Published in final edited form as:
Health Aff (Millwood). 2014 March ; 33(3): 434–442. doi:10.1377/hlthaff.2013.1115.

Survey Finds That Many Prisons And Jails Have Room To Improve HIV Testing And Coordination Of Postrelease Treatment

Liza Solomon,
Principal associate at Abt Associates in Bethesda, Maryland

Brian T. Montague,
Assistant professor of medicine at Brown University and the Miriam Hospital, in Providence, Rhode Island

Curt G. Beckwith,
Associate professor of medicine at Brown University and the Miriam Hospital

Jacques Baillargeon,
Associate professor in the Department of Preventive Medicine and Community Health, University of Texas Medical Branch, in Galveston

Michael Costa,
Senior associate at Abt Associates in Cambridge, Massachusetts

Dora Dumont,
Senior epidemiologist at the Rhode Island Department of Health, in Providence. She was a research associate at the Miriam Hospital when this research was conducted

Irene Kuo,
Associate research professor of epidemiology and biostatistics in the School of Public Health and Health Services, the George Washington University, in Washington, D.C

Ann Kurth, and
Professor in the College of Nursing, New York University, in New York City

Josiah D. Rich
Professor of medicine and epidemiology at Brown University and director and cofounder of the Center for Prisoner Health and Human Rights, the Miriam Hospital

Liza Solomon: liza_solomon@abtassoc.com

Abstract

Early diagnosis of HIV and effective antiretroviral treatment are key elements in efforts to reduce the morbidity and mortality associated with HIV. Incarcerated populations are disproportionately affected by HIV, with the disease's prevalence among inmates estimated to be three to five times higher than among the general population. Correctional institutions offer important opportunities to test for HIV and link infected people to postrelease treatment services. To examine HIV testing and policies that help HIV-positive people obtain treatment in the community after release, we administered a survey to the medical directors of the fifty state prison systems and of forty of the largest jails in the United States. We found that 19 percent of prison systems and 35 percent of jails provide opt-out HIV testing, which is recommended by the Centers for Disease Control and

Prevention (CDC). Additionally, fewer than 20 percent of prisons and jails conform to the CDC's recommendations regarding discharge planning services for inmates transitioning to the community: making an appointment with a community health care provider, assisting with enrollment in an entitlement program, and providing a copy of the medical record and a supply of HIV medications. These findings suggest that opportunities for HIV diagnosis and linking HIV-positive inmates to community care after release are being missed in the majority of prison systems and jails.

Early diagnosis of HIV and effective antiretroviral treatment (ART) are necessary to reduce the morbidity and mortality associated with HIV. People who know that they are HIV-positive are less likely to engage in high-risk activities;[1] are able to take advantage of lifesaving treatments; and, if appropriately treated, are less likely to transmit HIV to an uninfected partner.[2] To achieve these benefits and reduce new infections, clinicians and public health authorities have encouraged a comprehensive approach of increased HIV testing and referrals to ongoing HIV treatment immediately after diagnosis.[3–5]

Background

The prevalence of HIV among people in correctional facilities is three to five times higher than among the general population, chiefly because many inmates engaged in high-risk behavior such as injection drug use or sex work before being arrested.[6] In 2006, for example, an estimated 14–16 percent of all HIV-infected people in the United States passed through a correctional facility.[6,7] This translates to approximately 150,000 incarcerated people who are living with HIV.[8] Correctional institutions offer important HIV testing and treatment opportunities for this high-risk population, a large percentage of whom had poor access to health care prior to being incarcerated.

Jails and prisons are markedly different institutions. Prisons are facilities operated by a state or the federal government that typically hold people with sentences of more than a year; however, the sentence length may vary by state.[9] Jails, in contrast, confine people who are accused of crimes and awaiting trial as well as those convicted of a crime. The maximum length-of-stay generally is not more than a year, and the median length-of-stay is estimated to be forty-eight hours.[10,11]

In the United States in 2011, 1.5 million people were in prison, and more than 700,000 were in jail. More people are in prison than in jail, but many more individuals flow through the jail system than the prison system each year.[12] The Bureau of Justice Statistics reports that in the period from June 2010 to June 2011, 735,000 individuals were confined in county and city jails. However, 11.8 million admissions occurred during the period—a difference that demonstrates the short periods of incarceration that characterize jail systems.[12]

