observed intake prevalence for 4,269 sentenced inmates at the Rhode Island Adult Correctional Institute between 1998 and 2000 and incidence among 446 continuously incarcerated inmates (incarcerated for 12 months or more). HIV, hepatitis B virus, and hepatitis C virus prevalences were 1.8%, 20.2%, and 23.1%, respectively. Infections were significantly associated with injection drug use (odds ratio = 10.1, 7.9, and 32.4). Incidence per 100 person-years was 0 for HIV, 2.7 for HBV, and 0.4 for HCV. High infection prevalence among inmates represents a significant community health issue. General disease prevention efforts must include prevention within correctional facilities. The high observed intraprison incidence of HBV underscores the need to vaccinate prison populations.

Taylor A, Goldberg D, Emslie J, et al. Outbreak of HIV infection in a Scottish prison. British Medical Journal. 1995;310(6975):289-292.

The objective of this study was to investigate the possible spread of HIV infection and its route of transmission among prison inmates. In response to an outbreak of acute clinical hepatitis B and two seroconversions to HIV infection, counseling and testing for HIV were offered to all inmates over a two week period in July 1993. Information was sought about drug injecting, sexual behaviour, and previous HIV testing. Of a total of 378 male inmates in Prison Glenochil in Scotland, 227 (60%) were counseled and 162 (43%) tested for HIV. Twelve (7%) of those tested were positive for antibody to HIV. One third (76) of those counseled had injected drugs at some time, of whom 33 (43%) had injected in Glenochil; all 12 seropositive men belonged to this latter group. Thirty-two of these 33 had shared needles and syringes in the prison. A further two inmates who injected in the prison were diagnosed as positive for HIV two months previously. Evidence based on sequential results and time of entry into prison indicated that eight transmissions definitely occurred within prison in the first half of 1993. This is the first report of an outbreak of HIV infection occurring within a prison. Restricted access to injecting equipment resulted in random sharing and placed injectors at high risk of becoming infected with HIV. Measures to prevent further spread of infection among prison injectors are urgently required.

Weinbaum CM, Sabin KM, Santibanez SS. Hepatitis B, hepatitis C, and HIV in correctional populations: A review of epidemiology and prevention. AIDS. 2005;19(Suppl. 3):S41-S46.

The 2 million persons incarcerated in US prisons and jails are disproportionately affected by hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV, with prevalences of infection two to ten times higher than in the general population. Infections are largely due to sex- and drug-related risk behaviors practiced outside the correctional setting, although transmission of these infections has also been documented inside jails and prisons. Public health strategies to prevent morbidity and mortality from these infections should include hepatitis B vaccination, HCV and HIV testing and counseling, medical management of infected persons, and substance abuse treatment in incarcerated populations.

HIV TRANSMISSION

Brewer TF, Vlahov D, Taylor E, et al. Transmission of HIV-1 within a statewide prison system. AIDS. 1988;2(5):363-367.

To assess the incidence of infection with HIV-1 in the Maryland state prison system, inmates with excess sera stored from specified intake periods between April and June 1985 and 1986 were approached in May 1987 to volunteer for venipuncture. Of the 2286 inmates for whom intake specimens were stored, 1,038 (45.4%) no longer incarcerated as of April 1987 were excluded from the study; another 319 missed the survey. Of the 929 eligible inmates approached for the study, 446 (48%) consented and 422 (94.6%) provided a specimen. Twenty-nine (6.6%) were confirmed seropositive at time of entry into prison, indicating that infection had occurred prior to incarceration. Baseline seropositives were more likely ($P < 0.05$) to be non-violent offenders, committed in Baltimore City, and black. The 393 participants seronegative at baseline provided a total of 482 prison-years of potential exposure to infection. Two inmates seroconverted with baseline specimens seronegative on Western blot and follow-up sera confirmed positive; their duration of pre-incarceration detention was 69 and 146 days, respectively. No interruption of incarceration was recorded for these two inmates. The rate of infection in this prison sample, which does not include an average of 2 months of pre-incarceration detention for the study sample, was 0.41% per prison-year.

Centers for Disease Control and Prevention. HIV transmission among male inmates in a state prison system - Georgia, 1992-2005. Morbidity and Mortality Weekly Report. 2006;55(15):421-426.

The estimated prevalence of human immunodeficiency virus (HIV) infection is nearly five times higher for incarcerated populations (2.0%) (1) than for the general U.S. population (0.43%) (2). In 1988, the Georgia Department of Corrections (GDC) initiated mandatory HIV testing of inmates upon entry into prison and voluntary HIV testing of inmates on request or if clinically indicated. GDC offered voluntary HIV testing to inmates annually during July 2003 – June 2005 and currently offers testing to inmates on request. During July 1988 – February 2005, a total of 88 male inmates were known to have had both a negative HIV test result upon entry into prison and a subsequent confirmed positive HIV test result (i.e., seroconversion) during incarceration. Of these 88 inmates, 37 (42%) had had more than one negative HIV test result before their HIV diagnosis. In October 2004, GDC and the Georgia Division of Public Health invited CDC to assist with an epidemiologic investigation of HIV risk behaviors and transmission patterns among male inmates within GDC facilities and to make HIV prevention recommendations for the prison population. This report describes the results of that investigation, which identified the following characteristics as associated with HIV seroconversion in prison: male-male sex in prison, tattooing in prison, older age (i.e., age of > 26 years at date of interview), having served ≥ 5 years of the current sentence, black race, and having a body mass index (BMI) of ≤ 25.4 kg/m^2 on entry into prison. Findings from the investigation demonstrated that risk behaviors such as male-male sex and tattooing were associated with HIV transmission among inmates, highlighting the need for HIV prevention programs for this population.

Dolan KA, Wodak A. HIV transmission in a prison system in an Australian State. The Medical Journal of Australia. 1999;171(1):14-17.

The objective of this study was to investigate possible HIV transmission among prison inmates in an Australian State. The participants consisted of 13 ex-prisoners and their prison contacts. Ex-prisoners who claimed to have been infected with HIV in prison and their prison contacts were interviewed about HIV risk behaviour. Entries in prison and community medical records were used by a three-member expert panel to establish the likelihood of primary HIV infection and its possible timing and location. There was a very high probability that at least four of 13 ex-prisoners investigated acquired HIV in prison from shared injection equipment. Another two ex-prisoners most probably acquired HIV infection outside prison. The location of infection for the remaining seven could not be determined. HIV transmission in prison has substantial public health

implications as most drug-using prisoners soon return to the community. HIV prevention strategies known to be effective in community settings, such as methadone maintenance treatment and syringe exchange schemes, should be considered for prisoners.

Edwards A, Curtis S, Sherrard J. Survey of risk behaviour and HIV prevalence in an English prison. International Journal of STD and AIDS. 1999;10(7):464-466.

An anonymous, voluntary, linked cohort study was undertaken to determine the prevalence of HIV infection and identify risk factors for the spread of infection in an English prison. Three hundred and seventy-eight (68%) of the inmates participated. The HIV point prevalence was 0.26%. Injecting drug use (IDU) was the most significant HIV risk factor within 20% admitting IDU at any time, of whom 58% injected whilst in prison. Of those injecting in prison 73% shared needles. Two inmates admitted having sex with a male partner in prison. This study demonstrates that the potential exists in this setting for an outbreak of blood-borne virus infection; hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV infection. Injecting drug use and needle sharing represent the greatest risk.

Hammett TM. HIV/AIDS and other infectious diseases among correctional inmates: Transmission, burden, and an appropriate response. American Journal of Public Health. 2006;96(6):974-978.

Correctional inmates engage in drug-related and sexual risk behaviors, and the transmission of HIV, hepatitis, and sexually transmitted diseases occurs in correctional facilities. However, there is uncertainty about the extent of transmission, and hyperbolic descriptions of its extent may further stigmatize inmates and elicit punitive responses. Whether infection was acquired within or outside correctional facilities, the prevalence of HIV and other infectious diseases is much higher among inmates than among those in the general community, and the burden of disease among inmates and releasees is disproportionately heavy. A comprehensive response is needed, including voluntary counseling and testing on request that is linked to high-quality treatment, disease prevention education, substance abuse treatment, and discharge planning and transitional programs for releasees.

Hellard ME, Aitken CK. HIV in prison: What are the risks and what can be done? Sexual Health. 2004;1(2):107-113.

Prisons are recognized worldwide as important sites for transmission of blood-borne viruses (BBVs). There are two reasons why transmission risks in prison are higher than in the community. First, in most western

countries, many prison entrants have histories of injecting drug use, and thus already have high prevalences of BBVs. Second, the lack or under-supply of preventive measures (such as clean needle and syringes or condoms) in most prisons, combined with extreme social conditions, creates extra opportunities for BBV transmission. HIV prevalence in prisoners in more developed countries ranges from 0.2% in Australia to over 10% in some European nations. There are case reports of HIV being transmitted by sharing injecting equipment and sexual activity. Tattooing has been reported as a risk factor for the transmission of BBVs in prison. Access to condoms and needle and syringe programmes in prisons is extremely limited, despite success when they have been introduced. The vast majority of prison inmates are incarcerated for only a few months before returning to the community – thus they are, over the long term, more appropriately regarded as 'citizens' than 'prisoners'. Public health policy must involve all sections of the community, including prison inmates, if we are to reduce transmission of HIV and other BBVs.

Horsburgh CR, Jarvis JQ, McArthur T, et al. Seroconversion to human immunodeficiency virus in prison inmates. American Journal of Public Health. 1990;80(2):209-210.

We evaluated the prevalence and incidence of human immunodeficiency virus (HIV) infection in 3,837 inmates of a state prison system. Ninety-two (2.4 percent) were HIV-seropositive. The highest proportion of HIV-seropositive inmates was found among blacks (5.4 percent), females, and those 30 years of age or older. HIV-seropositivity of entering inmates was also 2.4 percent and was unchanged over the three years of the study. Seroconversion occurred in two inmates while imprison, a rate of one conversion per 604 person-years, but HIV infection could have occurred before entry. Seroconversion to HIV was rare in inmates in this correctional facility.

Kang SY, Deren S, Andia J, et al. HIV transmission behaviors in jail/prison among Puerto Rican drug injectors in New York and Puerto Rico. AIDS and Behavior. 2005;9(3):377-386.

This study examined HIV risk behavior in jail/prison among Puerto Rican drug injectors in New York (NY, n = 300) and Puerto Rico (PR, n = 200), and its relationship with later drug and sex risk behaviors. During 3 years prior to interview, 66% of NY and 43% of PR samples were incarcerated at least once. While incarcerated, 5% of NY and 53% of PR injected drugs. Few reported engaging in sex inside jail/prison (5% in both sites). Of those who engaged in risk behaviors in jail/prison, almost all reported having unprotected sex and sharing injection equipment. The impact of jail/prison risk behaviors on risk behaviors after release differed between the two sites: they were more related to subsequent sex risk behaviors in

NY, and subsequent injection risk behaviors in PR. The findings indicate a need for effective drug treatment programs inside jail/prisons to reduce HIV-related risk behaviors among drug injectors during incarceration and after release.

Krebs CP. High-risk HIV transmission behavior in prison and the prison subculture. The Prison Journal. 2002;82(1):19-49.

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 intra-prison 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 intra-prison high risk HIV transmission behavior. Data from an inmate survey suggest that sex and tattooing are the two most prevalent intra-prison 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.

Krebs CP. Inmate factors associated with HIV transmission in prison. Criminology and Public Policy. 2006;5(1):113-135.

