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# Policies and Practices in the Delivery of HIV Services in Correctional Agencies and Facilities: Results From a Multisite Survey

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## Abstract

HIV risk is disproportionately high among incarcerated individuals. Corrections agencies have been slow to implement evidence-based guidelines and interventions for HIV prevention, testing, and treatment. The emerging field of implementation science focuses on organizational interventions to facilitate adoption and implementation of evidence-based practices. A survey of correctional agency partners from the Criminal Justice Drug Abuse Treatment Studies (CJ-DATS) revealed that HIV policies and practices in prevention, detection, and medical care varied widely, with some corrections agencies and facilities closely matching national guidelines and/or implementing evidence-based interventions. Others, principally attributed to limited resources, had numerous gaps in delivery of best HIV service practices. A brief overview is provided of a new CJ-DATS cooperative research protocol, informed by the survey findings, to test an organization-level intervention to reduce HIV service delivery gaps in corrections.

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**Introduction and Background**

Prison and jail inmates are at high risk of HIV infection, yet important gaps exist in the implementation of effective HIV services for preventing, testing for, and treating HIV. There are substantial individual and public health implications for improving the detection of unidentified infections, encouraging inmates to be tested or disclose their serostatus, and facilitating access and adherence to antiretroviral therapy (ART) medications both during and after incarceration. Studies of jail and prison populations have indicated substantial proportions of undetected infections; lack of opt out, regular, or discharge testing; and failure to use evidence-based HIV education and prevention interventions (Jürgens, Nowak, & Day, 2011; Maruschak, 2009). Stigma and discrimination against HIV in correctional settings<sup>1</sup> are barriers to encouraging and facilitating testing, self-disclosure, and access to ART (Centers for Disease Control and Prevention [CDC], 2009; Earnshaw & Chaudoir, 2009; Leukefeld et al., 2002; Roberson et al., 2009; Visser, Kershaw, Makin, & Forsyth, 2008).

Although evidence-based practices and programs (EBP) have been identified for HIV services in correctional settings (CDC, 2009; Grinstead et al., 2005; Kramer & Zack, 2009), successfully moving these practices into routine use is an enormous challenge (O'Connell et al., 2012). Improving implementation, and ultimately the sustainability, of health services and EBP require careful attention to the systems, organizational, and staff contexts within which HIV-focused services are delivered (Damschroder et al., 2009; Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Proctor et al., 2009; Taxman & Belenko, 2012). Unless organizations and staff accept the need for and value of service improvements, and the organizational climate changes to allow innovation and changes in service delivery, such improvements are not likely to be well implemented or sustained, as has been the case in substance abuse treatment (e.g., Institute of Medicine, 1998). Recent research and theory on integrating evidence-based health services into criminal justice and other settings has identified many barriers to this process and a disconnect between established standards of care, agency or regulatory policies, and the actual delivery of services to clients (Fletcher et al., 2009; Taxman & Belenko, 2012). Yet, there has been little research on the implementation of HIV services or strategies for improving implementation outcomes (especially staff perceptions of services) in correctional settings. In addition, epidemiological models of sexually transmitted diseases and other public health models suggest that health impacts are maximized by detecting and reducing infections within high-risk groups and increasing the use of evidence-based prevention and treatment services with these individuals (Anderson, 1991; Aral, 2002; Blanchard, 2002; Tucker & Roth, 2006).

To study implementation and process improvement interventions to enhance adoption of EBP in corrections (i.e., prisons and jails), the National Institute on Drug Abuse (NIDA) established the Criminal Justice Drug Abuse Treatment Studies Phase 2 (CJ-DATS) as a cooperative research program. The cooperative is developing and testing organization-level models that integrate public health and public safety approaches for inmates and persons on probation with substance abuse disorders. One of the three study protocols is focused on improving delivery of evidence-based HIV services in state and local correctional agencies. The research is being carried out in prisons and jails in collaboration with nine research centers, correctional agencies, HIV service providers, and NIDA.

With the dual goals of understanding current practices and gaps in HIV service delivery in correctional settings and using this information to develop the study protocol, a survey was conducted with corrections agencies and specific prison or jail facilities within those agencies about their HIV services and policies. To provide a context for these findings, we first present an overview of HIV prevalence, prevention, testing, and treatment among inmates. Then, we briefly describe

existing studies on implementation of evidence-based HIV services, particularly in the correctional environment. We then describe the survey methods, results, and implications for correctional HIV policies and practices. The article concludes with a brief overview of a new research protocol testing an organizational intervention to improve HIV services delivery in correctional agencies.

HIV prevalence among inmates is approximately 4 times that of the general U.S. population; an estimated 14% of people with HIV are released from a correctional facility annually (Spaulding et al., 2009). Overall, an estimated 1.5% of male and 2.0% of female state prison inmates were HIV positive or had confirmed AIDS in 2008 (Maruschak, 2009). This elevated risk also extends to offenders under community corrections supervision (Belenko, Langley, Crimmins, & Chaple, 2004; Martin, O'Connell, Inciardi, Beard, & Surratt, 2004). This high HIV prevalence is not surprising, given the high proportion of inmates with a history of injection drug use, sex trade work, risky sexual behaviors, or other sexually transmitted infections (Inciardi et al., 2007; Taxman & Ressler, 2010).