Because of the documented benefits of early diagnosis and treatment for people infected with HIV, in 2009 the Centers for Disease Control and Prevention (CDC) released guidance on HIV testing to encourage correctional facilities to adopt more effective HIV testing and programs that link people who test positive with treatment.[13] In addition, the Health Resources and Services Administration recently funded a multisite research project to

examine the increasing role that jails could play in identifying new cases of HIV infection and engaging newly and previously diagnosed people in their care.[14] Similar programs have been funded to link people reentering the community after being released from prison to care and to retain them in care.[15]

Efforts such as these are designed to increase the capacity of jails and prisons to provide HIV testing and to use strategies that get HIV-positive inmates into treatment programs. However, in a survey in 2007–08 only twenty-four states reported providing HIV testing to all inmates at admission or during incarceration.[16]

In addition to HIV diagnosis, correctional facilities offer opportunities to provide effective and consistent HIV treatment. For people known to be infected with HIV, many prison facilities provide treatment comparable to that available in community-based clinical settings. Studies of incarcerated populations have shown that inmates areable to achieve high levels of adherence to ART while in prison[17] or jail.[18–21]

Although HIV care in correctional facilities may prove effective during incarceration, lapses in postrelease care may negate the benefits of such treatment.[22,23] Interruption in ART is associated with increased viral burden, antiretroviral resistance, and increased infectiousness.[23]

Analyses of data from the Texas prison system for the period 2004–07 found that only 5 percent of HIV-positive people filled antiretroviral prescriptions within ten days of being released from prison, and only 17 percent filled prescriptions within thirty days.[24] Other analyses of the Texas prison system data for the same period showed that only 20–35 percent of HIV-positive inmates accessed care within thirty days of being released.[25]

Studies of people leaving jails have also identified significant interruptions in antiretroviral use. For example, in a study of a California jail for the period 2001–03, 59 percent of people who had a history of antiretroviral use and had had a repeat incarceration reported discontinuing their antiretroviral medication during the month before they were reincarcerated.[26]

HIV testing practices recommended by the CDC for use in correctional facilities include the provision of routine opt-out testing at entry in all facilities (Exhibit 1). The CDC also recommended practices for linking inmates to community-based HIV care that they can access after being discharged.

Several studies have identified strategies associated with fostering better links to care after incarceration and with retention in that care. For example, one of the authors, Jacques Baillargeon, and his colleagues found that people who received assistance in completing a Texas AIDS Drug Assistance Program application before release were three times more likely to fill a prescription within ten days after being released, compared to those who did not receive such assistance [24] Other studies of incarcerated populations have demonstrated that HIV discharge planning programs are associated with former inmates' being linked to treatment one and six months after their release.[20,21]

The clinical and public health importance of continuity of HIV care following release from prison or jail is well established.[3,4,19] However, there has been no comprehensive evaluation of US prison and jail programs for HIV testing and linking people to HIV care in the community after their release.[19]

To address this important public health issue, we administered a survey to the medical directors of all fifty state prison systems and a separate survey to the medical directors of forty of the largest jails in the United States. The surveys assessed policies and practices related to programs for HIV testing and linking inmates to postrelease HIV care.

Study Data And Methods

Between February and May 2012, separate surveys were e-mailed to the medical directors of the fifty state prison systems and forty of the largest jails in the United States. Each survey consisted of sixteen questions regarding HIV testing procedures and programs that referred or linked HIV-positive inmates to community-based care after their release. The surveys also explored prison and jail testing policies for hepatitis C. (For the prison survey, see Appendix A; for the jail survey, see Appendix B.)[27] Only data on HIV are presented in this article.

An introductory e-mail message signed by the principal investigators (Liza Solomon and Curt Beckwith) described the project and included a unique link to the survey. The medical directors were informed that all responses would be reported only in the aggregate and that no individually identifiable results would be reported. Directors who did not respond to the initial e-mail were sent reminder messages once a week for up to three weeks. If they did not respond to the reminders, they were contacted by telephone and given the opportunity to complete the survey in a telephone interview.

ANALYSES

We created summary variables to represent mutually exclusive combinations of HIV testing policies and programs that linked HIV-positive inmates to community-based care after release (see Exhibit 1 for definitions of practices).

To assess the impact of testing and policies linking HIV-positive releasees to community care on the state prison populations, we calculated the numbers and proportion of prisoners who were affected by each policy. We used Department of Justice statistics for the 2011 prison population of the responding states.[28] For each question, we summed the prison populations of the responding states and used the denominator of prisoners in the states that responded to the survey to calculate the percentages of affected prisoners.