The prevalence of AIDS infection is approximately four times higher in state and Federal prisons than among the general U.S. population. It is also apparent that high-risk HIV transmission behaviors occur inside prison; however, data that validly document cases of HIV transmission in prison are rare. This study uses data from a large sample of state prison inmates and logistic regression to determine what inmate characteristics are associated with contracting HIV inside prison. Findings indicate that inmates who are nonwhite and younger and who have been convicted of sexual crimes and have served longer sentences are more likely to contract HIV inside prison. Documenting that HIV is transmitted inside prisons justifies the need for additional research and effective prevention strategies. Modeling what types of inmates might be at risk for contracting HIV inside prison can help public and correctional health researchers and officials improve their current prevention practices and ultimately reduce or prevent HIV transmission both inside and outside prison.

Krebs CP, Simmons M. Intraprison HIV transmission: An assessment of whether it occurs, how it occurs, and who is at risk. AIDS Education and Prevention. 2002;14(Suppl. B):53-64.

The prevalence of AIDS infection is approximately five times higher in state and federal prisons than among the general U.S. population. It is also apparent that high-risk HIV transmission behaviors occur inside prison; however, data validly documenting instances of intraprison HIV transmission are rare. This study validly identifies 33 inmates in a large sample of state prison inmates who contracted HIV inside prison and presents data on how they likely contracted HIV. It further compares these inmates to inmates who did not contract HIV inside prison in terms of age, race, and level of education. Documenting the burden posed by HIV transmission inside prison, providing insight into how they contract HIV inside prison, and what types of inmates are at risk will help public and correctional health officials reform their current education and prevention practices and ultimately reduce or prevent HIV transmission both inside and outside prison.

Leh SK. HIV infection in U.S. correctional systems: Its effect on the community. Journal of Community Health Nursing. 1999;16(1):53-63.

Increased rates of HIV infection and risk-taking behaviors among incarcerated men and women make the fight against HIV within the prison and jail systems an especially critical issue in community health. Overcrowded conditions impact on the rotation of inmates in and out of the correctional system. This revolving door phenomenon has implications for disease prevention and control within the community into which the inmates are released. As more people pass in and out of jails and prisons, more problems and diseases associated with incarceration pass into the community. The special needs of the prison population must be taken into consideration not only by nurses but also by all health care workers and correctional officials when planning and implementing control and prevention strategies.

Macher A, Kibble D, Wheeler D. HIV transmission in correctional facility. Emerging Infectious Diseases. 2006;12(4):669-671.

Correctional facilities house a disproportionate number of HIV-infected inmates and are a setting for unprotected sexual intercourse. Although symptoms of acute retroviral syndrome develop in up to 89% of persons newly infected with HIV, the timely recognition and diagnosis of primary HIV infection and initiation of antiretroviral treatment before HIV seroconversion have rarely been reported from a correctional facility.

Mutter RC, Grimes RM, Labarthe D. Evidence of intraprison spread of HIV infection. Archives of Internal Medicine. 1994;154(7):793-795.

Individuals entering prison are known to have high rates of human immunodeficiency virus (HIV) infection, and inmates are known to engage in high-risk behavior. This suggests the potential for intraprison spread of HIV infection, but this has not been documented. All prisoners (N = 556) in the Florida Department of Corrections who had been continuously incarcerated since 1977 were identified. The medical records of these prisoners were reviewed to determine whether they had been tested for HIV infection and, if tested, whether the results were positive. Results were considered positive if there were reactions to two enzyme-linked immunosorbent assays confirmed by Western blot assay. If an individual tested positive, the medical record was reviewed to determine whether the patient had been treated for conditions consistent with HIV infection. Eighty-seven of the 556 prisoners had undergone testing for HIV infection. Of the tested inmates, 18 (21%) were found to be positive for HIV infection. Eight of these individuals had no HIV-related conditions, and 10 had HIV-related symptoms. The results present strong evidence for intraprison transmission of HIV infection. Given that most inmates serve relatively short sentences, there is a strong possibility that prison-acquired HIV infection will be carried into the "free world." Preventive programs in prisons may be very important in controlling HIV infection in our society.

Pont J, Strutz H, Kahl W, et al. HIV epidemiology and risk behavior promoting HIV transmission in Austrian prisons. European Journal of Epidemiology. 1994;10(3):285-289.

In 1989, 1990 and 1992, 19%, 15% and 10%, respectively, of all prisoners newly admitted to prisons and penitentiary institutions in Austria underwent HIV antibody tests. Based on the HIV test outcome in prisons in which more than 80% of the newly admitted inmates were tested, annual HIV prevalences among prison inmates in Austria were determined. These were 0.5% (11/2, 223), 1.3% (19/1,466) and 0.9% (14/1,509) in 1989, 1990 and 1992, respectively. The prevalence rates among prison inmates in Austria are thus 5 times higher than those in the general Austrian population. About 5% of all inmates belong to the high-risk group of intravenous drug users. Inquiries into HIV risk behavior among prison inmates showed that, in Austrian prisons just like in those of many other countries, intravenous drug use and sexual contacts are common practices. As disposable needles and condoms are not available to prison inmates, these practices carry a particularly high risk of HIV

transmission. The data collected can be taken as a basis for developing strategies which are designed to reduce the risk of HIV transmission in prisons and which have a major bearing on the development of the HIV pandemic.

Spaulding A, Stephenson B, Macalino G, et al. Human immunodeficiency virus in correctional facilities: A review. Clinical Infectious Diseases. 2002;35(3):305-312.

It is estimated that up to one-fourth of the people living with human immunodeficiency virus (HIV) infection in the United States pass through a correctional facility each year. The majority of persons who enter a correctional facility today will return home in the near future. Most inmates with HIV infection acquire it in the outside community; prison does not seem to be an amplifying reservoir. How correctional health services deal with the HIV-infected person has important implications to the overall care of HIV-infected people in the community. Routine HIV testing is well accepted. Combination antiretroviral therapy has been associated with a reduction in mortality in prisons. A link between area HIV specialists and correctional health care providers is an important partnership for ensuring that HIV-infected patients have optimal care both inside prison and after release.

Vlahov D, Putnam S. From corrections to communities as an HIV priority. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2006;83(3):339-348.

The health of inmates in correctional facilities has been a longstanding concern in the medical community and historically has centered on the health of populations entering correctional settings, which may affect the risk of infectious disease transmission inside these facilities. Recently, however, more attention has been devoted to public health consequences of inmates released to the community, where continuity of care represents a challenge for treatment and prevention, and there is an increasing appreciation of inmates being part of the public health in the community to which they are released. In 1983, the first case of AIDS was reported from a prison in the United States. Since that time, nearly 5% of the HIV/AIDS cases in the U.S. have been reported from correctional facilities, although the census for these facilities account for less than 1% of the population. This disproportionate representation of AIDS cases has garnered attention, and AIDS in the correctional setting over the past two decades provides an illustration of the changing and evolving perspectives on health in corrections facilities and also highlights areas where improvements in knowledge and intervention efforts can be made.

PREVENTION

Awofeso N, McEntyre L. Legalizing condom use in Australian correctional centers. American Jails. 2006;20(2):76-78.

The most common argument in favor of condom distribution in Australian prison settings is that it is the most practical way of reducing HIV transmission. Currently about 70 percent of all HIV cases in (non-Aboriginal) Australians are thought to result from homosexual relations. With over 90 percent of the Australian population being male, and with the higher risks associated with unprotected male same-sex activities, it is argued that lack of access to condoms would significantly increase the risk of HIV transmission among prisoners. Since the vast majority of prisoners would eventually be released, most infected prisoners would eventually return home to infect their partners and girlfriends.

Bauserman RL, Richardson D, Ward M, et al. HIV Prevention with jail and prison inmates: Maryland's prevention case management program. AIDS Education and Prevention. 2003;15(5):465-480.

Prevalence of HIV infection and AIDS cases is higher among inmates of correctional facilities than among the general population, especially for female inmates. This creates a strong need for effective HIV prevention with this population. Maryland's Prevention Case Management (PCM) program provides individual or group counseling to inmates nearing release to promote changes in risk behavior. Pretest and posttest surveys assess changes in perceived risk, condom attitudes, condom use self-efficacy, self-efficacy to reduce injection drug risk and other substance use risk, and behavioral intentions during participation in the program. Client contact logs, kept by counselors, document the number and duration of sessions, and the specific modules, completed by participants. Over a 4-year period, PCM records identified 2,610 participants in the program. Pre-intervention and post-intervention data were available for 745 participants, with client contact log records available for 529 (71%) of these individuals. Significant, positive changes were found in self-reported condom attitudes, self-efficacy for condom use, self-efficacy for injection drug use risk, self-efficacy for other substance use risk, and intentions to practice safer sex post-release. Inmate populations are a crucial audience for HIV/AIDS testing, treatment, and prevention efforts. The Maryland PCM program has documented positive changes in participants' attitudes, self-efficacy, and intentions related to HIV risk, over a 4-year period.

Bollini P, LaPorte JD, Harding TW. HIV prevention in prisons: Do international guidelines matter? European Journal of Public Health. 2002;12(2):83-89.

In spite of the availability of international guidelines, HIV prevention and management of care in prison is still unsatisfactory in many countries. Factors affecting the quality of HIV prevention policies in prison have not yet been elucidated. The present study had two aims: i) to assess national HIV prevention policies in prison in a selected group of countries; and ii) to determine which factors influenced such policies at the country level. HIV prevention policies in prison were reviewed comparatively in Moldova, Hungary, Nizhnii Novgorod region of the Russian Federation, Switzerland and Italy. The review of HIV prevention policies in prison was conducted through interviews with government officials, non-governmental organizations, professionals involved in this field, and visits to selected prisons. Information on the health of prisoners, including tuberculosis, sexually transmitted diseases, and other infectious diseases have also been collected. The results indicated that all countries had adopted a policy, irrespective of the burden of HIV infection in the prison system. The content of the policy mirrored the philosophy and strategies of HIV prevention and care in the community. The 1993 WHO Guidelines were fully implemented only in one country out of four (Switzerland), and partially in two (Italy and Hungary). A greater effort aimed at dissemination of information, provision of technical know-how and material resources could be the answer to at least part of the problems identified. In addition, greater national and international efforts are needed to stimulate the debate and build consensus on harm reduction activities in prison.

Braithwaite RL, Arriola KRJ. Male prisoners and HIV prevention: A call for action ignored. American Journal of Public Health. 2003;93(5):759-763.

US prison inmates are disproportionately indigent young men of color. These individuals are severely affected by HIV/AIDS, largely owing to the high-risk behavior that they engage in prior to incarceration. Researchers and practitioners have issued a call for the importance of offering HIV prevention services in prison settings. However, this call has largely been ignored. In this article, we outline reasons why these recommendations have been largely ignored, discuss innovative HIV prevention programs that are currently being implemented in prison settings, and offer recommendations for securing support for HIV prevention services in correctional settings.

Bryan A, Robbins RN, Ruiz MS, et al. Effectiveness of an HIV prevention intervention in prison among African Americans, Hispanics, and Caucasians. Health Education and Behavior. 2006; 33(2):154-177.

Prisons and prison inmates present important targets for HIV/AIDS prevention interventions. Inmates often have histories of high-risk behavior that place them in danger of contracting HIV/AIDS, and rates of HIV/AIDS tend to be much higher in this population. The goal of this study was to assess the effectiveness of a prison-based HIV/AIDS intervention to change attitudes toward HIV prevention, norms supporting HIV prevention, perceived behavioral control (i.e., self-efficacy) for HIV prevention behaviors, and intentions to engage in HIV prevention behaviors post-release. The intervention also had the goal of encouraging inmates to become HIV/AIDS peer educators. The intervention appeared most successful at influencing beliefs and behaviors related to peer education and somewhat successful at influencing beliefs and intentions related to condom use. Analyses also showed some significant differences in effectiveness by race/ethnicity. Results are discussed from the perspectives of both research and practice with regard to prison-based HIV prevention efforts.