The CDC and other researchers have noted a number of important gaps in implementation of effective HIV services for inmates at risk of or infected with HIV, including primary and secondary prevention, routine testing and counseling, and uninterrupted access to ART in prison and after release to the community. Improving detection of unidentified HIV infections, encouraging inmates to be tested or disclose their serostatus and/or be treated while incarcerated, and facilitating access to ART linked to community care after release have substantial public health implications. This is underscored by studies of correctional populations that have found substantial proportions of undetected infections, no opt-out or regular testing, and lack of discharge testing as well as limited use of evidence-based education and prevention interventions (Maruschak, 2009). MacGowan and colleagues (2009) found that 42% of jail inmates newly diagnosed with HIV did not report HIV risk behavior (suggesting possible underreporting and/or lack of risk awareness).

To address these concerns, the CDC (2009) recommends a continuum of HIV services in correctional facilities including prevention, regular testing, treatment, and transitional services to improve access to treatment after return to the community. For an effective HIV services continuum, all components (prevention, testing, and treatment) need to be in place, be well implemented, adhere to CDC or similar public health best practices and guidelines, and be integrated with each other (O'Connell et al., 2012). As described below, the implementation of all these components in U.S. correctional facilities appears to be uneven at best.

### *HIV Services in Corrections: Existing Practice*

**Prevention.** National surveys indicate that correctional HIV prevention services include substance use treatment, HIV testing, educational classes and videos, and HIV risk counseling (Hammett, Harmon, & Maruschak, 1999). But many prison and jail facilities may still lack effective and evidence-based HIV prevention programs, such as peer-led, skills-based, or bilingual services (Hammett, 2006). Most corrections programs adapt education and prevention programs directly from community programs, which may not be an appropriate or effective approach (Copenhaver, Chowdhury, & Altice, 2009; Copenhaver et al., 2011). Despite the high HIV risk, there are few evidence-based prevention interventions specifically developed for inmates. One exception is Project START, a multisession, individual-focused prevention intervention specifically designed for inmates being released from prison, and found to significantly reduce unprotected sex compared to those receiving a single-session educational intervention (Wolitski & the Project START Writing Group, 2006). To date, Project START is the only correctional intervention recognized as evidence based by the CDC Diffusion of Effective Behavioral Interventions program (Solomon, Card, & Malow, 2006).

**Testing.** HIV testing combined with counseling has been found to significantly decrease HIV risk behavior and is an important component of prevention (CDC, 2009). Knowing one's HIV-positive status decreases HIV transmission risk through a combination of behavior change and treatment leading to a decrease in HIV viral load. The CDC recommends that HIV testing be offered to every inmate and performed unless the inmate declines the test ("opt-out" HIV testing), yet fewer than half of state prison systems have this policy (Maruschak, 2009). Such testing protocols are cost effective (CDC, 2009) and have the potential to identify many more individuals with HIV. Opt-out protocols can increase HIV testing in prison relative to testing in the community (CDC, 2009) and make testing normative for this population.

There are several obstacles to universal testing in corrections, including cost, time commitment for staff, release of jail inmates before test results are available, and duplicate testing due to high recidivism. Some facilities may limit testing because an increase in identified HIV infections may greatly increase medical costs for HIV care; once an HIV infection is identified, correctional facilities are constitutionally mandated to make ART available when medically indicated, under previous Supreme Court decisions requiring that inmates receive appropriate care for serious medical conditions (*Estelle v. Gamble*, 1976). A Rhode Island study found that 28% of HIV infections among jail inmates were undiagnosed at admission, and the inmate denied having an HIV infection (Begier et al., 2010). Most inmates in this study also denied engaging in HIV risk behaviors. A study in Kentucky found that half of the inmates testing positive for HIV were unaware that they were infected (Leukefeld et al., 2002). Finally, stigma and discrimination are barriers to expanding and improving HIV services as inmates do not want their status known to staff or other inmates (Earnshaw & Chaudoir, 2009; Leukefeld et al., 2002; Visser et al., 2008).

**Treatment.** Depending on the stage of the infection, viral load, and other factors, not all inmates diagnosed with HIV require immediate initiation of ART, but all should have appropriate screening and regular laboratory testing for viral load and CD4 counts. Challenges specific to correctional agencies include concerns over loss of confidentiality because HIV-infected inmates may be transported to special housing units, be seen by a specific medical team, or have their HIV status easily identified through other mechanisms (Earnshaw & Chaudoir, 2009; Roberson et al., 2009). Protocols for dispensing medications may also be a barrier for optimal treatment if patients have to wait in long lines or if other inmates are able to observe which medications are dispensed and therefore can identify which inmates have HIV. Inmate transfers to different facilities, a common occurrence, may also lead to ART interruptions.

**Community Transition.** Thousands of HIV-positive inmates are released from prisons and jails each year (National Commission on Correctional Health Care, 2002). For HIV-infected inmates leaving prison, continuity of HIV care is only part of community reentry (Rich et al., 2011). Most returning inmates face numerous reintegration challenges, including financial burdens and disorganized lifestyles, such as homelessness, poverty, mental illness, substance abuse, lack of medical coverage, unemployment, inadequate social support, and physical health issues (Baillargeon et al., 2009; Harzke, Ross, & Scott, 2006; Keuroghlian et al., 2011; Mellins, Kang, Leu, Havens, & Chesney, 2003; Springer, Azar, & Altice, 2011). These challenges often present conflicting demands, and priorities often shift depending on immediate needs. HIV care can drop to a lower priority if other needs are perceived as being of higher priority, potentially resulting in missed appointments and/or suboptimal HIV medication adherence (Ciambrone et al., 2006).