We did not calculate the proportion of affected jail inmates because our jail sample constituted a small portion of the number of jails in each state. Prison and jail samples were analyzed separately. This study was reviewed by the Institutional Review Boards of Abt Associates and the Miriam Hospital.

LIMITATIONS

Several limitations to this study must be noted. First, although the survey was sent to the medical directors of state prison systems and large jails, it is possible that these individuals might not have a full understanding of the policies in their jurisdictions.

Second, respondents provided information about the policies for HIV testing and linking HIV-positive inmates to community care after release. These policies may differ from actual practices in their facilities. In addition, we were not able to investigate inmates' perceptions of policies and practices related to HIV testing or discharge services. Those perceptions would have provided additional insight into how the policies were implemented.

Finally, because of the small sample size and self-selection of the respondents—for example, programs with fewer services may have opted not to respond—there may be a nonresponse bias. Thus, our findings might not be generalizable to all state prison systems and jails.

Study Results

HIV TESTING AND REFERRAL SERVICES IN PRISONS

Forty-three of the fifty medical directors of state prison systems (86 percent) responded to the survey. Seventy-four percent of all state prisoners were represented by the survey respondents (data not shown).

Thirty-eight of the responding prison systems (88 percent) reported providing HIV testing under certain circumstances (Exhibit 2). These circumstances included testing because state or federal law made it mandatory, testing as part of a routine policy of the prison system, and testing in response to a possible exposure to HIV in the facility.

Twenty-five of the responding prison systems (58 percent) reported that they perform routine HIV testing—a practice that affects 66 percent of the inmates in the responding prison systems (Exhibit 2). *Routine testing* is defined as testing conducted on all people not known to be infected with HIV. Routine testing may be mandatory, in which case an inmate cannot refuse to be tested, or voluntary. Voluntary testing includes opt-in testing (in which inmates are asked if they want an HIV test) and opt-out testing (in which inmates are informed that an HIV test will be performed unless they decline to have one).

Twenty-four prison systems (56 percent) reported routine testing at intake, and eight (19 percent) reported routine testing at both intake and exit, or release (Exhibit 2). No prison systems reported offering HIV tests for clinical or diagnostic reasons only; at exit only; or at intake, exit, and other times during incarceration.

Only six prison systems (14 percent) reported providing HIV testing in accordance with the CDC's recommendations (Exhibit 2). Only 13 percent of prisoners in the responding state systems are held in the systems that use these best practices.

Thirty-six of the responding prison systems (84 percent) reported that they provide each inmate being released with a list of community providers or information about community

health resources, which affects 84 percent of the inmates in the responding prison systems (Exhibit 3). The only service provided by more prison systems (forty-one, or 95 percent) is giving prisoners HIV medications when they are released.

To assess the range of discharge planning services that were provided, we created summary variables to represent an array of combinations of services provided. Twenty-four prison systems (56 percent) reported providing inmates with a list of providers and a supply of medications at release; this combination of services—which we categorized as the least comprehensive—affects 47 percent of individuals incarcerated in the responding systems (Exhibit 3). Twelve prison systems (28 percent), representing 23 percent of prisoners in the responding systems, provided what we categorized as a more comprehensive combination of services: an appointment with a community provider, a copy of the medical record, and a supply of medications.

Only eight prison systems (19 percent) reported conforming to the CDC's best practices: providing the released inmate with an appointment with a community clinician, giving the person a copy of his or her medical record and a supply of HIV medications, and enrolling him or her in an entitlement program (Exhibit 3). Ten percent of prisoners are incarcerated in state prison systems that use these best practices.

HIV TESTING AND REFERRAL SERVICES IN JAILS

All twenty-three of the responding jails reported providing HIV testing under certain circumstances, and thirteen reported that they test routinely (Exhibit 4). None of the responding jails required mandatory testing or provided routine testing at both intake and release or as a result of a clinical or diagnostic order. Only one jail reported routine testing at intake, release, and other times. However, seven of the responding jails (30 percent) reported conforming to the CDC's best practices for HIV testing.

Seventeen of the responding jails (74 percent) reported that they provide each inmate being released with a list of community providers or information about community health resources (Exhibit 5). As was the case with prisons, only one other service was more commonly provided by jails. However, in contrast to prisons, where the most frequent service provided is giving prisoners HIV medications on release, the most frequent service provided by jails is making an appointment with a community provider for the released inmate.