Bryan A, Ruiz MS, O'Neill D. HIV-related behaviors among prison inmates: A theory of planned behavior analysis. Journal of Applied Social Psychology. 2003;33(12):2565-2586.

Prison inmates have high prevalence rates for both HIV and AIDS, creating a great need for HIV prevention efforts. We tested the theory of planned behavior (TPB) in 3 domains: intention to engage in condom use when released, intention to not share tattoo equipment in prison, and intention to not share needles or tattoo equipment when released. A total of 478 inmates (87% male) completed TPB and sexual and needle-use risk behavior measures. TPB constructs accounted for a significant variance in intention to use condoms among African American, Hispanic, and Caucasian inmates, though the strength of the relationships differed by ethnicity. The TPB was less successful for intention to share tattooing equipment and not to share needles or tattoo equipment after release.

Centers for Disease Control and Prevention. HIV/AIDS education and prevention programs for adults in prisons and jails and juveniles in confinement facilities - United States, 1994. Morbidity and Mortality Weekly Report. 1996;45(13):268-271.

By the end of 1994, at least 4,588 adult inmates of U.S. prisons and jails had died as a result of acquired immunodeficiency syndrome (AIDS), and during 1994, at least 5279 adult inmates with AIDS were incarcerated in prisons and jails (1). Periodically conducted national surveys instituted in 1985 (2) and sponsored by the U.S. Department of Justice's National Institute of Justice (NIJ) and CDC have documented the prevalence of human immunodeficiency virus (HIV)/AIDS and the incidence of sexually transmitted diseases (STDs) among adult inmates and confined juveniles. In addition, these surveys have enabled an assessment of HIV/AIDS education and prevention programs in prisons and jails for adults and confinement facilities for juveniles. This report presents findings from the eighth survey, conducted in 1994, which indicate the need to increase HIV/AIDS education and prevention services among adult inmates and confined juveniles.

Comfort M, Grinstead OA, Faigeles B, et al. Reducing HIV risk among women visiting their incarcerated male partners. Criminal Justice and Behavior. 2000;27(1):57-71.

Prisoners are at increased risk for HIV infection. Consequently, their sexual and needle-sharing partners are also at increased risk. Partners of incarcerated men are a hidden at-risk population in the community. Prison visiting is an opportunity to identify and provide services to members of this population. Thirty women visiting their incarcerated partners at a large state prison in California participated in focus groups that led to the development of a peer-led HIV education intervention. Eighty-six women completed baseline surveys, 81 completed postintervention surveys, and 67 were followed 1 month after the intervention. Although women visiting their incarcerated partners are generally well-informed about HIV transmission and prevention, interventions addressing their specific emotional and informational needs are necessary to motivate and to assist them in reducing their risk for HIV infection.

Dolan K, Lowe D, Shearer J. Evaluation of the condom distribution program in New South Wales Prisons, Australia. Journal of Law, Medicine and Ethics. 2004;32(1):124-128.

Male to male unprotected anal sex is the main route of HIV transmission in Australia. The Australian Study of Health and Relationships, a large, representative population survey of sexual health behaviors, found that six percent of males in the general population have engaged in homosexual

activity. These findings were consisted with studies in Europe and North America. Condoms have been shown to reduce the transmission of HIV in the community. Barriers to the use of condoms include access, stigma, and cost. Nevertheless, increased condom use has been reported among homosexual males, sex workers and injecting drug users although recent declines in condom use among homosexuals has presented new challenges in HIV prevention.

Dolan K, Wodak A, Penny R. AIDS behind bars: preventing HIV spread among incarcerated drug injectors. AIDS. 1995;9(8):825-832.

Prisons and prisoners are among the most neglected elements of the HIV epidemic. They are important parts of the AIDS jigsaw because the twin epidemics of illicit drug use and HIV cannot be understood and brought under control unless attention is directed to the close connection between injecting drug users (IDU) and prisons. The global illicit drug situation has worsened dramatically in recent years as noted by an international agency: 'Countries that are not suffering from the harmful consequences of drug abuse are now the exception rather than the rule'. Heroin is the most common injected drug, used by an estimated global population of 5 million IDU spread over 80 countries. Global heroin and cocaine production continues to increase while opium poppy cultivation is now spreading to new countries, expanding the population potentially at risk from HIV infection associated with drug injecting. New and more serious adverse health consequences of drug injecting are now being recognized. For example, while recent attention has been, understandably, focused on epidemics of HIV among IDU, epidemics of hepatitis B and C have continued almost unnoticed and multidrug-resistant tuberculosis in immune-compromised, HIV-infected IDU has emerged as a new secondary problem associated with drug use.

Fish DG, Walker SJ, Singaravelu K, et al. Improving knowledge, attitudes, and testing for communicable diseases among New York State inmates. Journal of Correctional Health Care. 2008;14(4):290-298.

To improve knowledge of and encourage testing for HIV, hepatitis, and sexually transmitted diseases among inmates, Albany Medical College and the New York State Department of Corrections developed a peer-led videotape and comic-book-style pamphlet. Inmates assigned to an intervention group viewed the videotape and pamphlet and completed pre- and posttest questionnaires; a control group did not. Both groups completed a risk assessment and testing request form. Analysis sought to detect testing request differences between groups and changes in disease knowledge among intervention group participants. Although more intervention participants requested testing, the differences were not

statistically significant. After viewing the videotape, significantly more inmates agreed that communicable diseases are treatable (78.3%), that not all have symptoms (70.8%), and that a positive diagnosis is not a death sentence (82.5%). Videotapes and pamphlets can improve inmate knowledge, information retention, attitudes, and requests for communicable disease testing.

Fullilove RE [Editorial]. Condoms in prison: The ethical dilemma. American Medical Association Journal of Ethics. 2008;10(2):110-112.

The high rate of HIV infection and AIDS in U.S. prisons has increasingly focused attention on the role that these institutions play as drivers of our domestic epidemic, particularly among communities of color. With black and Latino inmates comprising almost two-thirds of the U.S. state and federal prison population, and with rates of HIV infection for the incarcerated standing at three times the rate in the general population, the question of whether we could advance the nation's HIV prevention agenda by making condoms available to inmates in prison is often posed.

Godin G, Gagnon H, Alary M, et al. Correctional officers' intention of accepting or refusing to make HIV preventive tools accessible to inmates. AIDS Education and Prevention. 2001;13(5):462-473.

The aim of this study was to identify the factors which explain correctional officers' intention of accepting or refusing to make HIV preventive tools (condoms, bleach, tattooing equipment, and syringes) accessible to inmates. A total of 957 officers completed a questionnaire that took into account determinants from several social-cognitive behavior theories. The results indicated that only 21.4% of officers were favorable toward making accessible all of the preventive tools. The theoretical model explained 87% of the intention variance, $p < .0001$. Self-efficacy ($\beta = .35$), personal normative belief ($\beta = .29$), social determinants ($\beta = .21$) and the affective dimension of attitude ($\beta = .19$) were significant determinants. Moreover, officers with a high level of intention differed from those with a low level of intention on several points of the theoretical model. In conclusion, the results clearly indicated that several difficulties must be overcome before HIV preventive tools as a whole can be made accessible to inmates.

Grinstead O, Comfort M, McCartney K, et al. Bringing it home: Design and implementation of an HIV/STD intervention for women visiting incarcerated men. AIDS Education and Prevention. 2008;20 (4):285-300.

Incarceration has been identified as a key variable to be addressed in halting the HIV epidemic among African Americans. Our research team

has been conducting and evaluating HIV prevention interventions for prisoners and their families since the early 1990s, including interventions specifically tailored to the needs of women with incarcerated partners. This article describes the development and implementation of a multi-component HIV prevention intervention for women with incarcerated partners, and presents qualitative data from women who participated as peer educators in this intervention. Women with incarcerated partners reported low rates of condom use and HIV testing combined with a lack of information about prison-related HIV risks. We found that peer education is a feasible intervention to reach women with incarcerated partners and that flexibility and inclusiveness are important factors in designing intervention programs for this population.

Grinstead OA, Zack B, Faigeles B. Collaborataive research to prevent HIV among male prison inmates and their female partners. Health Education and Behavior. 1999;26(2):225-238.

Despite the need for targeted HIV prevention interventions for prison inmates, institutional and access barriers have impeded development and evaluation of such programs. Over the past 6 years, the authors have developed a unique collaborative relationship to develop and evaluate HIV prevention interventions for prison inmates. The collaboration includes an academic research institution (the Center for AIDS Prevention Studies at the University of California, San Francisco), a community-based organization (Centerforce), and the staff and inmate peer educators inside a state prison. In this ongoing collaboration, the authors have developed and evaluated a series of HIV prevention interventions for prison inmates and for women who visit prison inmates. Results of these studies support the feasibility and effectiveness of HIV prevention programs for inmates and their partners both in prison and in the community. Access and institutional barriers to HIV intervention research in prisons can be overcome through the development of collaborative research partnerships.

Hammett TM, Gaiter JL, Crawford C. Reaching seriously at-risk populations: Health interventions in criminal justice settings. Health Education and Behavior. 1998;25(1):99-120.

More than 6 million people are under some form of criminal justice supervision in the United States on any given day. The vast majority are arrested in and return to urban, low-income communities. These are men, women, and adolescents with high rates of infectious diseases such as HIV/AIDS, other sexually transmitted diseases (STDs), and tuberculosis (TB), as well as substance abuse and other health problems. A review of recent literature indicates that an increasing problem for these populations is that they have had little prior access to primary health care or health interventions, and many are returning to their communities without critical

preventive health information and skills, appropriate medical services, and other necessary support. Periods of incarceration and other criminal justice supervision offer important opportunities to provide a range of health interventions to this underserved population, and general evaluations show the potential for this strategy. Public health and criminal justice agencies have the expertise and should collaborate to provide interventions needed by incarcerated populations. Moreover, many recently released inmates require primary care for HIV/AIDS, other STDs, and TB. Consequently, timely discharge planning is essential, as are linkages with community-based organizations and agencies that can provide medical care, health education, and necessary supportive services.

Klein SJ, Gieryic SM, O'Connell DA, et al. Availability of HIV prevention services within New York State correctional facilities during 1999-2000: Results of a survey. The Prison Journal. 2002; 82(1):69-83.

This survey examined the extent of HIV prevention interventions available to approximately 70,000 inmates housed in the 69 correctional facilities that comprise New York State's prison system and explored barriers to offering prevention services. Specific HIV prevention interventions were selected. A written survey was used to ascertain their availability within the previous 12-month period at each correctional facility. Correctional facilities reported a high level of availability of HIV prevention interventions and services. All 69 (100%) reported prevention education, and 59 (86%) said they met or exceeded inmate demand. More than 90% reported individual and group counseling and more than three-quarters offered both English and Spanish. Support groups were reported as being offered at 50 (73%) prisons. Significant progress in meeting HIV prevention needs of New York State inmates has been achieved. The Criminal Justice Initiative is a highly effective service delivery model. Efforts to better meet needs of Spanish-speaking inmates should continue.

Klein SJ, O'Connell DA, Devore BS, et al. Building an HIV continuum for inmates: New York State's criminal justice initiative. AIDS Education and Prevention. 2002;14(Suppl. B):114-123.