The transition from incarceration to the community is a critical time for treatment of HIV and reduction of HIV transmission risk (Copenhaver et al., 2009). Individuals at high risk of a new infection need continued drug treatment and access to HIV testing. Ex-inmates with HIV who are on ART or in need of medication need immediate linkage with medical services to prevent interruption of

medication and allow monitoring. There often are gaps in access to medications after release because many correctional facilities provide only a very limited supply of medication at release, there are delays in obtaining Medicaid or getting placed in an AIDS Drug Assistance Program (ADAP), and inmates often fail to adhere to their treatment regimens after release. Baillargeon and colleagues (2009) found that only 30% of HIV-infected inmates in Texas who had received ART in prison and were discharged with a 10-day medications supply filled their prescriptions within 60 days, and 94% of those who filled their prescriptions had at least one interruption in medications. Coupled with the fact that only 55% of HIV-infected inmates received ART while in prison, gaps in medical care for seropositive inmates are substantial. Medication interruptions are associated with the development of drug-resistant strains of HIV, decreased medication effectiveness, and elevation in viral load, which increases the risk of HIV transmission (Deloria-Knoll et al., 2004; Mannheimer, Friedland, Matts, Child, & Chesney, 2002; Paterson et al., 2000). Multiple studies have shown that intensive release planning with inmates nearing community reentry leads to fewer interruptions in HIV-focused treatment (Rich et al., 2001).

### *Implementation Science and HIV Services in Correctional Settings*

Research and practice in health services suggests that effectively improving the delivery of HIV services in corrections involves systematic, organization-level interventions incorporating principles of organizational change and implementation science. Prior national surveys have indicated numerous gaps in HIV services delivery, but the reasons for this have not been systematically examined. Improving implementation of HIV services and expanding use of EBP require consideration of the organizational and systems contexts in which these services are embedded and adaptation of successful implementation and organizational change strategies from other settings. Recent research and conceptual development indicates that improving the implementation and sustainability of EBP requires careful attention to systems, organizational, and staff factors and contexts (Aarons, Hurlburt, & McCue Horwitz, 2011; Damschroder et al., 2009; Fixsen et al., 2005; Ford, Krahn, Wise, & Anderson, 2011; Greenhalgh et al., 2004; Looney, Shaw, & Crabtree, 2011; Proctor et al., 2009; Taxman & Belenko, 2012).

Further, to improve public health, evidence-based interventions should be implemented in settings with large high-risk populations such as jails and prisons, in cooperation with HIV service providers. Too often, evidence-based interventions are not implemented within routine care contexts (Guydish, Tajima, Manser, & Jessup, 2007; McCarty, Edmundson, & Hartnett, 2006; Roman, Ducharme, & Knudsen, 2006; Roman & Johnson, 2002; Sorenson, Guydish, Rawson, & Zweben, 2003). It can take 15 to 20 years before EBP implementation occurs (Boren & Balas, 1999), even when state or agency directives mandate or support implementation (Chriqui, Terry-McElrath, McBride, & Eidson, 2008; McLellan, Kemp, Brooks, & Carise, 2008; Rieckmann, Bergmann, & Rasplica, 2011). The need for implementation science research in correctional agencies is particularly acute, with only one national study of health service delivery in those settings (Taxman, Perdoni, & Harrison, 2007), which excluded HIV services.

Known challenges to implementing HIV services in correctional settings include inadequate communication among staff (e.g., funding agencies, HIV service providers, and correctional agencies), differing scientific approaches across disciplines, limited generalizability (Schackman, 2010), and lack of mission alignment between public safety and public health agencies (Chandler, Fletcher, & Volkow, 2009; Taxman & Ressler, 2010). The interorganizational model in the NIDA CJ-DATS cooperative, however, involves partnerships with academic researchers and practitioner organizations with the goal to develop insights from implementation science that can be used to overcome such challenges.

There is limited systematic research on HIV services implementation in corrections. Most implementation research uses case studies or use nonrepresentative samples, limiting generalizability

across organizational contexts (Klein, Conn, & Sorra, 2001). Effective implementation requires organization- and individual-level behavior change (Fixsen et al., 2005; Klein & Sorra, 1996). There are a number of implementation models (Aarons et al., 2011; Fixsen et al., 2005; Klein et al., 2001; Mendel, Meredith, Schoenbaum, Sherbourne, & Wells, 2008; Proctor et al., 2009; Simpson & Flynn, 2007; see Taxman & Belenko, 2012, for a review). The conceptual model of Proctor et al. (2009) guided the present study, called *HIV Services and Treatment Implementation in Corrections (HIV-STIC)*. That conceptual model distinguishes among intervention strategies, implementation strategies, and three levels of outcomes, including implementation, service, and client outcomes.