Thirteen jails (57 percent) reported giving released inmates a list of HIV community providers and a supply of medications; the same number of jails provided an appointment with a community health care provider and a supply of medications (Exhibit 5). Only four jails (17 percent) reported conforming to the CDC's best practices.

Discussion

This is the first study to examine the policies and practices of US prison systems and jails for HIV testing and for providing HIV-positive people being released with links to community-based HIV care. We found that the majority of responding correctional facilities

provided some degree of HIV testing. However, fewer than one-quarter of the facilities provided the full array of discharge services that might be needed to avoid disruptions in HIV clinical care when people released from incarceration reenter the community.

The period of incarceration presents an opportunity to reach people who are at high risk for HIV infection and who have limited access to health care in the community.[8,15] Many inmates are offered HIV testing for the first time during incarceration,[17,28–30] and three-quarters of HIV-positive inmates initiate treatment for HIV during incarceration.[17]

Data from multiple studies demonstrate that HIV testing programs in correctional facilities are effective in identifying previously undiagnosed HIV-positive individuals and in reengaging in their care those who had previously been diagnosed as HIV-positive.[20,31] In recognition of the importance of correctional facilities in identifying HIV-positive individuals, in 2009 the CDC recommended routine opt-out HIV testing in prisons and jails to increase both inmates' knowledge of their HIV status and rates of treatment.[13]

Our study found that although most prisons and jails currently provide some HIV testing, only 19 percent of the responding prison systems and 35 percent of the responding jails provide routine opt-out testing. Thus, the majority of facilities do not conform to current CDC recommendations.

In a study of testing policies of prisons in Washington State, researchers found that HIV testing increased from 5 percent in 2006–07 to 72 percent in 2010, when the testing policy was changed from on-request to opt-in. Testing increased to 90 percent in December 2010, when the policy was changed again, to opt-out.[32] A 2007 study of HIV testing practices in state and local correctional facilities found that 7 percent of federal and state prison facilities and no jails reported providing HIV testing.[33]

Our study suggests that substantial progress has been made in correctional HIV testing in recent years. However, jails and prisons must do more to comply with the CDC's recommendations.

MANDATORY OR VOLUNTARY HIV TESTING?

A surprising number of responding prison systems (37 percent) reported routine mandatory HIV testing for all inmates (Exhibit 2). This practice is opposed by the American Public Health Association Task Force on Correctional Health Care Standards,[34] the World Health Organization in conjunction with the United Nations Office on Drugs and Crime,[35] and the National Commission on Correctional Health Care.[36] These organizations have all issued policy recommendations supporting voluntary HIV testing and opposing mandatory or compulsory testing.

The opposition to mandatory testing is based on the belief that such testing violates a fundamental ethical principle: the basic right of an individual to make autonomous decisions. Although individual rights are not inviolable, mandatory testing should not be considered before all other noncoercive methods have been tried. Furthermore, the expected benefits of mandatory testing must be weighed against its effect on individual rights.

Extensive evidence shows that routine voluntary HIV testing—offering all inmates the opportunity to be tested—achieves satisfactory levels of HIV testing in correctional facilities. In the Washington State prison system, 90 percent of inmates who were offered voluntary testing agreed to be tested.[32] Given the efficacy of voluntary HIV testing programs in prisons and jails, the further adoption of voluntary testing may provide the best opportunity for the diagnosis and care of HIV-positive inmates, while avoiding the ethical issues associated with mandatory testing.[30,37]

DISCHARGE SERVICES FOR HIV-POSITIVE INMATES

The services provided at discharge by the responding prison systems and jails for HIV-positive people varied considerably. The majority of prisons and jails provided HIV medications to people when they were released. However, many facilities did not provide the additional services that would make the former inmate more likely to get postrelease care. Fewer than 20 percent of responding prison systems and jails reported providing discharge services that met the CDC's criteria for best practices.

Seventy percent of responding prison systems and 57 percent of responding jails provided inmates being released with an appointment with a community-based provider and a supply of HIV medications. But it might take several weeks for a former inmate to establish eligibility for state or federal Medicaid or AIDS Drug Assistance Programs. Thus, discharge services that do not include helping inmates enroll in entitlement programs on release might result in disruptions in their supply of medications.

Correctional facilities face substantial barriers to changing HIV testing policies. Concerns about the potential costs of providing medications might discourage the adoption of more expansive HIV testing programs in prisons. The annual estimated cost of highly active antiretroviral therapy (HAART), about $10,500 per patient, could put a serious drain on the already limited budgets of correctional facilities. Medication costs are even higher for patients requiring treatment for both HIV and hepatitis C.

