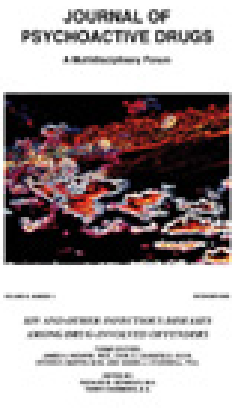

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Integrating an HIV/HCV Brief Intervention in Prisoner Reentry: Results of a Multisite Prospective Study

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Abstract—Brief interventions to reduce harmful or problem behaviors have become increasingly popular in a variety of health fields, including HIV and hepatitis risk reduction. A central issue in intervention research involves the evaluation of what constitutes an effective "dose" of an intervention. This research examines the relative effectiveness of three alternative brief interventions of varying intensity designed to change the risk behaviors of inmates who are reentering society: a DVD-based, peer delivered intervention; the NIDA Standard HIV Intervention; and a standard practice condition (HIV educational video). All participants randomly received one of the interventions and were tested for HIV and HCV prior to release from custody. Thirty and ninety-day follow-ups examined changes in high-risk behaviors. Results reported here for 343 subjects who have completed the 90-day follow up indicate significant reductions in reported sexual risk behaviors for those participating the DVD intervention, compared to the other two brief interventions. This study is among the first to report any positive impacts on sexual behaviors among a population of inmates returning to the community.

Keywords—drug abuse, HIV, inmates, intervention, prison

The prevalence of infectious diseases such as HIV and hepatitis C (HCV) among incarcerated populations has led practitioners and researchers alike to view the prison as a place to intervene with treatment and prevention programming. Estimates put the rate of HIV infection among prisoners at four times that of the general population: 1.7% for prisoners and 0.4% for the general population (CDC 2008; BJS 2006). Rates of HCV infection are much

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higher and are estimated to be between 20% and 40% of all inmates (CDC 2003). The period of reentry from secure custody is of particular importance for disease prevention efforts as offenders often return to previous patterns of high-risk behavior, or engage in even higher levels of risky behaviors in an attempt to make up for lost time. The reentry period is therefore a propitious time to intervene in an effort to forestall a return to risky patterns of drug use and sexual behaviors (Inciardi et al. 2007). Re-entering offenders are preparing to make a major life transition, patterns of old behavior have likely been interrupted by a period of incarceration, and many individuals may be amenable to considering behavioral change during this period.

The potential for intervening during the reentry period has increased significance in recent years. With one out of every 100 people incarcerated in the United States in 2007 (Pew Center 2008), more individuals are being released from prison each year as well. Recent annual estimates range from 650,000 releasees from state prisons to 1,000,000 releasees from county jails; when federal releasees are counted as well, the unduplicated reentry population approaches 1.3 million persons annually (Taxman 2004). The volume of individuals transitioning (and retransitioning) into the community invites the question of whether brief HIV and HCV prevention interventions could be designed that have the capacity to reach and impact a large proportion of these reentering offenders. The current research project grew out of this line of inquiry and implemented brief interventions that have the potential for both large-scale adoption and optimal intervention fidelity. This article reviews the literature on HIV and hepatitis prevention in prisons and other criminal justice settings. The elements of the NIDA Standard HIV Intervention and the DVD-based targeted intervention developed for this project are then outlined in the context of the experimental trial that was conducted as part of the NIDA-sponsored Criminal Justice Drug Abuse Treatment Studies (CJ-DATS) Cooperative Agreement. Results report the characteristics and risk behaviors of the sample prior to incarceration and report on preliminary study outcomes from the 90-day post release data.