CJ-DATS represents NIDA's first major initiative using an implementation science approach. The cooperative is studying how correctional organizations and related public health providers implement EBP to improve treatment quality for drug-involved offenders in the areas of assessment, medication-assisted treatment, and HIV services. At the center of CJ-DATS implementation research is organizational change, which ideally will promote the integration of EBP into usual routine care in correctional settings.

In summary, delivering evidence-based HIV services can potentially enhance public health while improving the quality of life for inmates as they reenter their communities. However, organizational decisions to implement EBP are influenced by a complex array of factors. Adoption is a necessary first step to improve the quality of the HIV service continuum for released inmates, but implementation research is needed to understand how to expand access to these services. The first stage in this effort was a multisite survey of correctional agencies and facilities participating in CJ-DATS. This survey was designed to document current policies and practices in HIV service delivery and to identify gaps in service implementation that will be addressed in the HIV-STIC study. This article reports on key findings from that survey.

## Method

### Sample

To establish a baseline of policies and practices in HIV education and prevention, testing, and treatment linkage to the community, survey data were collected from state (prison) and local (jail) corrections agencies that were partners with the nine CJ-DATS research centers and from individual prison or jail facilities within these agencies identified as possible research sites for the HIV-STIC study. Between September 13, 2009, and March 9, 2010, surveys were completed by agency administrators (e.g., medical director, chief of clinical services, director of infection control) in nine state departments of correction and two county sheriff's departments who were knowledgeable about HIV services in their agencies. The agencies were located in diverse geographic regions in the United States and in states with large, medium, and low populations and varying HIV prevalence. Surveys were also administered to 37 staff (e.g., HIV counselor, health care unit administrator, institutional health authority) located at 23 prisons and 14 jails within these agencies. Except for job title, no other sociodemographic data were collected on agency administrators and facility staff respondents. The surveys were self-administered and returned by email or regular mail, and survey forms and study procedures were approved by all CJ-DATS research centers' institutional review boards.

### Surveys

Two survey instruments were developed. The agency administrator survey included 17 questions (both fixed and open format). The first set of questions elicited information about HIV epidemiology across the entire inmate population in the agency. Respondents were asked to provide the results of the most recent seroprevalence study or, if none had been conducted recently, an estimate of the HIV



prevalence rate separately for males and females, and to report how many HIV-infected inmates are released annually from the entire prison or jail system. Other items asked whether the agency had written policies or procedures covering HIV testing of inmates, HIV medical care, and the provision of a supply of ART medications upon release from custody. Respondents were asked whether HIV testing was mandatory or voluntary, whether specific types of inmates were targeted for testing, and how and when testing was done and by whom. Administrators were also asked to describe the written policies and practices used for prerelease planning for HIV-infected inmates and HIV education and prevention services while in custody. The survey concluded with open-ended questions asking about perceived and real barriers to improving the implementation of the HIV services continuum within their agencies and whether and how they felt these barriers could be overcome.

The facility staff survey collected information on policies and practices related to HIV services. In addition to asking whether specific services (i.e., education and prevention, testing, care, and continuing care in the community) were available, we asked respondents to describe how services were delivered. For example, respondents were asked to describe specific testing practices (e.g., “testing is done at intake/admission to the facility,” “testing is done for high-risk groups,” “testing is done using an FDA or CDC approved protocol”), type of test used (e.g., blood, rapid test, HIV-1 urine enzyme immunoassay), who administered the test (e.g., nurse, phlebotomist, specially trained technician), and whether and how HIV pretest and posttest counseling was provided. Other items asked about the types of services (e.g., case management, periodic testing of viral load, counseling/support groups, ART) provided to HIV-infected inmates, and types of prerelease planning for HIV-infected inmates, including who was responsible for developing a plan, the types of services referred to, and procedures for minimizing lapses in ART when transitioning to the community. Staff were asked what types of HIV education and prevention services were provided (e.g., peer counseling, instructor-led, pamphlets and brochures), whether a specific curriculum was used, and who provided these services. Finally, as with the agency administrators, facility staff were asked to describe barriers to improving HIV services and whether and how these barriers could be overcome.

### *Analytic Plan*

The current study focuses on policies and practices in the HIV services continuum for agencies and facilities, so only descriptive data are presented. Frequencies and percentages within the different HIV services areas are presented: testing, HIV care in custody and in the community, and education and prevention. Because some items were not relevant to or answered by each respondent (e.g., facilities that did not test inmates for HIV were excluded from other questions about HIV testing), the numbers of respondents are included for reference purposes. For key aspects of HIV services delivery, the concordance of responses was analyzed between state corrections agencies and individual prison facilities within that state.