A significant number of prisoners have been on Medicaid or eligible for the program prior to incarceration, but in most cases, Medicaid eligibility is terminated or suspended during incarceration. Only a minority of states have developed initiatives to suspend rather than terminate Medicaid during incarceration and to allow Medicaid to cover the costs of care that is provided when an inmate is hospitalized outside the correctional health care system.

MEDICAID EXPANSION UNDER THE AFFORDABLE CARE ACT

The Affordable Care Act (ACA) does not change current prohibitions against Medicaid reimbursement for health care provided within a jail or prison system. However, changes to the health care environment resulting from the ACA may result in many HIV-positive individuals' becoming eligible for Medicaid for the first time. This population will include formerly incarcerated people whose low incomes will qualify them for Medicaid.

As state Medicaid programs increasingly provide health coverage for HIV-positive people in noncorrectional settings, minimizing disruptions in their health care will become

increasingly important to the states. Thus, the Medicaid expansion may create incentives for states to improve the HIV testing and discharge services offered in correctional settings.

DIAGNOSIS OF HIV

The advent of rapid and accurate diagnostic HIV tests and the proven efficacy of HIV treatments provide enormous opportunities to improve the health of incarcerated people both in prisons and jails and following their release into the community. However, a more comprehensive approach to providing diagnostic and treatment services is needed. Specific policies that would ensure increased rates of treatment, include the adoption of the CDC guidelines for HIV testing and providing transitions to postrelease care in the community. Adoption of these guidelines alone would markedly increase the number of people receiving treatment for HIV both inside and outside the correctional system.

Additionally, an effective health care response to HIV must address the underlying mental health and substance abuse problems that result in the incarceration of so many HIV-positive people. The ACA will provide insurance coverage to large numbers of these people, and it offers the possibility of interrupting the cycle of untreated mental health and substance abuse that results in reincarceration. Programs that link HIV-positive people released from jail or prison to comprehensive substance abuse and mental health treatment will be critical to efforts to treat them.[38]

Conclusion

Despite the importance of retaining HIV-positive people in treatment, our study found that few prison systems or jails have comprehensive programs to provide and support critical treatment services for HIV-positive inmates after their release. Given the high prevalence of HIV in incarcerated populations, facilitating the continuity of care from prisons and jails to the community setting is particularly important.

Efforts to provide ongoing HIV care to people leaving correctional facilities must include more comprehensive services to ensure that the benefits of treatment obtained during incarceration, including improvements in the patient’s health and the reduced risk of transmission, are maintained following release.

Acknowledgments

This research was supported by the grants from the National Institutes of Health (NIH) (Nos. R01DA030778 and R01DA030747 and K24DA022112). The research was also supported by the infrastructure and resources provided by the Lifespan/Tufts/Brown Center for AIDS Research (Grant No. P30AI42853) and the District of Columbia Developmental Center for AIDS Research (Grant No. 5P30AI087714-02), both of which are programs funded by the NIH. The content of this article does not necessarily reflect the views or policies of the Department of Health and Human Services, the National Institute on Drug Abuse, or the National Institute of Allergy and Infectious Diseases. Responsibility for the content of this article rests solely on the authors.

NOTES

1. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. J Acquir Immune Defic Syndr. 2005; 39(4):446–53. [PubMed: 16010168]