HIV AND HCV PREVENTION IN PRISONS

In spite of the considerable need for HIV and HCV prevention in correctional settings, there have been few clinical tests on the efficacy of known interventions. Recent reviews by Bryan and colleagues (2006) and Zack (2007) found only nine interventions studied among correctional populations since 1991 that showed signs of effectiveness. The present authors' subsequent review of the literature identified no additional or newly published studies, other than the Delaware and Kentucky probationer studies reported in some detail below. Of the nine corrections-based interventions studied to date that demonstrated positive effects (Bryan et al. 2006; Ross et al. 2006; Wolitski et al. 2006; Bauserman et. al. 2001; Grinstead, Zack & Faigeles 2001; Grinstead et. al. 1999; Grinstead, Faigeles & Zack 1997; St. Lawrence et al. 1997; el-Bassel et. al. 1995), four indicated reductions in post-release HIV risk behaviors, while the other five demonstrated changes in attitudes and intentions measured while still incarcerated.

The four intervention protocols with established effectiveness in reducing HIV risk behavior post release varied considerably in intensity: one involved sixteen two-hour sessions (el-Bassel et al. 1995), one required eight two-hour sessions (Grinstead, Zack & Faigeles 2001), one consisted of two sessions inside the institution and four sessions post release (Wolitski et al. 2006), and one required a single 30-minute session (Grinstead et al. 1999). Recent research in a variety of health-related fields with brief interventions suggest that a focused intervention requiring no more than one or two sessions is optimal in reaching the largest number of clients in a target audience (Barry 1999). Using this standard, only the 1999 Grinstead study would appear to be a candidate for large-scale adoption within the criminal justice system. In this protocol, 414 males were administered a 30-minute risk assessment and worked with the intervention team to develop a risk reduction plan prior to release from the institution. The intervention was delivered by HIV-positive males in a group setting. Grinstead and colleagues (1999) randomly assigned subjects to the intervention or control group and conducted follow-up interviews by telephone two weeks after release. Although only 42% of the sample participated in the follow-up phone interview, Grinstead and colleagues (1999) did find that among those who had engaged in sex since release, the intervention group was more likely to use a condom on their first sexual encounter after release.

While the study by Grinstead and colleagues (1999) is encouraging, the low follow-up rate, short follow-up time period, and the nature of the outcome questions leave many unanswered questions. For example, because a higher percentage of the intervention group had their first sexual encounter with someone other than their primary partner, it is not clear whether the higher condom usage reported by that group is a function of having sex with casual partners. Regardless, this study provides the best (and perhaps only) evidence that a brief intervention can be effective on post release HIV risk behaviors among a sample of criminal offenders returning to the community.

Evidence-based HCV prevention for criminal offenders is even more lacking than HIV interventions, although many institutions offer HCV testing. A recent census of state and federal prisons found that 76% offered some kind of HCV testing (Beck & Manuschak 2002). The Centers for Disease Control and Prevention (CDC) has recommended that inmates be screened upon entry into correctional facilities and that high-risk inmates be tested for HCV (Weinbaum et al. 2003). Most HCV prevention interventions are incorporated into HIV prevention protocols, and the research

team involved in the present study was unable to identify an outcome-based study among inmates that focused solely on HCV.

While evidence-based HIV and HCV interventions for offenders are lacking, there is a large body of literature on evidence-based interventions for the general population. The CDC recently updated their list of evidence-based HIV interventions to include 18 specific programs (Lyles et al. 2007). None of these were designed for use with criminal justice populations. Four of the interventions targeted drug-using populations in the community, and an additional eight targeted heterosexual men and/or women, while the remaining six were focused on men who have sex with men (four) or high-risk youth (two). In addition to focusing on a wide array of different populations (all of which are found in prisons), the evidence-based interventions drew from multiple theoretical backgrounds; however, all utilized some form of behavioral change model. Social cognitive approaches were the most common (used in seven interventions), while social learning theory was used in eight, and an AIDS risk reduction model in three. Interventionists also varied greatly, with nonpeer facilitators being the most common (seven), followed by peer (six), counselor (four) and therapist/nurse/clinical social worker (five) (some had more than one type). Twelve of the interventions matched clients on gender, race/ethnicity, HIV seropositivity, or drug use. The overall point here is that there appears to be no single approach that has been shown to be effective, other than the inclusion of some form of behavioral change model.