The benefits of public health, corrections, and community-based organization (CBO) collaboration to meet HIV prevention needs of inmates are recognized. Each year over 100,000 inmates, most of whom have a history that put them at HIV risk, pass through the New York State (NYS) prison system. The NYS Department of Health AIDS Institute, the NYS Department of Correctional Services, the NYS Division of Parole, and a statewide network of CBOs collaborate to meet HIV prevention and support services needs of inmates and parolees through a continuum of interventions and services. This article describes the evolution of the

prevention, supportive services. This article describes the evolution of the prevention, supportive services, and transitional planning continuum within the NYS prison system. It identifies other agencies involved, obstacles to service delivery, describes approaches to overcome them, discusses ways to meet capacity building and technical assistance needs of CBOs, identifies challenges remaining, and provides practical advice from actual experience in NYS.

Mahon N. New York inmates' HIV risk behaviors: The implications for prevention policy and programs. American Journal of Public Health. 1996;86(9):1211-1215.

The median incidence rate of acquired immunodeficiency syndrome (AIDS) among prisoners is 7 times higher than for the general population. Yet high-risk sexual activity and drug use in US correctional facilities remain unexamined. This study explores inmate perceptions of high-risk behavior in New York state prisons and New York City jails and seeks to generate hypotheses to inform policies and future research. Participants were 22 former New York state prisoners and 28 current New York City inmates. Participants attended one of six focus groups and completed an anonymous questionnaire. Audiotapes of the groups were transcribed and evaluated. A range of consensual and nonconsensual sexual activity occurs among inmates and between inmates and staff. Without official access to latex barriers, prisoners use ineffective makeshift devices, like rubber gloves and used plastic wrap, in attempts to practice safer sex. Prisoners also shoot drugs intravenously with used syringes and pieces of pens and light bulbs. The absence of harm-reduction devices behind bars may create a greater risk of HIV transmission there than in the community. Officials should consider distributing risk-reduction devices to prisoners through anonymous methods.

May JP, Williams EL. Acceptability of condom availability in a U.S. jail. AIDS Education and Prevention. 2002;14(Suppl. B):85-91.

Studies have documented the transmission of HIV in incarcerated populations resulting from injection drug use or sexual activity. Less than 1% of the jails and prisons in the United States allow inmates access to condoms, and none allows access to needles. Results of a survey to measure the acceptability of a condom distribution program at the Washington, DC. Central Detention Facility, where condoms are available to inmates, are presented here. Three hundred seven inmates and 100 correctional officers were surveyed from October 2000 through October 2001. The surveys demonstrate that the program is generally supported and thought to be important by inmates and correctional staff. The program has not resulted in any major security infractions and could be replicated in other correctional settings.

McLemore M. Access to condoms in U.S. prisons. HIV/AIDS Policy and Law Review. 2008;13(1):20-24.

Despite overwhelming evidence that condom use prevents the transmission of HIV, U.S. prison officials continue to limit the availability of condoms to incarcerated persons. Concern for transmission of HIV in prison and in the community upon prisoners' release has increased the interest of some policymakers in the issue. In this article, Megan McLemore addresses security concerns as well as human rights arguments in support of efforts to adopt a public health approach to harm reduction in U.S. prisons.

Niveau G. Prevention of infectious disease transmission in correctional settings. A review. Public Health. 2006;120(1):33-41.

To review studies defining risk factors for infectious disease transmission in correctional settings, to determine target objectives, and to assemble recommendations for health promotion in prisons and jails. Electronic databases were searched, using a specific search strategy, from 1993 to 2003. The principal risk factors in correctional facilities are proximity, high-risk sexual behaviour and injection drug use. Based on the type of disease transmissions and epidemics reported in the literature, four diseases were targeted for which preventive measures should be implemented: tuberculosis, human immunodeficiency virus, hepatitis and sexually transmitted diseases. Knowledge of risk factors helps define effective preventive measures along five main themes of action: information and education, screening, limiting harm from risk behaviour by distributing condoms and exchanging syringes, treatment and vaccinations. The effectiveness and feasibility of each of these actions have to be assessed in relation to the specificities of the correctional setting.

Okie S. Sex, drugs, prisons, and HIV. The New England Journal of Medicine. 2007;356(2):105-108.

U.S. public health experts consider the Rhode Island prison's human immunodeficiency virus (HIV) counseling and testing practices, medical care, and prerelease services to be among the best in the country. Yet according to international guidelines for reducing the risk of HIV transmission inside prisons, all U.S. prison systems fall short. Recognizing that sex occurs in prison despite prohibitions, the World Health Organization (WHO) and the Joint United Nations Program on HIV/AIDS (UNAIDS) have recommended for more than a decade that condoms be made available to prisoners. They also recommend that prisoners have access to bleach for cleaning injecting equipment, that

drug-dependence treatment and methadone maintenance programs be offered in prisons if they are provided in the community, and that needle-exchange programs be considered.

Polonsky S, Kerr S, Harris B, et al. HIV prevention in prisons and jails: Obstacles and opportunities. Public Health Reports. 1994;109 (5):615-625.

High rates of human immunodeficiency virus (HIV) infection among jail and prison inmates suggest that HIV prevention efforts should focus on incarcerated populations. Overcrowding, the high prevalence of injection drug use, and other high-risk behaviors among inmates create a prime opportunity for public health officials to affect the course of the HIV epidemic if they can remedy these problems. Yet, along with the opportunity, there are certain obstacles that correctional institutions present to public health efforts. The various jurisdictions have differing approaches to HIV prevention and control. Whether testing should be mandatory or voluntary, whether housing should be integrated or segregated by HIV serostatus, and whether condoms, bleach, or clean needles should be made available to the prisoners, are questions hotly debated by public health and correctional officials. Even accurate assessment of risk-taking within the institutions leads to controversy, as asking questions could imply acceptance of the very behaviors correctional officials are trying to prevent. Education and risk-reduction counseling are the least controversial and most widely employed modes of prevention, but the effectiveness of current prevention efforts in reducing HIV transmission in this high-risk population is largely undetermined.

Rapposelli KK, Kennedy MG, Miles JR, et al. HIV/AIDS in correctional settings: A salient priority for the CDC and HRSA. AIDS Education and Prevention. 2002;14(5 Suppl. B):103-113.

Correctional facilities constitute an excellent opportunity to provide treatment, care, and prevention services for a population that may not otherwise access these services. The Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) recognize the public health importance of correctional settings and have begun to develop formal strategies to address the HIV/AIDS-relevant needs of incarcerated individuals. The Centers for Disease Control and Prevention and HRSA have implemented policies, activities, and strategic plans to reduce the HIV/AIDS disease burden among the high-risk populations that pass through the nation's prisons and jails. They have also collaborated to address the HIV/AIDS needs of incarcerated populations and have initiated processes for expanding collaboration on these issues to include other federal agencies and prevention partners.

Robinette PA, Long B. Is the segregation of HIV-positive inmates ethical? The Prison Journal. 1999;79(1):101-118.

Testing and segregation are the safest and most beneficial options for resolving the issues of HIV and AIDS in state and federal prisons. Mandatory testing and segregation are not viable options for the general public because it is assumed that the general public is aware of the risks of HIV and the behaviors associated with contracting the disease. Most important, however, it is assumed that the general public would not intentionally and repeatedly act out these high-risk behaviors. The prison community is different from the general population in this manner. It is much more likely that inmates will participate in these behaviors. It is therefore in the best interest of the general population to test each prisoner, segregate all HIV-positive inmates, and use the average of 2.5 to 3 years of time served to educate and counsel the inmates about their disease – how it affects them and the community.

Spaete JP, Rich JD. HIV prevention and care in incarcerated populations. Focus: A guide to AIDS research and counseling. 2005; 20(8):1-3.

The rate of growth in the incarcerated population of the United States increased by 62 percent between 1990 and 2001. This increase has largely been attributed to heightened enforcement and mandated sentencing for drug violations. These politically popular, "tough on crime," policies have had disproportionate effects on black and Hispanic men and their communities. For example, in the 25-29 age group, nearly one in 10 black men are incarcerated compared to one in 100 white men. In 2002, 1.9 percent of all U.S. prison inmates were HIV-positive. Confirmed AIDS cases were 3.5 times more prevalent in incarcerated settings than in the U.S. population. Women and minorities were disproportionately infected: Hispanic inmates had the highest prevalence, followed by black inmates, and both groups had a higher prevalence than white inmates. Each year, 20 percent to 26 percent of all people with HIV pass through correctional facilities, and more than 150,000 HIV-positive ex-offenders return to their communities. Given all of these data, it is clear that prevention and care interventions within the incarcerated population offer an opportunity to reach a large number of people with and at risk for HIV. Further, since so many people with HIV leave prisons annually, public health practice suggests that effective prevention programs in prisons and post-incarceration can benefit society.

Swartz JA, Lurigio AJ, Weiner DA. Correlates of HIV-risk behaviors among prison inmates: Implications for tailored AIDS prevention programming. The Prison Journal. 2004;84(4):486-504.

AIDS was first identified among prison inmates in 1983. In 2001, the rate of confirmed cases of HIV infection was four times greater among federal and state prison inmates than in the general population. This study used extensive interviews to assess Illinois prison inmates' sexual and drug-use practices, their knowledge about HIV risk-reduction techniques, and their beliefs regarding their own HIV-risk status and their ability to avoid HIV infection. Respondents were classified into risk groups based on their sexual and drug-use behaviors prior to incarceration. Compared to those in the low-risk group, respondents in the high-risk group were more likely to have used or sold drugs and to have lower self-efficacy and perceived-risk scores. Respondents in the moderate-risk group were more likely than those in the low-risk group to be young, to have sold drugs, and to have lower self-efficacy scores. The implications of these differences for HIV-prevention programs tailored by risk profile are discussed.

Tucker JD, Chang SW, Tulsky JP. The catch 22 of condoms in U.S. correctional facilities. BMC Public Health. 2007;7:296.

Despite the high prevalence of sexually transmitted infections (STIs) and HIV infection in US correctional settings, most jails and prisons in the United States prevent inmates from using condoms to prevent STIs/HIV. This article makes the following arguments to justify a scalable and feasible next step in the prevention of HIV/STIs among inmates: condoms are a basic and essential part of HIV/STI prevention, HIV/STI transmission occurs in the context of corrections, and several model programs show the feasibility of condom distribution in prisons. A lower end estimate for HIV incidence among incarcerated applied to 2,000,000 new inmates annually results in thousands of new HIV infections acquired each year in corrections that could be prevented with condoms in corrections facilities. Programs from parts of the United States, Canada, and much of Europe show how programs distributing condoms in correctional facilities can be safe and effective. Public health and corrections officials must work together to ensure that condoms and broader sexual disease prevention programs are integrated into US jail and prison health systems.

United States Conference of Mayors. HIV prevention activities in jail: Targeting city and county correctional facilities. AIDS Information Exchange. 1995;12(4):1-12.

There are high-risk behaviors associated with the transmission of HIV and, according to many HIV prevention experts, correctional institutions

can be high-risk settings as well. And HIV is definitely present among incarcerated populations. In some correctional facilities, the rate of HIV infection among inmates is estimated to be as high as 20 percent. While prisons are thought to be highly controlled environments, the reality is that a significant amount of high-risk behavior goes on, some of which is not consensual. Sex (both consensual and non consensual), drug use, and other high-risk activities such as tattooing occur even though these activities are officially prohibited. The risk is compounded because men and women who are incarcerated frequently are unable to protect themselves because they do not have access to condoms, sterile syringes and dental dams. There are many compelling reasons why HIV prevention activities should be carried out in jails, not the least of which is to prevent the spread of HIV from inmate to inmate. Correctional settings provide an opportunity to educate individuals who may be engaging in high-risk activities and, as many often joke, are a "captive audience." HIV prevention education conducted in jail can have an impact outside the walls as inmates are released and practice safer behaviors on the outside.