## **Results**

### *HIV Testing Policies and Practices*

All 11 agencies reported conducting inmate HIV testing, but 5 of the 37 surveyed facilities within those agencies (13.5%) reported not conducting HIV testing (Table 1). A majority of agencies (63.6%,  $n = 7$ ) and facilities (87.5%,  $n = 28$ ) reported that they had written policies that guided their HIV testing practices. Regardless of the existence of written policy, the most common HIV testing policy was opt in (i.e., testing for HIV only upon inmate request), reported by 5 agencies (45.5%) and 29 facilities (93.5%). Three agencies and six facilities used opt-out HIV testing (i.e., mandatory and routine); only two agencies and two facilities reported using risk-based testing. A majority of



**Table 1.** HIV Testing Policies and Practices.

Policy or Practice	Number of Agencies Responding	% of Agencies	Number of Facilities Responding	% of Facilities
Written policy guides HIV testing <sup>a</sup>	11	63.6	32	87.5
HIV testing policy/practice <sup>b,c</sup>				
Opt in	11	45.5	31	93.5
Opt out	11	27.3	31	19.4
Risk based	11	18.2	31	6.5
No test policy	11	9.1	31	3.3
Timing/frequency of HIV testing <sup>a,c</sup>				
Testing is done at facility intake	n/a	n/a	32	34.4
Testing is done at regular intervals	n/a	n/a	32	9.4
Testing is done at facility discharge	n/a	n/a	32	18.8
Testing is done following incident (e.g., assault)	n/a	n/a	32	75.0
Testing is done on a random sample of inmates	n/a	n/a	32	0.0
Testing is done using <sup>a</sup>				
CDC-approved protocol	n/a	n/a	32	34.4
FDA-approved protocol	n/a	n/a	32	9.4
Testing technology <sup>a,c</sup>				
Blood test	n/a	n/a	32	84.4
Rapid test (saliva) or oral fluid test	n/a	n/a	32	15.7
Rapid test (finger stick)	n/a	n/a	32	6.3
HIV-1 urine EIA	n/a	n/a	32	3.1
Perceived barriers to increasing HIV testing <sup>d</sup>				
None	10	20.0	30	26.7
Resources	10	30.0	30	33.3
Legal/policy	10	20.0	30	10.0
Procedural	10	50.0	30	16.7
Confidentiality	10	30.0	30	3.3

Note. CDC = Centers for Disease Control and Prevention; FDA = Food and Drug Administration; EIA = enzyme immunoassay.

n/a: Question not asked on that survey.

<sup>a</sup>Percentages based on facilities that conducted HIV testing ( $n = 32$ ).

<sup>b</sup>Data were missing from one facility ( $n = 31$ ).

<sup>c</sup>Multiple responses were allowed so the total percentage exceeds 100.

<sup>d</sup>One agency and seven facilities did not respond to this question.

facilities (75%) conduct HIV testing following a specific incident with potential HIV transmission risk such as an assault.

Testing practices at individual facilities generally did not adhere to CDC guidelines for regular and discharge testing (CDC, 2009). Of the 32 facilities that did HIV testing, about one third (34.4%) tested inmates at intake and 18.8% tested at facility discharge. Only 9.4% indicated testing the inmate at regular intervals during his or her stay in the facility, and none tested random samples of inmates. Only about one third of facilities reported using a CDC-approved protocol for HIV testing. By far the most common HIV testing method was via a blood test (84.4% of facilities), with relatively few facilities reporting use of rapid HIV testing.

Finally, the majority of agencies (80%) and facilities (73.3%) reported at least one barrier to increasing inmate testing. Among facilities, the most common barrier cited was resources, while among agencies the most common barriers were procedural including not being able to test until defendants held in pretrial detention in jails were convicted, inconsistency in identifying high-risk inmates, security, and training needs. There were some similarities among agency and facility respondents in perceived barriers to increasing HIV testing. For example, a similar proportion of

**Table 2.** HIV Education and Prevention Policies and Practices.

Policy or Practice	Number of Agencies Responding	% of Agencies	Number of Facilities Responding	% of Facilities
Routinely provide HIV education and prevention services	11	100.0	36	55.6
Brochures and other printed materials <sup>a</sup>	11	81.8	20	90.0
Videos or other audiovisual material <sup>a</sup>	11	63.6	20	55.0
Instructor-led group-based prevention program <sup>a</sup>	11	81.8	20	45.0
Individual-based prevention program <sup>a</sup>	11	72.7	20	50.0
Peer-counseling prevention program <sup>a</sup>	10	40.0	20	15.0
Bilingual education or prevention services <sup>a</sup>	9	44.4	20	50.0
HIV services are conducted as/by <sup>a</sup>				
Part of a broader program	10	60.0	n/a	n/a
A separate program	9	44.4	n/a	n/a
Facility staff	n/a	n/a	20	90.0
Staff from community-based agencies	n/a	n/a	20	15.0
Peer-to-peer interactions	n/a	n/a	20	10.0
Estimated proportion of inmates who receive HIV services <sup>b</sup>				
1–25%	n/a	n/a	16	56.2
26–50%	n/a	n/a	16	0.0
51–75%	n/a	n/a	16	12.5
76–100%	n/a	n/a	16	31.3

Note. n/a: Question not asked on that survey.

<sup>a</sup>Percentages based on the 20 facilities reporting that they provided HIV education and prevention services.

<sup>b</sup>Data were available from 16 of the 20 facilities that routinely provided HIV education and prevention services.

each (20% vs. 26.7%) reported no barriers. Lack of resources was also noted by similar proportions of agency and facility administrators. Differences in perceived barriers were also evident. The need to change laws or policies (e.g., pass a law eliminating need for written consent, need to adopt opt-out rather than opt-in testing policy) was noted by more agency administrators, and a greater proportion of agency administrators also noted procedural barriers.