2. Wood E, Milloy MJ, Montaner JS. HIV treatment as prevention among injection drug users. Curr Opin HIV AIDS. 2012; 7(2):151–6. [PubMed: 22227587]
3. Dieffenbach CW, Fauci AS. Universal voluntary testing and treatment for prevention of HIV transmission. JAMA. 2009; 301(22):2380–2. [PubMed: 19509386]
4. Granich RM, Gilks CF, Dye C, De Cock KM, Williams BG. Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model. Lancet. 2009; 373(9657):48–57. [PubMed: 19038438]
5. Jia Z, Mao Y, Zhang F, Ruan Y, Ma Y, Li J, et al. Antiretroviral therapy to prevent HIV transmission in sero-discordant couples in China (2003–11): a national observational cohort study. Lancet. 2013; 382(9899):1195–203. [PubMed: 23206835]
6. Spaulding AC, Seals RM, Page MJ, Brzozowski AK, Rhodes W, Hammett TM. HIV/AIDS among inmates of and releasees from US correctional facilities, 2006: declining share of epidemic but persistent public health opportunity. PLoS One. 2009; 4(11):e7558. [PubMed: 19907649]
7. Beckwith CG, Zaller ND, Fu JJ, Montague BT, Rich JD. Opportunities to diagnose, treat, and prevent HIV in the criminal justice system. J Acquir Immune Defic Syndr. 2010; 55(Suppl 1):S49–55. [PubMed: 21045600]
8. Boutwell A, Rich JD. HIV infection behind bars. Clin Infect Dis. 2004; 38(12):1761–3. [PubMed: 15227624]
9. Department of Justice, Bureau of Justice Statistics. Terms and definitions: state and federal prisoners and prison facilities [Internet]. Washington (DC): BJS; [last revised 2014 Jan 21; cited 2014 Jan 23]. Available from: http://www.bjs.gov/index.cfm?ty=tdtp&tid=13
10. Centers for Disease Control and Prevention. Assessment of sexually transmitted diseases services in city and county jails—United States, 1997. MMWR Morb Mortal Wkly Rep. 1998; 47(21):429–31. [PubMed: 9625571]
11. Spaulding AC, Perez SD, Seals RM, Hallman MA, Kavasery R, Weiss PS. Diversity of release patterns for jail detainees: implications for public health interventions. Am J Public Health. 2011; 101(Suppl 1):S347–52. [PubMed: 22039042]
12. National Research Council. Health and incarceration: a workshop summary. Washington (DC): National Academies Press; 2013.
13. Centers for Disease Control and Prevention. HIV testing implementation guidance for correctional settings. Atlanta (GA): CDC; 2009.
14. Health Resources and Services Administration. Enhancing linkages to HIV primary care and services in jail settings [Internet]. Rockville (MD): HRSA; [cited 2014 Jan 28]. Available from: http://hab.hrsa.gov/abouthab/special/carejail.html
15. Rich JD, Holmes L, Salas C, Macalino G, Davis D, Ryczek J, et al. Successful linkage of medical care and community services for HIV-positive offenders being released from prison. J Urban Health. 2001; 78(2):279–89. [PubMed: 11419581]
16. Maruschak, LM.; Beavers, R. HIV in prisons, 2007–08 [Internet]. Washington (DC): Department of Justice, Office of Justice Programs; 2009 Dec. [cited 2014 Jan 23]. Available from: http://www.bjs.gov/content/pub/pdf/hivp08.pdf
17. Altice FL, Mostashari F, Friedland GH. Trust and the acceptance of and adherence to antiretroviral therapy. J Acquir Immune Defic Syndr. 2001; 28(1):47–58. [PubMed: 11579277]
18. Westergaard RP, Kirk GD, Richesson DR, Galai N, Mehta SH. Incarceration predicts virologic failure for HIV-infected injection drug users receiving antiretroviral therapy. Clin Infect Dis. 2011; 53(7):725–31. [PubMed: 21890777]
19. Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N, et al. Prevention of HIV-1 infection with early antiretroviral therapy. N Engl J Med. 2011; 365(6):493–505. [PubMed: 21767103]
20. Spaulding AC, Booker CA, Freeman SH, Ball SW, Stein MS, Jordan AO, et al. Jails, HIV testing, and linkage to care services: an overview of the EnhanceLink initiative. AIDS Behav. 2013; 17(Suppl 2):S100–7. [PubMed: 23104017]
21. Booker CA, Flygare CT, Solomon L, Ball SW, Pustell MR, Bazerman LB, et al. Linkage to HIV care for jail detainees: findings from detention to the first 30 days after release. AIDS Behav. 2013; 17(Suppl 2):S128–36. [PubMed: 23224290]