White MC, Tulsky JP, Estes M, et al. Health and health behaviors in HIV-infected jail inmates, 1999 and 2005. AIDS Patient Care and STDS. 2008;22(3):221-231.

Incarcerated HIV-infected persons in San Francisco have benefited from intensive case management in jail and post-release, which includes but is not focused on interventions to prevent transmission. In this population of predominately injection drug users (IDUs), we had the opportunity to examine interview data from 1999 and 2005 that included health characteristics and risk factors. Those in 2005 were less likely to be satisfied with social support and less likely to be partnered; more likely to have some form of health insurance. On average, health was perceived in both periods to be better the longer the person had been in jail. Injection drug use was reported lower in 2005, but a subset of nearly a quarter in each survey time period reported sharing needles. Persons in 2005 were less likely to report they always used condoms as compared to those in 1999 (odds ratio 0.26, 95% confidence interval 0.12 – 0.59, p = 0.001). While there were differences in study design and methodology, this comparison demonstrated overall similarities in characteristics of HIV-infected inmates. Findings echo those of others, in other populations of HIV-infected persons. Reasons could include HIV prevention fatigue or decay in effectiveness of prevention messages. Despite an established program for case management and links to services, renewed efforts are needed to maintain effectiveness of prevention strategies to this high-risk population.

World Health Organization. Effectiveness of interventions to manage HIV in prisons – provision of condoms and other measures to decrease sexual transmission. Geneva, Switzerland, 2007.

HIV hit prisons early and hit them hard. The rates of HIV infection among prisoners in many countries are significantly higher than those in the general population. HCV seroprevalence rates are even higher. While most of the prisoners living with HIV in prison contract their infection outside prison before imprisonment, the risk of being infected in prison, in particular through sharing of contaminated injecting equipment and through unprotected sex, is great. Studies from around the world show that sexual activity, including rape and other forms of sexual violence, occur in prisons and result in transmission of HIV and other STIs. The importance of implementing HIV interventions in prisons was recognized early in the epidemic. After holding a first consultation on HIV in prisons in 1987, WHO responded to growing evidence of HIV infection in prisons worldwide by issuing guidelines on HIV infection and AIDS in prisons in 1993. With regard to health care and prevention of HIV, they emphasized that "all prisoners have the right to receive health care, including preventive measures, equivalent to that available in the community without discrimination, in particular with respect to their legal status or nationality." This was recently re-affirmed in the 2006 framework for an affective national response to HIV/AIDS in prisons, jointly published by the United Nations Office on Drugs and Crime (UNODC), WHO, and UNAIDS. Since the early 1990s, various countries have introduced HIV programmes in prison. However, many of them are small in scale, restricted to a few prisons, or exclude necessary interventions for which evidence of effectiveness exists. There is an urgent need to introduce comprehensive programmes, (including information and education, particularly through peers; needle and syringe programmes; drug dependence treatment, in particular opioid substitution therapy with methadone and/or buprenorphine; voluntary counseling and HIV testing; and HIV care and support, including provision of antiretroviral treatment) and to scale them up rapidly. As part of these programmes, prison systems should make condoms accessible to prisoners and adopt other measures to reduce the risk of sexual transmission of HIV and other STIs.

Yap L, Butler T, Richters J, et al. Do condoms cause rape and mayhem? The long-term effects of condoms in New South Wales' prisons. Sexually Transmitted Infections. 2008;83(3):219-222.

Concerns raised by opponents to condom provision in prisons have not been objectively examined and the issue continues to be debated. The long-term effects of the introduction of condoms and dental dams into New South Wales (NSW) prisons in 1996 was examined, focusing on particular concerns raised by politicians, prison officers, prison nurses and

prisoners. These groups were worried that (a) condoms would encourage prisoners to have sex, (b) condoms would lead to an increase in sexual assaults in prisons, (c) prisoners would use condoms to hide and store drugs and other contraband and (d) prisoners would use condoms as weapons. Data sources included the NSW Inmate Health Survey (IHS) from 1996 and 2001 and official reports from the NSW Department of Corrective Services. The 1996 IHS involved 657 men and 132 women randomly selected from all prisons, with a 90% response rate. The 2001 survey involved 747 men and 167 women inmates, with an 85% response rate. There was a decrease in reports of both consensual male-to-male sex and male sexual assaults 5 years after the introduction of condoms into prisons in 1996. The contents of condom kits were often used for concealing contraband items and for other purposes, but this was not associated with an increase in drug injecting in prison. Only three incidents of a condom being used in assaults on prison officers were recorded between 1996 and 2005; none was serious. There exists no evidence of serious adverse consequences of distributing condoms and dental dames to prisoners in NSW. Condoms are an important public health measure in the fight against HIV and sexually transmitted diseases; they should be made freely available to prisoners as they are to other high-risk groups in the community.

PRISON RELEASEES

Blitz CL, Wolff N, Pan K-Y, et al. Gender-specific behavioral health and community release patterns among New Jersey prison inmates: Implications for treatment and community reentry. American Journal of Public Health. 2005;96(10):1741-1746.

We describe behavioral health diagnoses and community release patterns among adult male and female inmates in New Jersey prisons and assess their implications for correctional health care and community reentry. We used clinical and classification data on a census of "special needs" inmates (those with behavioral health disorders) in New Jersey (n = 3189) and a census of all special needs inmates released to New Jersey communities over a 12-month period (n = 974). Virtually all adult inmates with special needs had at least 1 Axis I mental disorder, and 68% of these had at least 1 additional Axis I mental disorder, a personality disorder, or addiction problem (67% of all male and 75% of all female special needs inmates). Of those special needs inmates released, 25% returned to the most disadvantaged counties in New Jersey (27% of all male and 18% of all female special needs inmates). Two types of clustering were found: gender-specific clustering of disorders among inmates and spatial clustering of ex-offenders in impoverished communities. These findings

suggest a need for gendered treatment strategies within correctional settings and need for successful reentry strategies.

Clements-Nolle K, Marx R, Pendo M, et al. Highly active antiretroviral therapy use and HIV transmission risk behaviors among individuals who are HIV infected and were recently released from jail. American Journal of Public Health. 2008;98(4):661-666.

We evaluated highly active antiretroviral therapy (HAART) use and risk behaviors among 177 inmates who were HIV infected and were released and re-incarcerated in San Francisco, California, jails over a 12-month period. During the month preceding re-incarceration, HIV transmission risk behaviors were common among respondents, and 59% of those with a history of antiretroviral use were not taking HAART. HAART discontinuation was independently associated with homelessness, marijuana use, injection drug use, and not receiving community medical care. Post-release interventions for inmates who are HIV infected are needed.

Freudenberg N, Daniels J, Crum M, et al. Coming home from jail: The social and health consequences of community reentry for women, male adolescents, and their families and communities. American Journal of Public Health. 2005;95(10):1725-1736.

Each year, more than 10 million people enter US jails, most returning home within a few weeks. Because jails concentrate people with infectious and chronic diseases, substance abuse, and mental health problems, and reentry policies often exacerbate these problems, the experiences of people leaving jail may contribute to health inequities in the low-income communities to which they return. Our study of the experiences in the year after release of 491 adolescent males and 476 adult women returning home from New York City jails shows that both populations have low employment rates and incomes and high re-arrest rates. Few received services in jail. However, overall drug use and illegal activity declined significantly in the year after release. Post-release employment and health insurance were associated with lower re-arrest rates and drug use. Public policies on employment, drug treatment, housing, and health care often blocked successful re-entry into society from jail, suggesting the need for new policies that support successful re-entry into society.

Freudenberg N, Moseley J, Labriola M, et al. Comparison of health and social characteristics of people leaving New York City jails by age, gender, and race/ethnicity: Implications for public health interventions. Public Health Reports. 2007;122(6):733-743.

We compared health and social needs by gender, age, and race/ethnicity of people leaving New York City jails and assessed the implication of these differences for the development of jail reentry programs. Surveys were completed with 1,946 individuals (536 men, 704 women, and 706 adolescent males) between 1997 and 2004. Structured questionnaires captured data on demographic, criminal justice, substance use, and health characteristics. Bivariate comparisons were performed to determine varations between men and women, men and male adolescents, and non-Latino black and Hispanic/Latino respondents. The majority of participants were black and Hispanic/Latino, reported high levels of substance use, had high rates of recidivism, and experienced difficult living circumstances. Compared with men, women were more likely to be homeless, use illicit drugs, report drug charges at index arrest, have health problems, and be parents. Adolescent males were more likely than men to rely on illegal activities for income and to have used marijuana and alcohol recently, and were less likely to report homelessness or health problems. Ethnic/racial differences between black and Hispanic/Latino respondents within gender and age groups were smaller than differences among these groups. Jails concentrate individuals with multifaceted health and social problems, providing opportunities to engage at-risk populations in comprehensive reentry programs. Gender, age, and ethnic/racial differences among incarcerated populations require that interventions be tailored to the specific needs of these different groups.

Golembeski C, Fullilove R. Criminal (in) justice in the city and its associated health consequences. American Journal of Public Health. 2005;95(10):1701-1706.

The American system of prisons and prisoners – described by its critics as the prison-industrial complex – has grown rapidly since 1970. Increasingly punitive sentencing guidelines and the privatization of prison-related industries and services account for much of this growth. Those who enter and leave this system are increasingly black or Latino, poorly educated, lacking vocational skills, struggling with drugs and alcohol, and disabled. Few correctional facilities mitigate the educational and/or skills deficiencies of their inmates, and most inmates will return home to communities that are ill equipped to house or rehabilitate them. A more humanistic and community-centered approach to incarceration and rehabilitation may yield more beneficial results for individuals, communities, and, ultimately, society.

Grinstead OA, Zack B, Faigeles B, et al. Reducing postrelease HIV risk among male prison inmates: A peer-led intervention. Criminal Justice and Behavior. 1999;26(4):435-465.

Male prison inmates within 2 weeks of release were recruited to evaluate a prerelease HIV prevention intervention. A total of 414 inmates were randomly assigned to receive the intervention or to a comparison group. All participants completed a face-to-face survey at baseline; high rates of pre-incarceration at-risk behavior were reported. Follow-up telephone surveys were completed with 43% of participants; results support the effectiveness of the prerelease intervention. Men who received the intervention were significantly more likely to use a condom the first time they had sex after release from prison and also were less likely to have used drugs, injected drugs, or shared needles in the first 2 weeks after release from prison. Implications for the development, implementation, and evaluation of prison-based HIV prevention programs are discussed.

Hammett TM, Harmon MP, Rhodes W. The burden of infectious disease among inmates of and releasees from US correctional facilities, 1997. American Journal of Public Health. 2002;92 (11):1789-1794.

This study developed national estimates of the burden of selected infectious diseases among correctional inmates and releasees during 1997. Data from surveys, surveillance, and other reports were synthesized to develop these estimates. During 1997, 20% to 26% of all people living with HIV in the United States, 29% to 43% of all those infected with the hepatitis C virus, and 40% of all those who had tuberculosis disease in that year passed through a correctional facility. Correctional facilities are critical settings for the efficient delivery of prevention and treatment interventions for infectious diseases. Such interventions stand to benefit not only inmates, their families, and partners, but also the public health of the communities to which inmates return.

Harzke AJ, Ross MW, Scott DP. Predictors of post-release primary care utilization among HIV-positive prison inmates: A pilot study. AIDS Care. 2006;18(4):290-301.