### *HIV Education and Prevention Policies and Practices*

All 11 agencies reported routinely providing HIV education and prevention (Table 2). Only 55.6% of the 36 responding facilities, however, reported routinely providing these services. A majority of both agencies and facilities disseminate HIV prevention information via print or visual media (e.g., brochures, videos). Although most agencies also reported using instructor-led (81.8%,  $n = 9$ ) or individual-based (72.7%,  $n = 8$ ) prevention, this policy was not reflected in the facilities; only about half of the facilities reported using these service models. Peer-based programs were the least frequently used HIV education and prevention type (40% of agencies,  $n = 4$ , and 15% of facilities,  $n = 3$ ).

Among the 20 facilities providing HIV education and prevention, 90% used facility staff. Only three facilities used staff from community agencies and only two used peer-to-peer interactions. Finally, among the 16 facilities reporting the proportion of inmates receiving prevention services, more than half estimated that only 1% to 25% of inmates receive such services; only 31.3% (five facilities) estimated that 76% to 100% of inmates receive prevention services.

### ***Policies and Practices for Care and Continuing Care of HIV Infected Inmates***

Most responding agencies (81.8%,  $n = 9$ ) and facilities (74.3% of the 35 facilities providing data) reported having a written policy to guide the care of HIV-infected inmates (Table 3). Most agencies also reported having policies regarding prerelease planning for postrelease care ( $n = 8$ ) and the continuation of ART following release from custody ( $n = 9$ ). With respect to written policies for HIV care, prerelease planning for postrelease care, and continuation of ART, seven agencies had written policies for all three types of this care, two had policies for at least two types of care, one agency had a written policy for one type, and one agency had no written policies for any of these types of care.

Of the 37 facilities that responded to this question, 34 (92%) reported providing HIV-infected inmates with ART. Most (78%) of these 37 facilities also provided HIV-infected inmates with referrals to HIV health care specialists while incarcerated, periodic testing of viral loads and CD4 count, and mental health treatment if indicated. Slightly over half of the facilities provide substance abuse counseling or counseling/support groups that were specific to HIV-infected inmates. Only 40% of the facilities, however, provided any form of case management to HIV-infected inmates (in custody or from external agencies). Excluding ART services, 5 facilities provided all 7 types of services, 3 facilities provided 6 types of services, 7 provided 5 types of services, 11 provided 4 types, and 10 provided 3 or fewer types. One facility indicated it did not provide any of these types of services.

Routine prerelease discharge planning for HIV-infected inmates was provided by about two thirds ( $n = 21$ ) of facilities. Among these, nearly all (90.5%) reported providing referrals to HIV health care providers for ART or other medical care (85.7%). Other types of referral assistance were common (e.g., applying for public insurance, mental health or substance abuse treatment, community HIV prevention services). Only 57.1% of facilities providing prerelease planning information, however, reported making housing referrals. The least common service provided was partner notification (19% of the facilities conducting routine prerelease planning).

Finally, 10 agencies and 27 facilities responded to a question about the procedures for ensuring continued access to ART after release from custody. The responses indicated substantial gaps in ART continuity for released HIV-infected inmates. Only about half the responding agencies and facilities discharge inmates with a supply of ART medications and/or link them with community-based resources (e.g., making appointments for medical care, handing off to a discharge planner from a contracted health provider, arranging meetings with case managers). Only 14.8% of facilities provided referrals to ADAP. For agencies providing a transitional supply of medications at discharge, the amount varied from 3 to 30 days.

### ***Concordance Between Agency and Facility Responses***

Focusing on responses from the state departments of correction and prison facility respondents within those states, comparisons of agency and facility responses to items in both surveys showed low concordance in several states. For example, in five states that indicated having a written policy guiding ART distribution, at least one of the correctional facilities indicated it did not have such a written policy. In two states reporting no written policy for HIV testing of inmates, at least one facility contradicted this by indicating it had such a written policy. Analysis of the HIV education/prevention data showed that in three states, at least one facility gave an answer that was incongruent with the agency response that HIV education or prevention services were regularly provided through group sessions. Two states that indicated HIV education or prevention was provided through individual counseling were contradicted by at least one facility respondent indicating individual counseling was not provided at that institution. This also was true for peer HIV education; however, it is interesting that in one other state the facilities used peer counseling when the agency administrator indicated this was not used. Finally, one state indicated that bilingual HIV education was regularly