Regardless of the approach, it is questionable how widely implemented any of these evidence-based interventions could be in real world correctional practice. All have demonstrated efficacy in controlled settings. The CDC evidence-based interventions ranged from one to 32 hours, with most averaging nine to 18 hours. In addition to overall length, only one involved less than three face-to-face contacts, while eight required three to six contacts, seven used more than six, and two involved ongoing case management. The intensive nature of these interventions makes it unlikely that they would be implemented in a widespread and systematic fashion in criminal justice settings, especially during the reentry period.

For wide adoption, interventions require a high level of practical generalizability. Otherwise, technology transfer from research to system adoption rarely occurs. The intervention cannot be too intensive or it will become cost prohibitive, nor can it be so time consuming that it will not fit seamlessly into the reentry process. Understanding these issues, a brief intervention (lasting about an hour) was developed that incorporated the core elements of the NIDA Standard Intervention for HIV into a DVD-based, peer delivered protocol designed to be conducted just prior to an inmate's return to the community (Inciardi et al. 2007). The focus of the intervention was the reentry period, and clients were provided the opportunity to consider the issues they would likely face upon release from the institution. The intervention also included education on facts about HIV and HCV, as well as strategies to avoid contracting these infections.

THE CJ-DATS TARGETED HIV/HCV INTERVENTION

Background

The conceptual and practical basis for the current research came from two NIDA-funded studies of probationers conducted in Delaware and Kentucky (Martin et al. 2003; Leukefeld et al. 2001). These companion studies involved adapting an original, research-supported HIV intervention, the NIDA Standard, for use in criminal justice populations. The NIDA Standard HIV Intervention incorporates CDC guidelines that provide specific recommendations for the pre- and post-test counseling and diagnostic testing for HIV antibodies. These include: (1) all "necessary" elements of "high-quality" pre- and post-test HIV prevention counseling (CDC 2001:16-20); (2) informed consent for testing; (3) confirmation of positive screening results for HIV antibody through Western Blot, IFA or other established techniques; and (4) medical and psychosocial evaluation and monitoring services or referral to such services for persons with confirmed positive test results. Counseling guidelines in the NIDA protocol are detailed and are conducted with the understanding that personal information and test results are confidential to the extent permitted by law. Information provided includes facts about HIV disease, transmission routes, risk behaviors such as abusing drugs and/or engaging in sexual behavior without the use of a condom, and the proposal of possible modifications to such risky behaviors to at least decrease the risk of infection. Service referrals to drug abuse treatment centers and to support services are also included in the guidelines. Post-test counseling includes a discussion of the test results and again, recommendations are made accordingly.

Early work on the original (Version 1) NIDA Standard Intervention (Coyle 1993) found that intervention and post-test counseling produced reductions in drug-using behaviors for at-risk clients in a variety of community settings. However, few significant changes in sexual risk behaviors were evident (Broadhead et al. 1998; Cottler et al. 1998). The NIDA Standard Intervention was subsequently expanded and revised (Version 2) by a cohort of investigators at six sites under the auspices of NIDA's AIDS Cooperative Agreement to include more information on sexual risks (Wechsberg et al. 1997).

In a recent study of probationers in Delaware, Martin and colleagues (2003) further refined the NIDA Standard Intervention (Version 3) to incorporate information on human papillomavirus (HBV) and HCV infections and to make the material more relevant to correctional clients (NIDA 2000; Leukefeld et al. 2001). This Version 3 was contrasted with a "Probationer Focused Intervention" that

incorporated personalized strategies for protecting oneself and one's partners from HIV infection, using a technique known as "thought mapping" (Leukefeld et al. 2001; Knight, Simpson & Dansereau 1994). Both interventions were delivered by community-based interventionists. This was one of the first trials under the then-new federal guidelines that require a "meaningful" intervention for all participants in an experimental trial. The results were encouraging in terms of decreases in both drug use and sexual risk behaviors, but there was only minimal significant benefit observed for the Probationer Focused Intervention compared to the NIDA Standard Version 3. Both interventions led to reductions in the percentage of probationers using heroin or cocaine, injecting drugs, engaging in transactional sex, or having multiple sex partners. The mean number of unprotected sex acts also decreased for both groups during the follow-up period. Although the "focused" additions to the intervention did not produce significant improvements over the NIDA Version 3 intervention, both interventions produced positive outcomes. They demonstrated that one-on-one interventions designed specifically for the target population and delivered by trained interventionists could be effective in reducing high-risk behaviors in criminal justice clients. The issue, as noted previously, is that a time intensive, didactic, one-on-one approach becomes difficult and impractical to implement in most correctional settings.