The primary aims of this exploratory pilot study were (1) to determine the proportion of a sample of HIV-positive inmates utilizing primary care after recent release, and (2) identify variables associated with utilization of primary care at the time of a post-release interview. Sixty HIV-positive, male and female state prison inmates were interviewed approximately three months prior to release, and 30 were interviewed again between seven and 21 days after release. Variables associated with having utilized primary care at the time of a post-release interview (χ^2 p-values <0.20)

included: taking anti-HIV medications at the time of release, no alcohol use since release, living in the same place as before incarceration and rating of housing situation as 'comfortable' or 'very comfortable'. For exploratory purposes, these variables were entered into a logistic regression model. The model correctly classified 80% of cases overall. Future studies are required to ascertain whether these results would obtain with a statistically adequate sample size.

Laufer FN, Arriola KR, Dawson-Rose CS, et al. From jail to community: Innovative strategies to enhance continuity of HIV/AIDS care. The Prison Journal. 2002;82(1):84-100.

Persons of color incarcerated in prisons and jails in the United States continue to be disproportionately affected by the HIV epidemic. Several state and city departments of health have received federal funding to develop and implement or to expand innovative strategies or models of HIV prevention, case management, and discharge planning services for racial/ethnic minority inmates in correctional facilities. This article provides an overview of service models for county jails and emphasizes the need for strategies to improve the health of the inmate and the community to which he or she will return.

Morrow KM, Eldridge G, Nealey-Moore J, et al. HIV, STD, and hepatitis risk in the week following release from prison: An event-level analysis. Journal of Correctional Health Care. 2007;13(1):27-38.

Event-level analyses present data on sexual and drug-related behaviors of men, ages 18 to 29 years, in the first week after release from prison. A calendar-based recall assessment reports type of sexual event, type of partner, condom use, and co-occurrence of sex and alcohol/drug use. The authors compare men who initiated sex on the first day post release to those who initiated sex on subsequent days. Results indicate a significant amount of sexual behavior occurring on Day 1 and that Day 1 initiators accumulated significantly more sexual events. Men were more likely to use condoms for their first sexual event but not thereafter. Data indicate a need for targeted and individualized prevention programming before release from prison.

Myers J, Zack B, Kramer K, et al. Get connected: An HIV prevention case management program for men and women leaving California prisons. American Journal of Public Health. 2005;95 (10):1682-1684.

Individuals leaving prison face challenges to establishing healthy lives in the community, including opportunities to engage in behavior that puts

them at risk for HIV transmission. HIV prevention case management (PCM) can facilitate linkages to services, which in turn can help remove barriers to healthy behavior. As part of a federally funded demonstration project, the community-based organization Centerforce provided 5 months of PCM to individuals leaving 3 state prisons in California. Program effects were measured by assessing changes in risk behavior, access to services, reincarnation, and program completion. Although response rates preclude definitive conclusions, HIV risk behavior did decrease. Regardless of race, age, or gender, those receiving comprehensive health services were significantly more likely to complete the program. PCM appears to facilitate healthy behavior for individuals leaving prison.

Rich JD, Holmes L, Salas C, et al. Successful linkage of medical care and community services for HIV-positive offenders being released from prison. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2001;78(2):279-289.

Human immunodeficiency virus (HIV) infection is more prevalent among the incarcerated than the general population. For many offenders, incarceration is the only time that they may access primary care. Project Bridge is a federally funded demonstration project that provides intensive case management for HIV-positive ex-offenders being released from the Rhode Island state prison to the community. The program is based on collaboration between colocated medical and social work staff. The primary goal of the program is to increase continuity of medical care through social stabilization; it follows a harm reduction philosophy in addressing substance use. Program participants are provided with assistance in accessing a variety of medical and social services. The treatment plan may include the following: mental illness triage and referral, substance abuse assessment and treatment, appointments for HIV and other medical conditions, and referral for assistance to community programs that address basic survival needs. In the first 3 years of this program, 97 offenders were enrolled. Injection drug use was reported by 80% of those enrolled. There were 90% followed for 18 months, 7% moved out of state or died, and 3% were lost to follow-up. Reincarceration happened to 48% at least once. Of those expressing a need, 75% were linked with specialty medical care in the community, and 100% received HIV-related medical services. Of those expressing a need for substance abuse treatment, 67% were successful in keeping appointments for substance abuse treatment within the community. Project Bridge has demonstrated that it is possible to maintain HIV-positive ex-offenders in medical care through the provision of ongoing case management services following prison release. Ex-offenders will access HIV-related health care after release when given adequate support.

Scheyett A, Parker S, Golin C, et al. HIV-infected prison inmates: Depression and implications for release back to communities. AIDS and Behavior. 2008 (Epub. ahead of print).

High rates of both HIV and depression are seen in prison populations; depression has been linked to disease progression in HIV, risky behaviors, and medication nonadherence. Despite this, few studies have examined HIV-infected inmates with depression. We therefore conducted an exploratory study of a sample of HIV-infected inmates in North Carolina prisons (N = 101) to determine what proportion of this sample screened positive for depression and whether depression was associated with different pre-incarceration characteristics or post-release needs. A high proportion of HIV infected inmates (44.5%) screened positive for depression. Depressed inmates were significantly more likely have low coping self-efficacy scores (180 vs. 214), to report having had resource needs (OR = 2.91) prior to incarceration and to anticipate needing income (OR = 2.81), housing (OR = 4.07), transportation (OR = 9.15), and assistance with adherence (OR = 8.67) post-release. We conclude by discussion the implications of our findings for prison based care and effective prison release planning for HIV infected inmates.

Wolitski RJ, Project START Writing group for the Project START Study Group. Relative efficacy of a multi-session sexual risk-reduction intervention for young men released from prisons in four states. American Journal of Public Health. 2006;96(10):1854-1861.

We compared the effects of an enhanced multi-session intervention with a single-session intervention on the sexual risk behavior of young men released from prison. Young men, aged 18 to 29 years, were recruited from US prisons in 4 states and systematically assigned to the pre-release single-session intervention or the pre- and post-release enhanced intervention. Both interventions addressed HIV, hepatitis, and other sexually transmitted infections; the enhanced intervention also addressed community re-entry needs (e.g., housing employment). Assessment data were collected before intervention, and 1, 12, and 24 weeks after release. A total of 522 men were included in intent-to-treat analyses. Follow-up rates ranged from 76% to 87%. Unprotected vaginal or anal sex during the 90 days before incarceration was reported by 86% of men in the enhanced intervention and 89% in the single-session intervention (OR = 0.78; 95% CI = 0.46, 1.32). At 24 weeks, 68% of men assigned to the enhanced intervention reported unprotected vaginal or anal sex compared with 78% of those assigned to the single-session intervention (OR = 0.40; 95% CI = 0.18, 0.88). Project START demonstrated the efficacy of a sexual risk-reduction intervention that bridges incarceration and community reentry.

SEXUAL ASSAULT

Dumond RW. Confronting America's most ignored crime problem: The Prison Rape Elimination Act of 2003. The Journal of the American Academy of Psychiatry and the Law. 2003;31(3):354-360.

Prisoner sexual assault has plagued American corrections since its infancy in the 19th century. Although the incidence of prisoner sexual assault is unknown, recent studies reliably suggest the problem is widespread, often affecting the most vulnerable prisoners. The mental health and public health consequences, both within institutions and the community, are complex and devastating, requiring comprehensive intervention and treatment. These crimes have been largely ignored by correctional managers, compromising the safety and security of correctional institutions. The Prison Rape Elimination Act of 2003 could play a vital role in managing a national scandal.

Eigenberg HM. Correctional officers' definitions of rape in male prisons. Journal of Criminal Justice. 2000;28(5):435-449.

Research on rape in the community demonstrates that definitions of rape are highly situational and that the behavior of the victim is frequently used to redefine rape as consensual sexual behavior. Research on male rape in prison also suggests that the line between consensual homosexuality and rape is often blurred and that certain types of men are viewed as legitimate victims who precipitate their victimization. This study examines correctional officers' definitions of male rape in prison and explores whether a number of factors, including victim blaming, affect officers' definitions of rape.

Hensley C, Tewksbury R, Castle T. Characteristics of prison sexual assault targets in male Oklahoma correctional facilities. Journal of Interpersonal Violence. 2003;18(6):595-606.

Research on male inmate sexual assault has been quite limited in correctional literature. Even fewer of these studies have focused specifically on the characteristics of sexual assault targets. Therefore, data gathered from August 1998 to May 1999 via face-to-face interviews with 174 inmates in three male Oklahoma correctional facilities were drawn on to examine various demographic and organizational characteristics of prison sexual targets. Respondents were asked a series of questions regarding their vulnerability to threatened and/or completed forced sexual assault encounters with other inmates. Roughly 14% of the inmates reported that they had been sexually targeted by other inmates.

Kerbs JJ, Jolley JM. Inmate-on-inmate victimization among older male prisoners. Crime and Delinquency. 2007;53(2):187-218.

Research on the safety and victimization of older prisoners has been limited. This study examines quantitative and qualitative victimization data gathered from face-to-face interviews with 65 male prisoners (ages 50 and above) confined in a state-level prison system. Both victimization rates and narrative descriptions of psychological, property, physical, and sexual inmate-on-inmate episodes are presented. Content analyses suggest that younger prisoners victimize older prisoners and that a majority of older prisoners support the use of age-segregated living arrangements to prevent victimization. Future research is needed to address methodological limitations of this study and others.

Knowles GJ. Male prison rape: A search for causation and prevention. The Howard Journal. 1999;38(3):267-282.

This research utilizes a content analysis methodology to examine the issue of male rape among prison populations within the United States. The physical and psychological aspects of rape are described by professionals, victims, and aggressors. The inmate terminology related to prison rape such as Punk and Jocker are defined to show the social structure of the prison sexual subculture. Previous theories of prison rape concerning racism, power, and sexual deprivation are discussed and analysed. Racism perpetrated against white inmates by black inmates is indicated to be the single causal factor in prison rape. Both quantitative and qualitative data indicate a prevalence of predominantly black rapists and white victims nationwide for the last 40 years. The controversial issues of conjugal visits, home furlough release, or allowing homosexual behaviour in prisons are debated as possible solutions to remedy prison sexual assault. The debate concerning the issuance of condoms in prison to prevent the transmission of the AIDS or HIV virus during rape attacks is discussed. The inmate classification system is presented as one viable solution to reduce the number of prison rapes. The scheme of inmate classification is to identify violent sexual aggressors and separate them from the general non-violent prison population. The author also considers separation by racial and ethnic categories since literary evidence shows 'black racism' to be the common denominator in most prison sexual assaults and rapes of predominantaly white inmates.

Pinkerton SD, Galletly CL, Seal DW. Model-based estimates of HIV acquisition due to prison rape. The Prison Journal. 2007;87(3):295-310.

Nearly 1.4 million men are incarcerated in federal and state prisons in the United States. These men are disproportionately affected by HIV in

comparison with the at-large male population. The elevated prevalence of HIV infection in U.S. prisons has raised concerns over the potential for intraprison HIV transmission due to rape and other forms of sexual victimization. However, the number of men who acquire HIV after being raped in U.S. prisons is not known. We developed a mathematical model of HIV transmission to estimate the likelihood that an incarcerated man would become infected as a result of prison rape and to provide preliminary estimates of the number of prison rape victims who acquire HIV. Our results suggest that between 43 and 93 currently incarcerated men already have or will acquire HIV as a result of being raped in prison.

Robertson JE. Rape among incarcerated men: Sex, coercion and STDs. AIDS Patient Care and STDs. 2003;17(8):423-430.