22. Zaller N, Thurmond P, Rich JD. Limited spending: an analysis of correctional expenditures on antiretrovirals for HIV-infected prisoners. Public Health Rep. 2007; 122(1):49–54. [PubMed: 17236608]
23. Springer SA, Pesanti E, Hodges J, Macura T, Doros G, Altice FL. Effectiveness of antiretroviral therapy among HIV-infected prisoners: re-incarceration and the lack of sustained benefit after release to the community. Clin Infect Dis. 2004; 38(12):1754–60. [PubMed: 15227623]
24. Baillargeon J, Giordano TP, Rich JD, Wu ZH, Wells K, Pollock BH, et al. Accessing antiretroviral therapy following release from prison. JAMA. 2009; 301(8):848–57. [PubMed: 19244192]
25. Baillargeon JG, Giordano TP, Harzke AJ, Baillargeon G, Rich JD, Paar DP. Enrollment in outpatient care among newly released prison inmates with HIV infection. Public Health Rep. 2010; 125(Suppl 1):64–71. [PubMed: 20408389]
26. Clements-Nolle K, Marx R, Pendo M, Loughran E, Estes M, Katz M. Highly active antiretroviral therapy use and HIV transmission risk behaviors among individuals who are HIV infected and were recently released from jail. Am J Public Health. 2008; 98(4):661–6. [PubMed: 18309132]
27. To access the Appendix, click on the Appendix link in the box to the right of the article online.
28. Carson, EA.; Sabol, WJ. Prisoners in 2011 [Internet]. Washington (DC): Department of Justice, Office of Justice Programs; 2012 Dec. [cited 2014 Jan 23]. Available from: http://www.bjs.gov/content/pub/pdf/p11.pdf
29. Westergaard RP, Spaulding AC, Flanigan TP. HIV among persons incarcerated in the USA: a review of evolving concepts in testing, treatment, and linkage to community care. Curr Opin Infect Dis. 2013; 26(1):10–6. [PubMed: 23221766]
30. Desai AA, Latta ET, Spaulding A, Rich JD, Flanigan TP. The importance of routine HIV testing in the incarcerated population: the Rhode Island experience. AIDS Educ Prev. 2002; 14(5 Suppl B): 45–52. [PubMed: 12413192]
31. Rosen DL, Schoenbach VJ, Wohl DA, White BL, Stewart PW, Golin CE. An evaluation of HIV testing among inmates in the North Carolina prison system. Am J Public Health. 2009; 99(Suppl 2):S452–9. [PubMed: 19797758]
32. Centers for Disease Control and Prevention. HIV screening of male inmates during prison intake medical evaluation—Washington, 2006–2010. MMWR Morb Mortal Wkly Rep. 2011; 60(24): 811–3. [PubMed: 21697805]
33. Hammett, TM.; Kennedy, S.; Kuck, S. National survey of infectious diseases in correctional facilities: HIV and sexually transmitted diseases [Internet]. Bethesda (MD): Abt Associates; 2007 Jan 19. [cited 2014 Jan 28]. Available from: https://www.ncjrs.gov/pdffiles1/nij/grants/217736.pdf
34. American Public Health Association. Standards for health services in correctional institutions. 3. Washington (DC): APHA; 2003.
35. United Nations Office on Drugs and Crime. HIV testing and counselling in prisons and other closed settings [Internet]. New York (NY): United Nations; 2009. [cited 2014 Jan 23]. (Technical Paper). Available from: http://www.who.int/entity/hiv/pub/idu/tc_prison_tech_paper.pdf?ua=1
36. National Commission on Correctional Health Care Position Statement: administrative management of HIV in correctional institutions (2005 update). J Correct Health Care. 2005; 11:369–75.
37. Beckwith CG, Nunn A, Baucom S, Getachew A, Akinwumi A, Herdman B, et al. Rapid HIV testing in large urban jails. Am J Public Health. 2012; 102(Suppl 2):S184–6. [PubMed: 22401524]
38. Rich JD, Wakeman SE, Dickman SL. Medicine and the epidemic of incarceration in the United States. N Engl J Med. 2011; 364(22):2081–3. [PubMed: 21631319]

EXHIBIT 1

Definitions Of Recommended HIV Testing And Linkage Practices In Correctional Facilities

Practice	Definition
Best practice for HIV linkage	Appointment with community health care provider; enrollment in entitlement program; provision of copy of medical record; and provision of supply of HIV medications
Best practice for HIV testing	Includes routine HIV testing provided in all facilities; providing opt-out testing for inmates; and providing testing at intake (at least)
Clinical or diagnostic testing	Performing an HIV test for inmates with clinical signs or symptoms consistent with HIV infection
Mandatory testing	Performing an HIV test as mandated by state or federal statute (such testing is usually not subject to refusal by the inmate)
Opt-in HIV testing	Performing voluntary HIV testing at the request of the inmate
Opt-out HIV testing	Performing routine voluntary HIV testing after notifying the inmate that the test will be performed and that the inmate may decline to be tested
Routine HIV testing	Conducting HIV tests on all inmates who are not known to be HIV-positive (routine testing may be opt-in, opt-out, or mandatory)

SOURCE Adapted from Centers for Disease Control and Prevention, HIV testing implementation guidance for correctional settings (Note 13 in text).