The Current "Targeted" Intervention

The current effort builds on the foundation of the Delaware and Kentucky probationer projects; a detailed description of the development process can be found in an article by Inciardi and colleagues (2007). The intervention was developed to utilize peer interventionists in a culturally competent intervention designed for reentering offenders. The project proceeded in several phases. First, the design of the intervention was modeled after the NIDA Standard, but modified in content and delivery for the target population, and augmented by video components designed to create buy-in, make the message relevant, and engage the client. Second, the research team needed to have a sense of what inmates experience when they are about to be released from incarceration and what challenges they face when they are eventually released. Little research exists that explores the link between psychological and situational challenges and being released from incarceration (MacGowan et al. 2003; Seal et al. 2003; O'Brien 2001; Petersilia 2001). However, existing studies suggest that substance abuse, adverse family situations, medical ailments, employment, and housing are challenges to successful reintegration into the community (Travis & Visher 2005; Petersilia 2003). These findings have furthered understanding of the reentry process for individuals; however, they do not specifically address situations that reentering offenders may encounter that put them at risk for HIV/AIDS and substance abuse relapse. Therefore, the present study involved focus groups with reentering offenders and substance abusers in residential community treatment facilities to obtain a descriptive account of the experiences before and during the reentry process. Focus group sessions were taped and transcribed.

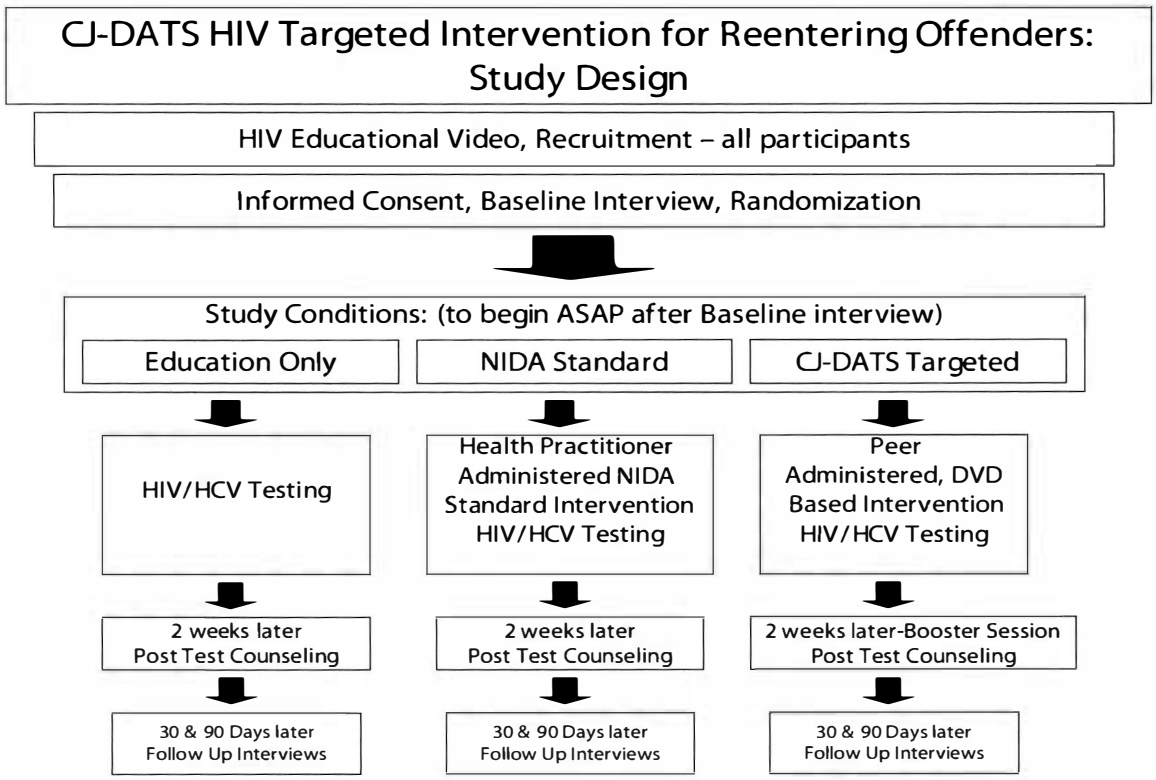
Results from the focus groups pointed to specific situations that reentering offenders found challenging upon their release from incarceration. Meeting old friends who still used drugs and/or had unprotected sex were among the most difficult situations faced by reentering offenders who were trying to limit their risk behaviors. Given this, these situations formed the core of the two risk scenarios presented in the DVD-based intervention. Focus groups members also indicated that they would like to see individuals who they could relate to talk about HIV and hepatitis. As a result, individuals were identified who had histories of incarceration and substance abuse. Individuals from this pool were recruited to be participants in the DVD components of the intervention. Selected individuals provided commentaries, testimonials, and served as players in the scenarios. In addition, we recruited individuals who were HIV and HCV positive to appear in the DVD. These individuals provided testimonials in the HIV and HCV video components, and were race and gender matched for the clients.