Male inmates fear being raped most of all. Criminologists have yet to reach consensus on the prevalence of male inmate-on-inmate rape. The leading prevalence studies found that 7-12% of the responding male inmates had been raped an average of nine times. With a national jail and prison population of 2 million at mid-year 2002, the United States likely exposes tens of thousands of male inmates to rape, and consequently, to HIV/AIDS and other sexually transmitted diseases (STDs). The release of inmates from jails and prisons – estimated at 11.5 million persons in 1998 – transforms the consequences of male rape from a correctional matter into a public health crisis. The quest for dominance and control over other inmates – not sexual release – best explains male custodial rape. Prison sexual predators are typically heterosexual. Their victims, however, involuntarily assume female roles in the prison sexual system. Moreover, they experience stigmatization by inmates and staff as well as physical and mental trauma. Civil rights litigation on behalf of victims rarely succeeds and damage awards are usually small. In 2003, Congress provided $13 million for the study and prevention of rape in jails and prisons. Preventing custodial rape and treating its victims will require a sustained commitment by government.

Struckman-Johnson C, Struckman-Johnson D. A comparison of sexual coercion experiences reported by men and women in prison. Journal of Interpersonal Violence. 2008;21(12):1591-1615.

Comparisons were made between self-reports from 382 men and 51 women who had experienced sexual coercion while incarcerated. Victim data were obtained from a sample of 1,788 male inmates and 263 female inmates who responded to an anonymous written survey distributed in 10 midwestern prisons. Men reported that their perpetrators in worst-case incidents were inmates (72%), staff (8%), or inmates and staff collaborating (12%). Women reported that their perpetrators were inmates (47%) and staff (41%). Greater percentages of men (70%) than women

(29%) reported that their incident resulted in oral, vaginal, or anal sex. More men (54%) than women (28%) reported an incident that was classified as rape. Men and women were similar in feeling depression; however, more men (37%) than women (11%) reported suicidal thoughts and suicide attempts (19% for men, 4% for women). Implications of results for prevention of sexual coercion in prison are discussed.

Struckman-Johnson C, Struckman-Johnson D. Sexual coercion rates in seven midwestern prison facilities for men. The Prison Journal. 2000;80(4):379-390.

Sexual coercion rates in seven prison facilities for men in midwestern states were assessed. Anonymous written surveys were distributed to the total population of 7,032 inmates and 1,936 security staff in the facilities. Usable surveys were returned by 1,788 inmates (25%) and 475 staff (25%). Results showed that 21% of the inmates had experienced at least one episode of pressured or forced sexual contact since incarcerated in their state, and 16% reported that an incident had occurred in their current facility. At least 7% of the sample had been raped in their current facility. Seven percent of the sample had experienced sexual coercion, and at least 4% had been raped during the most recent 26 to 30 months. Factors that appeared to increase sexual coercion rates were large population size, racial conflict, barracks housing, inadequate security, and having a high percentage of inmates incarcerated for a crime against persons.

Struckman-Johnson C, Struckman-Johnson D. Sexual coercion reported by men and women in prison. The Journal of Sex Research. 1996;33(1):67-76.

An anonymous survey of 1,800 men and women in a midwestern state prison system revealed that 104 of 516 respondents (20%) had been pressured or forced at least once to have sexual contact against their will while incarcerated. Supporting the validity of this finding, a sample of staff estimated that the sexual coercion rate was 15%. The reported incident rate was 22% for male and 7% for female respondents. Based upon descriptions of worst case incidents, at least 50% of sexual targets had been forced to have intercourse (anal, vaginal, or oral), with one fourth of the cases qualifying as gang rape. Another 10% of targets were subjected to an attempt at forced intercourse. One fourth of targets reported less severe cases of forced and pressured sexual touching. Prison staff were reported as perpetrators in 18% of the incidents. Most targets rated the immediate and long-term effects of the incident as very negative. One half of the targets did not tell anyone about the incident, and only 29% reported the incident to prison authorities. We encourage social scientists to conduct research on prison sexual coercion to aid in treatment of victims, HIV management, and development of prevention strategies.

Wolff N, Blitz CL, Shi J. Rates of sexual victimization in prison for inmates with and without mental disorders. Psychiatric Services. 2007;58(8):1087-1094.

This study estimated the rates of sexual victimization among prison inmates with and without a mental disorder. The study sampled inmates aged 18 or older in 13 prisons within a single mid-Atlantic state prison system (12 facilities for men and one for women). A total of 7,528 inmates completed the survey instrument, which was administered by audio-computer-assisted technology. Of the 6,964 male respondents, 58.5% were African American, 16.2% were non-Hispanic white, 19.8% were Hispanic, and 5.5% were of another race or ethnicity. Of the 564 female respondents, 48.4% were African American, 30.9% were non-Hispanic white, 14.4% were Hispanic, and 7.3% were of another race or ethnicity. Mental disorder was based on self-reported previous mental health treatment for particular mental disorders. Sexual victimization was measured by using questions adapted from the National Violence Against Women and Men surveys. Approximately one in 12 male inmates with a mental disorder reported at least one incident of sexual victimization by another inmate over a six-month period, compared with one in 33 male inmates without a mental disorder. Among those with a mental disorder, sexual victimization was three times as high among female inmates (23.4%) as among male inmates (8.3%). African-American and Hispanic inmates with a mental disorder, independent of gender, reported higher rates of sexual victimization than their non-Hispanic white counterparts. Prisons are hazardous places. Steps must be taken to protect inmates from predators inside prison, to screen them for posttraumatic stress disorder, to provide trauma-related treatment, and to keep them safe.

Wolff N, Blitz CL, Shi J, et al. Sexual violence inside prisons: Rates of victimization. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2006;83(5):835-848.

People in prison are exposed to and experience sexual violence inside prisons, further exposing them to communicable diseases and trauma. The consequences of sexual violence follow the individual into the community upon release. This paper estimates the prevalence of sexual victimization within a state prison system. A total of 6,964 men and 564 women participated in a survey administered using audio-CASI. Weighted estimates of prevalence were constructed by gender and facility size. Rates of sexual victimization varied significantly by gender, age, perpetrator, question wording, and facility. Rates of inmate-on-inmate sexual victimization in the previous 6 months were highest for female inmates (212 per 1,000), more than four times higher than male rates (43 per 1,000). Abusive sexual conduct was more likely between inmates and

between staff and inmates than nonconsensual sexual acts. Sexual violence inside prison is an urgent public health issue needing targeted interventions to prevent and ameliorate its health and social consequences, which spatially concentrate in poor inner-city areas where these individuals ultimately return.

SEXUAL BEHAVIOR

Awofeso N. Managing homosexuality in prison: A brief review of policy options. American Jails. 2005;18(6):79-81.

A concurrent issue that has brought the dilemma of prison homosexuality to the fore is a rising hepatitis B and HIV/AIDS prevalence in most prison populations. This, coupled with a limited availability of condoms, magnifies the risk of sexual transmission of such sexually transmissible infections. Indeed, recent studies have shown that both male homosexuality and history of imprisonment were independently associated with higher odds of HIV infection. Yet, in African countries with high prevalence of HIV – such as Zimbabwe and Swaziland governments have refused to issue condoms in the belief that such practices might encourage homosexuality. One of the most difficult questions faced by custodial authorities is how to manage homosexuality in prisons, such that custodial harmony is ensured, while the concerns of interest groups are addressed. This article briefly examines the concept of prison homosexuality, and highlights policy options for addressing this issue.

Butler T, Donovan B, Levy M, et al. Sex behind the prison walls. Australian and New Zealand Journal of Public Health. 2002;26 (4):390.

In a randomly selected sample of 789 inmates, 15% of females and 5% of males reported consensual sex, while 2% overall reported non-consensual sex, within New South Wales (NSW) prisons in the past year. Awareness of sexual assaults on others was much higher, indicating a need for policies to protect prisoners. Although sex is widely believed to occur within prisons, there is a dearth of research and the issue remains taboo for many prison authorities. As part of a wide-ranging survey of the health needs of prison inmates in NSW, Australia, we asked 789 randomly selected prisoners a number of questions about sexual activity while in prison: 20(15%) of females and 34 (5%) males reported that they had engaged in consensual sex, while two (2%) and 15 (2%) respectively reported being subjected to non-consensual sex in prison. Of the 42 males involved in either type of activity, seven had engaged in both consensual and non-consensual sex. Both of the females who had engaged in non-consensual sex also reported involvement in consensual sex.

Harman JJ, Smith VE, Egan LC. The impact of incarceration on intimate relationships. Criminal Justice and Behavior. 2007;34(6): 794-815.

Although incarceration has a substantial impact on intimate relationships, little is known about how individuals cope with their separation and reunification. Incarceration also poses serious health risks for HIV infection, as rates are up to 6 times higher in the prison than the general population. A series of focus groups were conducted with individuals affected by incarceration to examine specific relationship challenges and factors that may place them at increased risk for HIV infection during and after their incarceration. Results highlight how institutional barriers and dependency lead to emotional withdrawal and disengagement from relationships. In addition, power differentials, avoidant communication strategies, and relationship instability were found to place these relationships at increased risk for HIV infection. Intervention recommendations for working with this population are discussed.

Hensley C, Tewksbury R. Inmate-to-inmate prison sexuality: A review of empirical studies. Trauma, Violence and Abuse. 2002;3(3): 226-243.

For the past 90 years, sociologists, psychologists, and penologists have been studying inmate-to-inmate prison sexuality. These researchers have made great strides in advancing the study of prison sexuality. Although many may consider the issue to be deviant, prison sex researchers have made positive contributions to the study of one of the most controversial issues in corrections. In this review, the authors seek to provide readers with an understanding of not only what researchers have uncovered about inmate sexual behavior and the dynamics of institutional sex but also how this field of inquiry has developed and evolved. The discussion that follows is divided into four primary sections, male and female inmate consensual homosexual behavior and male and female inmate coerced sexual activity.

Jafa K, Sullivan P. HIV in the Georgia state prison system. Focus: A guide to AIDS research and counseling. 2007;22(4):1-4.

The prevalence of HIV among state prison inmates in the United States is more than four times higher than prevalence in the general U.S. population. However, the full extent of HIV transmission within prisons is unknown, in part because HIV testing strategies vary across state prison systems. The Georgia Department of Corrections has mandated HIV screening of all inmates upon entry since 1988 and offers HIV testing during incarceration upon inmate request, if medically indicated, following exposure to bodily fluids, or in response to a court order. The

Department of Corrections also routinely offered voluntary HIV testing to inmates during annual physical examinations from July 2003 through June 2005.

Khan MR, Wohl DA, Weir SS, et al. Incarceration and risky sexual partnerships in a southern US city. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2007;85(1):100-113.

Incarceration is strongly associated with HIV infection and may contribute to viral transmission by disrupting stable partnerships and promoting high-risk partnerships. We investigated incarceration and STI/HIV-related partnerships among a community-based sample recruited for a sexual behavior interview while frequenting venues where people meet sexual partners in a North Carolina city (N=373). Men reporting incarceration in the past 12 months were more likely than men without recent incarceration to experience multilple new sexual partnerships (unadjusted prevalence ratio [PR] 1.8, 95% confidence interval [CI]: 1.1 – 3.1) and transactional sex defined as trading sex for money, goods, or services (unadjusted PR: 4.0, 95% CI: 2.3 – 7.1) in the past 4 weeks. Likewise, women who were ever incarcerated were more likely than never-incarcerated women to experience recent multiple new partnerships (unadjusted PR: 3.1, 95% CI: 1.8 – 5.4) and transactional sex (unadjusted PR: 5.3, 95% CI: 2.6 – 10.9). Sexual partnership in the past 12 months with someone who had ever been incarcerated versus with partners with no known incarceration history was associated with recent multiple new partnerships (men: unadjusted PR 2.0, 95% CI 1.4 – 2.9, women: unadjusted PR 4.8, 95% CI 2.3 – 10.1) and transactional sex (men: unadjusted PR 3.3, 95% CI 1.7 – 6.6, women: unadjusted PR 6.1, 95% CI 2.4 – 15.4). Adjustment for demographic and socioeconomic variables had minimal effect on estimates. However, the strong overlap between incarceration, partner incarceration, and substance abuse had substantial effects in multivariable models. Correctional-facility and community-based HIV prevention, with substance abuse treatment, should reach currently and formerly incarcerated individuals and their sexual partners.