EXHIBIT 2

HIV Testing Procedures In State Prison Systems

	Responding systems		
	Number of systems	Percent of systems	Percent of inmates affected
TESTING ACTIVITIES			
All facilities provide testing under certain circumstances	38	88	89
All facilities test routinely	25	58	66
TESTING POLICIES			
Testing is mandatory for all inmates	16	37	34
Routine testing is offered as opt-out	8	19	16
Routine testing is offered as opt-in	9	21	34
TIMING OF ROUTINE TESTING			
At intake only	24	56	59
At release only	0	0	—[a]
At intake and release	8	19	24
By clinical order only	0	0	—[a]
At intake, release, and points during incarceration	0	0	—[a]
BEST PRACTICES			
Conforms to best practices in testing[b]	6	14	13

SOURCE Authors' analysis of findings from a survey of medical directors of state prison systems.

NOTE Forty-three of the fifty directors responded to the survey.

[a] Not applicable, as no prisons reported this policy.

[b] Best practices are having routine testing in all facilities, allowing for opt-out testing, and testing at intake at least (see Note 13 in text).

EXHIBIT 3

Discharge Planning Services For HIV-Positive People Released From State Prison Systems

	Responding systems		
	Number of systems	Percent of systems	Percent of inmates affected
INDIVIDUAL PLANNING SERVICES[a]			
List of providers or information about community resources provided to releasee	36	84	84
Appointment with community provider made for releasee	33	77	68
Copy of medical record provided to releasee	19	44	47
Written prescription provided to releasee	15	35	29
Releasee enrolled in entitlement program	22	51	35
Medications provided to releasee	41	95	94
COMBINATION OF PLANNING SERVICES			
List of providers and medications provided to releasee	24	56	47
Appointment made for and medications provided to releasee	30	70	61
Appointment made for and medications provided to releasee; releasee enrolled in entitlement program	19	44	32
Appointment made for, and medical record and medications provided to, releasee	12	28	23
BEST PRACTICES			
Conforms to best practices in discharge planning[b]	8	19	10

SOURCE Authors' analysis of findings from a survey of medical directors of state prison systems.

NOTE Forty-three of the fifty directors responded to the survey.

[a] A system may offer more than one of these services.

[b] Best practices are making an appointment for the releasee, enrolling him or her in an entitlement program, and giving the releasee a copy of his or her medical record and a supply of HIV medications (see Note 13 in text).

EXHIBIT 4

HIV Testing Procedures In Jails

	Responding jails	
	Number	**Percent**
TESTING ACTIVITIES		
All facilities provide testing under certain circumstances	23	100
All facilities test routinely	13	57
Testing polices		
Testing is mandatory for all inmates	0	0
Routine testing is offered as opt-out	8	35
Routine testing is offered as opt-in	8	35
TIMING OF ROUTINE TESTING		
At intake only	1	48
At release only	0	0
At intake and release	0	0
By clinical order only	0	0
At intake, release, and points during incarceration	1	4
BEST PRACTICES		
Conforms to best practices in testing[a]	7	30

SOURCE Authors' analysis of findings from a survey of medical directors of jails.

NOTE Twenty-three of forty directors responded to the survey.

[a]Best practices are having routine testing in all facilities, allowing for opt-out testing, and testing at intake at least (see Note 13 in text).

EXHIBIT 5

Discharge Planning Services For HIV-Positive People Released From Jails

	Responding jails	
	Number	**Percent**
INDIVIDUAL PLANNING SERVICES[a]		
List of providers or information about community resources provided to releasee	17	74
Appointment with community provider made for releasee	18	78
Copy of medical record provided to releasee	7	30
Written prescription provided to releasee	10	43
Releasee enrolled in entitlement program	10	43
Medications provided to releasee	16	70
COMBINATION OF PLANNING SERVICES		
List of providers and medications provided to releasee	13	57
Appointment made for and medications provided to releasee	13	57
Appointment made for and medications provided to releasee; releasee enrolled in entitlement program	7	30
Appointment made for, and medical record and medications provided to, releasee	5	22
BEST PRACTICES		
Conforms to best practices in discharge planning[b]	4	17

SOURCE Authors' analysis of findings from a survey of medical directors of jails.

NOTE Twenty-three of forty directors responded to the survey.

[a] A system may offer more than one of these services.

[b] Best practices are making an appointment for the releasee, enrolling him or her in an entitlement program, and giving the releasee a copy of his or her medical record and a supply of HIV medications (see Note 13 in text).