**Table 3.** Policies and Practices for Care of Inmates Infected With HIV.

Policy or Practice	Number of Agencies Responding	% of Agencies	Number of Facilities Responding	% of Facilities
Written policy for providing care to HIV infected while in agency/facility	11	81.8	35	74.3
Written policy for prerelease planning for postrelease care	11	72.7	n/a	n/a
Written policy for providing supply of ARV upon prison release	11	81.8	n/a	n/a
Services provided to HIV infected while in facility				
ART medication	n/a	n/a	37	92.0
Case management from DOC case manager	n/a	n/a	37	27.0
Case management from external agencies	n/a	n/a	37	21.6
Referral to HIV health care specialist	n/a	n/a	37	78.4
Periodic testing of viral load and CD4 count	n/a	n/a	37	78.4
Counseling/support groups to reduce risk of infecting others	n/a	n/a	37	51.4
Other secondary services to reduce risk of infecting others	n/a	n/a	37	16.2
Substance abuse treatment if indicated	n/a	n/a	37	54.1
Mental health treatment if indicated	n/a	n/a	37	78.4
Routine prerelease discharge planning for HIV infected <sup>a</sup>	n/a	n/a	31	67.7
Referral to HIV health care provider for ARV medication <sup>b</sup>	n/a	n/a	21	90.5
Referral to other medical care if indicated <sup>b</sup>	n/a	n/a	21	85.7
Referral to community-based HIV prevention services <sup>b</sup>	n/a	n/a	21	66.7
Referral to substance abuse treatment <sup>b</sup>	n/a	n/a	21	66.7
Referral to mental health counseling <sup>b</sup>	n/a	n/a	21	76.2
Assistance in applying for public insurance (e.g., Medicaid) <sup>b</sup>	n/a	n/a	21	80.9
Referral to AIDS Drug Assistance Programs <sup>b</sup>	n/a	n/a	21	57.1
Community-based case management <sup>b</sup>	n/a	n/a	21	61.9
Partner notification <sup>b</sup>	n/a	n/a	21	19.0
Referral to housing <sup>b</sup>	n/a	n/a	21	57.1
Procedure for ensuring continued access to ARV medications after release <sup>c</sup>				
Discharged with a supply of ARV medications	10	50.0	27	48.1
Given information/referral to community programs	10	30.0	27	29.6
Linkage mechanism (e.g., "hand off" to community provider)	10	60.0	27	48.1
Help connect to public assistance (e.g., ADAP)	10	30.0	27	14.8

Note. ADAP = AIDS Drug Assistance Program; ART = antiretroviral drug therapy; DOC: Department of Corrections. n/a: Question not asked on that survey.

<sup>a</sup>Data were missing for six facilities for this question ( $n = 31$ ).

<sup>b</sup>Percentages based on the 21 programs that indicated routinely providing prerelease discharge planning.

<sup>c</sup>One agency and 10 facilities did not respond to this question.

provided but none of the responding facilities reported having this. Conversely, one state indicated that bilingual HIV education was not regularly provided; however, two facilities in this state indicated that it was regularly given.

## **Discussion**

A multisite survey of HIV prevalence, policies, and practices among the correctional agency partners of the CJ-DATS cooperative revealed wide variation in HIV prevention, detection, and medical care. Responses from some correctional agencies and facilities suggested adherence to national guidelines and/or implementing EBP with their caseload, but in other agencies there were significant gaps. There was marked variation in HIV testing practices regardless of the written policy reported to be in place. The typical HIV testing policy was opt in, contrary to CDC recommendations and consistent with data from a prior national study on HIV testing (Maruschak, 2009). Further, in the vast majority of cases, the HIV testing practices did not adhere to CDC guidelines for regular and discharge testing (CDC, 2009). Most respondents reported barriers to increased HIV testing that focused on insufficient resources and procedural reasons. Thus, across agencies and facilities overall, there was a tendency toward less than optimal HIV testing, not based on CDC guidelines.

Data on HIV prevention practices also revealed a clear disconnect between the expected policies based on agency-level survey responses and practices reported at the facilities. For example, although all agencies reported that HIV education and prevention services were routinely provided at their respective facilities, only about half of the facilities reported that this was their practice. Similarly, though most agencies reported using an instructor-led or one-on-one intervention approach, only about half of the responding facilities concurred that such approaches were practiced. Importantly, more than half of the responding facilities indicated that 25% or less of their inmates received HIV-prevention services. Limited implementation of primarily nonevidence-based HIV prevention interventions is unlikely to adequately reduce HIV transmission risk among high-risk correctional populations.

With regard to HIV-focused care and continuing care for HIV-infected inmates, there was greater consistency between respondents at the agency and facility levels. Most agencies reported having specific policies regarding prerelease planning for postrelease care as well as the continuation of ART following release from custody, and most facilities provided responses that concurred with such policies. Significant prerelease planning and referral for HIV-focused care was reported with the objective of continuing ART. When respondents described the procedures for ensuring continued access to ART after discharge from incarceration, however, substantial gaps were noted. For example, only about half of the responding agencies and facilities reported that, in practice, they discharged inmates with a supply of ART medications or ensured linkage to community-based resources (e.g., making appointments for continuing medical care, handing off to a discharge planner provided by a contracted health provider, arranging meetings with case managers). And, given the difficulty released inmates have in obtaining health insurance and filling HIV medication prescriptions (Baillargeon et al., 2009), the amount of transitional ART medications provided was often inadequate. Further, fewer than half of the facilities reported providing any case management to HIV-infected inmates. Thus, continuity of care and linkage to HIV-focused care practices following release (as well as crucial social services such as housing referrals) appears to be consistently lacking across surveyed facilities, consistent with substantial gaps in continuity of HIV care found by Baillargeon et al. (2009) in Texas.

Also of concern was the lack of concordance between agency-level responses and facilities within those agencies in terms of HIV testing, HIV prevention, and ART medication distribution. In some instances, the discordance was relatively minor (e.g., disagreement about the modality of HIV prevention interventions being provided), but it often pertained to fundamental practice issues

(e.g., whether a written policy was used to guide the practice of ART). This lack of implementation of agency policies could reflect lack of knowledge by facility staff of agency policies, resource constraints, misunderstanding of agency policies, or lack of perceived need for the services at particular facilities (perhaps due to small numbers of HIV-infected inmates).