Krebs CP. High-risk HIV transmission behavior in prison and the prison subculture. The Prison Journal. 2002;82(1):19-49.

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.

Laird LH. Myths of HIV in prison settings: Implications for policy and intervention. Journal of Correctional Health Care. 1999;6 (2):177-196.

The question of HIV management in prison has been an ongoing issue, fraught with contradictions and litigation. Policies and correctional management of inmates have stemmed from erroneous beliefs and myths regarding HIV. Inmates who have AIDS or are HIV seropositive evoke special concerns and considerations unique to correctional settings. This article defuses the myths associated with HIV, utilizing current knowledge to address issues regarding the demographics and methods of transmission, various considerations regarding mandatory testing, confidentiality, and segregation policies and health care, specifically as they relate to HIV and AIDS in prison. Alternative programs to decrease high-risk behavior are discussed. With the prevalence of AIDS rates in the inmate population exceeding that in the general population, such concerns cannot be ignored nor can policies be based on unfounded beliefs. Correctional settings house a population that is known for high-risk behavior for transmission of HIV.

Mahon N. New York inmates' HIV risk behaviors: The implications for prevention policy and programs. American Journal of Public Health. 1996;86(9):1211-1215.

The median incidence rate of acquired immunodeficiency syndrome (AIDS) among prisoners is 7 times higher than for the general population. Yet high-risk sexual activity and drug use in US correctional facilities remain unexamined. This study explores inmate perceptions of high-risk behavior in New York state prisons and New York City jails and seeks to generate hypotheses to inform policies and future research. Participants were 22 former New York state prisoners and 28 current New York City inmates. Participants attended one of six focus groups and completed an anonymous questionnaire. Audiotapes of the groups were transcribed and evaluated. A range of consensual and nonconsensual sexual activity occurs among inmates and between inmates and staff. Without official access to latex barriers, prisoners use ineffective makeshift devices, like rubber gloves and used plastic wrap, in attempts to practice safer sex. Prisoners also shoot drugs intravenously with used syringes and pieces of

pens and light bulbs. The absence of harm-reduction devices behind bars may create a greater risk of HIV transmission there than in the community. Officials should consider distributing risk-reduction devices to prisoners through anonymous methods.

Moseley K, Tewksbury R. Prevalence and predictors of HIV risk behaviors among male prison inmates. [Journal of Correctional Health Care](). 2006;12(2):132-144.

The purpose of this research is to estimate the prevalence of two high-risk behaviors (anal sex and injection drug use) in prison inmates and to identify the predictors of HIV-related risk behaviors during incarceration. Data come from a 1998 cross-sectional quantitative study at three Louisiana state prisons for men from surveys (N = 2,287) and presurvey and postsurvey focus groups. Results show that the best way to determine who will inject drugs and have anal sex in prison is to identify inmates who engaged in those behaviors before incarceration. Multivariate analysis found four statistically significant predictor variables, resulting in a small but extremely high-risk group of men who engaged in high-risk behaviors both before and during incarceration. Inmates who, during the month before incarceration, engaged in anal sex, gave sex for money, or used injection drugs and those with high knowledge of HIV transmission risks were more likely to engage in high-risk behavior in prison. Study results suggest that prevention and intervention programs may be more efficient and effective if targeted specifically to this narrowly defined risk group.

Potter RH, Tewksbury R. Sex and prisoners: Criminal justice contributions to a public health issue. [Journal of Correctional Health Care.]() 2005;11(2):171-187.

Research into sexual behaviors in correctional institutions has existed in the criminological/criminal justice literature for more than 60 years, yet little of that literature appears to be known in the public health discourse on this topic. The objective of this study was to canvass this criminological research for a public health audience. The goal was to integrate criminal justice research into public health to develop a clearer picture of the current state of empirical knowledge about sexual behavior in correctional settings. The study design took a public health approach to assess the extent of sex in correctional settings through critical review of the criminological literature. The relationships among sexual behavior, disease transmission, sexual violence, and correctional operations issues were explored with an eye toward hypothesis generation and testing. The conclusion: Partnerships between public health and criminal justice can better address issues associated with inmates' sexual behavior in correctional settings in both research and operations.

Seal DW, Margolis AD, Morrow KM, et al. Substance use and sexual behavior during incarceration among 18- to 29-year old men: prevalence and correlates. AIDS and Behavior. 2008;12(1):27-40.

An A-CASI survey of 197 men with a history of incarceration, ages 18-29, revealed that 50% and 17% of participants, respectively, had used substances or had sex while confined. Univariate regression analyses indicated that these two behaviors were correlated and both were associated with being older, having spent more years incarcerated, being sexual abused, and being involved with gangs and violence during incarceration. Multiple regression analyses showed that the likelihood of any substance use during incarceration was higher for men who were affiliated with a gang. Men were more likely to have had sex during incarceration if they reported having had a male sex partner in the community. The prevalence of sexual behavior also differed across sites. Findings document the occurrence of substance use and sexual behavior among incarcerated men, and highlight the need for continued research into the context of these behaviors.

Stephenson BL, Wohl DA, McKaig R, et al. Sexual behaviors of HIV-seropositive men and women following release from prison. International Journal of STD and AIDS. 2006;17(2):103-108.

Twenty-five percent of the US HIV-infected population is released from a prison or jail each year. As the extent of risky sexual behaviours after prison release is largely unknown, we interviewed a cohort (n = 64) of HIV-infected, recently released (mean 45 days, SD 28) prisoners about their current sexual risk behaviours. Almost half (47%, n =64) of the released prisoners reported sexual activity after release, mostly with regular partners. Although 26% (n = 27) reported engaging in unprotected sexual activity with their regular partners, none (n = 4) reported unprotected sex with their non-regular partners. Furthermore, 33% percent (n = 15) of the releasees with regular partners reported engaging in unprotected sex with HIV-seronegative partners. These results suggest that regular partners of HIV-infected prison releasees are at risk of acquiring HIV infection, and secondary risk reduction strategies are needed for HIV-infected prison releasees.

Stewart EC. The sexual health and behaviour of male prisoners: The need for research. The Howard Journal. 2007;46(1):43-59.

Sexually transmitted infections (STIs) are a major public health problem in the United Kingdom (UK) and the limited data available may suggest high prevalence rates (especially of HIV, hepatitis B and C) in the escalating male prison population. Sex, rape and injecting drug use are a

part of prison life, yet screening for STIs does not routinely take place and there are inconsistencies in the availability of condoms and other harm-reduction devices. Numerous characteristics of male prisoners (for example, social disadvantage, drug dependency, younger age, black ethnic origin, on remand), their offences (drug, sex, violent) and overcrowded prisons (for example, sharing cells, staff shortages, enforced idleness, transfers) are also considered 'high risk' from a sexual health perspective, especially the spread of STIs between prisoners and into the wider population when they are released. There is, therefore, an urgent need for research so that sexual health information and HIV/STI prevention initiatives can be successfully targeted.

Tewksbury R, West A. Research on sex in prison during the late 1980s and early 1990s. The Prison Journal. 2000;80(4):368-378.

Research on sex in prison during the late 1980s and early 1990s was relatively rare in the published literature, despite important policy and practice considerations that provided a clear need for better understandings of such issues. The research that did appear during the period focused on one or two dominant themes and almost always focused on male inmates: consequences of the HIV/AIDS epidemic and efforts to document the incidence of sex among inmates. The marginality of such research is also seen in the fact that most prison sex research in the period was produced by young scholars and individuals at small or nonacademic institutions. The need for more and broader scope research on prison sex is discussed.

SEXUALLY TRANSMITTED INFECTIONS

Broussard D, Leichliter JS, Evans A, et al. Screening adolescents in a juvenile detention center for gonorrhea and chlamydia: Prevalence and reinfection rates. The Prison Journal. 2002;82(1):8-18.

Adolescents (n = 5,558) processed through a juvenile temporary detention center were screened for gonorrhea and chlamydia. Overall, the prevalence was 5.1% for gonorrhea and 14.7% for chlamydia. Female adolescents were 3.5 and 3.3 times more likely to have gonorrhea and chlamydia, respectively, than were male adolescents. Reinfection rates for the 180 adolescents who had a sexually transmitted disease (STD) at first screening and were screened on another occasion were 10.0% for gonorrhea and 28.9% for chlamydia. Given the high STD prevalence and reinfection rates uncovered in this study, administrators at juvenile detention facilities could potentially decrease the long-term cost burden on their facilities through a screening program designed to detect STDs before the detainees experience the costly sequelae of STDs or are

released into the community to further spread the STDs. Research is also needed to devise intervention strategies that are effective in reducing risky sexual behaviors and STD morbidity in this high-risk adolescent population.

Thomas JC, Levandowski BA, Isler MR, et al. Incarceration and sexually transmitted infections: A neighborhood perspective. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2007;85(1):90-99.

The social dynamics of some communities are affected by the loss of significant numbers of people to prison and by the release of others who encounter the challenge of coping with the negative effects of the incarceration experience. The effects on communities are evident, in part, in the high rates of sexually transmitted infections (STIs) in North Carolina (NC) counties that have a high rate of incarceration. In the present study, we examined whether the same associations can be observed at the census tract level in one urban city of NC. To identify the mechanisms by which incarceration can affect the transmission of STIs, we conducted ethnographic interviews with ex-offenders and people who lost a sexual partner to prison. We found that census tract rates of incarceration were consistently associated with gonorrhea rates in the subsequent year. An increase of the percentage of census tract person-time spent in prison from 2.0% to 2.5% corresponded to a gonorrhea rate increase of 7.1 cases per 100,000 person-years. The people interviewed spoke of sexual partnership changes including those left behind finding new partners, in part for help in making financial ends meet; men having sex with men for the first time in prison; and having multiple new partners upon reentry to the community. The statistical associations and stories of the effects of incarceration on sexual relationships provide additional evidence of unintended community health consequences of high rates of incarceration.

Wolfe MI, Xu F, Patel P, et al. An outbreak of Syphilis in Alabama prisons: Correctional health policy and communicable disease control. American Journal of Public Health. 2001;91(8):1220-1225.

After syphilis outbreaks were reported at 3 Alabama State men's prisons in early 1999, we conducted an investigation to evaluate risk factors for syphilis infection and describe patterns of syphilis transmission. We reviewed medical, patient interview, and prison transfer records and documented sexual networks. Presumptive source cases were identified. Odds of exposure to unscreened jail populations and transfer from other prisons were calculated for case patients at 1 prison. Thirty-nine case patients with early syphilis were identified from 3 prisons. Recent jail exposure (odds ratio [OR] = 8.0, 95% confidence interval [CI] = 0.3,

158.7, P = .14) and prison transfer (OR = 32.0, 95% CI = 1.6, 1668.1, P < .01) were associated with being a source case patient. Probable sources of syphilis introduction into and transmission within prisons included mixing of prisoners with unscreened jail populations, transfer of infected inmates between prisons, and multiple concurrent sexual partnerships. Reducing sexual transmission of disease in correctional settings is a public health priority and will require innovative prevention strategies.