Based on prior research and on the focus groups, four DVD tracks were created: African-American male, White male, African-American female, and White female (there were insufficient Hispanics in the target populations to test Hispanic versions of the DVDs). Each race/gender track of the intervention contains five video elements:

1) an introductory video segment delivered by a former addict/offender;
2) a demonstration of the needle cleaning process;
3) testimonials from HIV- and HCV-positive persons;
4) scenarios/skits that demonstrate condom negotiation and confronting a friend who has drugs and is offering them; and,
5) positive and negative commentaries that showcase what other addict/offenders have done in similar situations.

Once the individuals were selected for the appropriate tracks, the research team produced the video segments. In order to keep the argot as natural as possible, the material was only minimally scripted. Rather, participants were asked to speak freely about their experiences in the commentaries and testimonials and these were later edited. With regard to the risk scenarios, participants were told what the scene was and were directed as to the action that was to take place. They were free to use their own dialogue and language throughout in an attempt to maintain a sense of genuineness in the scenes. The end result is a series of race- and gender-tracked DVD-based interventions that speak *to* the target population *from* members of the target population. The intervention was delivered in prison or work release in the period 10 days to two weeks prior to release.

FIGURE 1
Intervention and Research Design



Research Trial

The intervention was evaluated in a randomized trial in three sites participating in the CJ-DATS Cooperative Agreement: Delaware, Kentucky, and Virginia. Subjects were recruited from those about to be released through work release (in Delaware), prison (in Kentucky) and jail (in Virginia) from March 2006 to May 2008. At the release stage, volunteers were recruited to be in a research study from all potential releases at each institution. The study utilized a randomized controlled trial design to each of the three conditions, and effective randomization of clients was achieved based on sample characteristics. Data were collected at baseline, and at 30 and 90 days after release. Figure 1 diagrams the trial design. The Targeted DVD Peer Delivered Intervention was compared with the NIDA Standard Intervention delivered by a healthcare practitioner, as well as a "standard practice" group. Based on reports from providers and from the CJ-DATS national treatment survey, standard practice usually involves an educational video and the provision of HIV testing. In this study as part of the recruitment process, potential subjects who would be in any of the three conditions were shown the educational video. Subjects were then asked for informed consent, an in-depth baseline interview, and randomized into one of the three conditions. An "urn" program was utilized to balance the study arms by race and gender in the randomization process. Urn randomization is a balancing technique less susceptible to staff manipulation that allows for covariates, both marginally and jointly and produces good equivalence of treatment groups with relatively large sample sizes (Stout et al. 1994). All participants were offered HIV and HCV testing as part of the intervention, and were given post-test counseling approximately two weeks later. The NIDA Standard and DVD Targeted groups received the respective interventions in conjunction with the testing process, and both also received a short booster session as part of post-test counseling. Interventionist training included how to present all material for the CDC protocol and the NIDA Standard Intervention. In addition, for the DVD Targeted Intervention, the interventionist worked the client through the five video components that are imbedded in the intervention and answered questions following a detailed training