Several study limitations should be noted. First, the surveys were conducted with a nonrandom sample of agencies and facilities that are currently participating in the CJ-DATS cooperative. However, as indicated earlier, the agencies were located across all regions of the country and included states with high, medium, and low prevalence of HIV infection. Nonetheless, the findings may not generalize across all state or county correctional systems. Second, policies and practices in place when the surveys were conducted may have been modified and may not represent current policy or practice. Also, although the surveys were administered to correctional officials and key staff involved in the delivery of HIV services, we were not able to externally validate survey responses. It is possible that in part the discordance in responses between agencies and facilities may reflect erroneous information provided by the respondent. Despite these limitations, the survey respondents represent a wide range of regions, states, and types of correctional systems. The gaps in HIV policies and practices revealed through these surveys are consistent with those reported anecdotally in other research (Arriola et al., 2002; Baillargeon et al., 2009; Bauserman et al., 2003; Hammett, 2006; Maruschak, 2009).

Considered together, there appear to be important barriers to successful HIV care for inmates. Foremost, improvement in overall HIV care should result from enhanced consistency in the policies and practices in place within agencies and facilities and from increased bidirectional communication about policies and practices. Based on CDC recommendations, increased implementation of opt-out HIV testing is warranted in correctional systems, and is likely to require a modification in the commitment of resources allocated to test kits and personnel hours, as well as expanded use of rapid HIV testing (CDC, 2009), and for the medical care of newly identified HIV-infected inmates. Such changes, initiated on a large scale, could yield significant improvements in HIV care and transmission risk among correctional populations. Consistent and widespread implementation of evidence-based HIV prevention approaches targeting high-risk inmates is also needed. Similarly, ensuring case management and seamless linkage to postrelease HIV-focused care for released inmates would likely produce substantial public health improvements (Beckwith, Zaller, Fu, Montague, & Rich, 2010).

The findings suggest a number of potential implications for improving HIV testing, prevention, and treatment policies and practices during and after incarceration: increasing opt-out testing, more case management, improving ART linkage, expanding use of ADAP, and enhanced development and use of evidence-based HIV prevention. However, given the discordance between agency and facility policies and practices, the findings also suggest that simply changing or disseminating agency policies may be insufficient for improving HIV service delivery in individual facilities. More structured and empirically tested organization-level interventions are needed, and agencies need to carefully monitor implementation of HIV policies and procedures across all facilities in their systems (Taxman, Henderson, & Belenko, 2009). More research is also needed on the reasons for the discordance between agency policies and the implementation of these policies at individual prison or jail facilities.

As part of a national effort to improve implementation of HIV services in correctional agencies, the recently initiated HIV-STIC study is testing the efficacy of an implementation intervention using the multisite CJ-DATS research cooperative platform, working with state and local correctional agency partners and other ancillary agencies (e.g., community HIV service providers and public health agencies). HIV-STIC focuses on three areas related to HIV service delivery: prevention, testing, and linkage to community-based treatment. HIV services are conceptualized to comprise an integrated continuum that seeks to (1) prevent new infections through evidence-based and



well-implemented HIV prevention programs that reduce offenders' risk behaviors and encourage and facilitate regular HIV testing, (2) identify HIV-infected offenders through increased testing and self-disclosure, and (3) rapidly engage infected inmates in appropriate ART that continues uninterrupted and with high adherence after release to the community.

The intervention being tested in HIV-STIC is a quality improvement process modeled after the Network for the Improvement of Addiction Treatment (NIATx; McCarty et al., 2007). Correctional agency officials will select one area of improvement on which to focus from among prevention, testing, or linkage to community-based treatment. Using a multisite cluster randomized design, matched pairs of participating state and county correctional facilities are randomly assigned to one of two study conditions. The control arm will receive basic training on the fundamentals of HIV infection, prevention, testing, and linkage to community treatment, and information about the HIV services continuum. The experimental arm will implement a process improvement approach using a Local Change Team (LCT) and a structured series of steps to improve HIV services, to be assisted by an external coach trained in the NIATx approach. Such models have been found to improve health services implementation in other settings, but have not been tested in correctional settings to address HIV services. Primary hypotheses are that the intervention will increase staff's perceived value of HIV services (Proctor et al., 2009), increase the number of inmates receiving services, and improve the quality of such services. Additional study details can be found in CJ-DATS HIV Workgroup (in press).

We are unaware of any other experimental research on the implementation of HIV services, or strategies for improving implementation, and HIV-STIC is the first study we are aware of that will apply LCT approaches in a more complex multiorganizational health services context. HIV-STIC will fill an important research gap by empirically testing the effects of an implementation strategy using LCTs to improve the delivery of HIV services and change staff attitudes about HIV services in criminal justice settings. Results from this unique study are expected in late 2013. If successful, this approach could have important implications for improving public health and will provide a model for improving the implementation of other health services in correctional settings.

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## Note

1. Unless noted otherwise, in this article the term *correctional setting* or *agency* is used to mean institutional corrections rather than community corrections (e.g., probation or parole).

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