TABLE 1
Target Demographics (N = 343)

Demographic	Count	Percent
Gender		
Male	294	85.7%
Female	49	14.3%
Race		
White	138	40.2%
African American	205	59.8%
Living situation		
Shelter, Streets/Outdoors, Institution	14	4.1%
Own Home/Rent	149	43.4%
Someone Else's House	170	49.6%
Halfway House, Residential Treatment, Other Housing	10	2.9%
Marital Status		
Never Married	226	65.9%
Legally Married or Living as Married	48	14.0%
Separated, Divorced or Widowed	69	20.1%
Education		
Have GED or High School Diploma	220	64.1%
Employment status		
Employed Full-Time	173	50.6%
Employed Part-Time	30	8.8%
Unemployed, Looking for Work	26	7.6%
Unemployed, Not Looking for Work	80	23.4%
Other	33	9.6%
	Mean	**SD**
Age	33.9	9.83
Number of Children	1.93	1.92

Note: All demographics reported were collected at baseline.

manual procedure (described in more detail in Inciardi et al. 2007 and available from the authors on request and at the CJ-DATS website: www.cjdats.org). Participants filled out locator information and were contacted at 30 and 90 days post release for follow-up interviews. To date, 90-day follow-up rates have exceeded 90%, and follow-up is ongoing. This study reports on the first 343 subjects for whom 90-day follow-up information is available.

RESULTS

Sample Characteristics/Description of the Data

The data for this study are still being collected. The follow-up response rate for the study is currently 85% of those eligible for the 90-day interview. These results report on the first 343 cases that have completed 90-day data collection. Table 1 displays the demographic characteristics of the 343 participants. The mean age of the participants is almost 34, with the youngest participant being 19 and the oldest being 68. The gender breakdown of those who have completed all phases of the study is 85.7% males and 14.3% females. Males are the vast majority of this sample, which is consistent with the larger correctional population from which the sample was drawn. The racial breakdown is 40.2% White and 59.8% African American. To obtain information on the participants' current living situations, they were asked to report where they were living "most of the time" in the thirty days prior to this incarceration. Just over 4% of participants responded that for most of the thirty days prior to incarceration, they were living either in a shelter (which includes safe havens, transitional living centers, low demand facilities, receptions centers or other temporary day or evening facilities), on the streets or outdoors, or in an institution (which includes a hospital, nursing home or jail/prison). Over 43% of participants were living in their own home which they either owned or rented, almost 50% were living in someone else's apartment, room or house, and about 3% were living in a halfway house, residential treatment or other housing.

The current marital status of the 343 participants consisted of: never married (65.9%), legally married or living as married (14.0%) and separated, divorced or widowed (20.1%). Of the 343 participants, 64.1% reported that they had either received their high school diploma or GED. Employment status was obtained by asking participants which of the following best described their employment status in the last six months prior to this incarceration. Over 50% of participants described their employment status as

TABLE 2
General Risk Assessment (N = 343)

Risk	Count	Percent
Percent who have/had:		
Tattoo	232	67.6%
Blood Transfusion	18	5.2%
Donated or Sold Blood	69	20.1%
Been Tested for HIV	263	76.7%
Percent Diagnosed with:		
Tuberculosis	14	4.1%
Hepatitis B	9	2.6%
Hepatitis C	40	11.7%
Genital Herpes	1	0.3%
Gonorrhea	43	12.5%
Syphilis	12	3.5%
Chlamydia	38	11.1%
HIV or AIDS	3	0.9%

Note: All risk assessment information was collected at baseline.

employed full time (which consists of thirty-five or more hours per week). Almost 9% of participants described their employment status as employed part-time, almost 8% as unemployed but looking for work, over 23% as unemployed but not looking for work, and about 10% described their employment status as "other," which consists of retired, disabled, in school, in the armed forces or homemaker. The mean number of children of the 343 participants was 1.93 (SD = 1.92) with the lowest being zero children and the highest being more than five children.

Table 2 displays general risk assessment information for the 343 participants in the study. Each participant was asked to report whether they have ever had a tattoo (67.6%), a history of blood transfusion (5.2%), or been tested for HIV (76.7%). These risk assessments were gathered at baseline and provide information on more specific types of risk that the participants were exposed to prior to this incarceration. Table 2 also displays the percentages of participants who were diagnosed with certain medical diseases. Participants were asked if they had ever been told by a doctor, nurse, or health care provider that they had tuberculosis (4.1%), hepatitis B (2.6%), hepatitis C (11.7%), genital herpes (0.3%), gonorrhea (12.5%), syphilis (3.5%), chlamydia (11.1%), or HIV/AIDS (0.9%). Participants were also asked to report the most recent month and year that they encountered these risks or were diagnosed with these diseases.

Analysis

The preliminary analyses reported here focus on high-risk sexual behavior, specifically, the likelihood of using a condom when having sex. The analyses include bivariate and multivariate results. The first analyses conducted were comparison of means using t-tests to see whether there were any significant differences between groups. Because of the randomized nature of the design, there should be no significant differences between groups on baseline characteristics. Still, in order to insure that no outcomes were confounded with basic background variables, a multivariate regression was conducted to test whether any bivariate differences could be ruled out by proximate background factors.

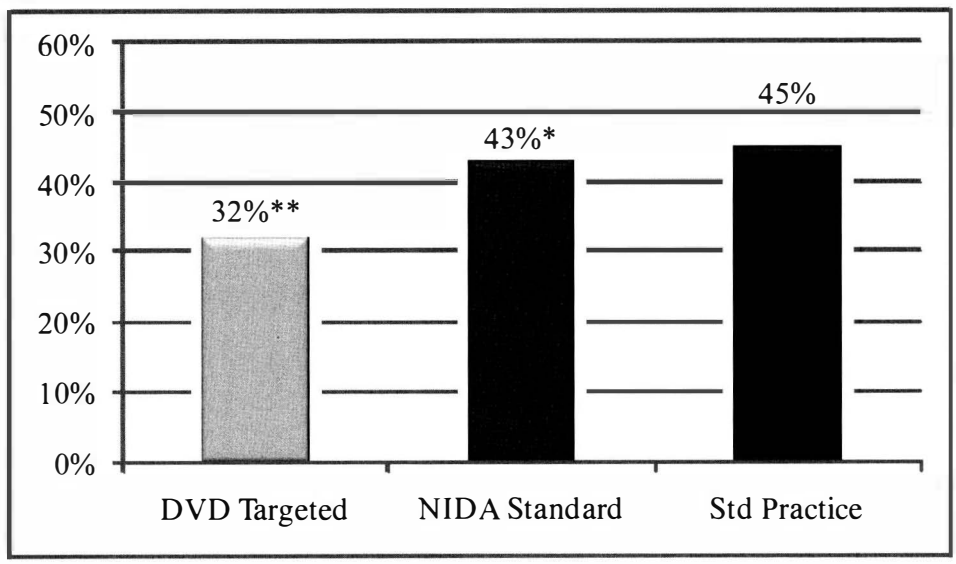
Condom Use

The DVD intervention specifically focused on changes in high-risk sexual practices. While the intervention encouraged participants to consider maintaining one partner, it recognized that some might have multiple partners, and so the main focus was on encouraging condom use when having sex. Ninety-day outcomes were examined for the proportion of time clients reported having unprotected sex. The range of this measure was from zero, indicating that all sex was with a condom, to 100%, indicating that no sex was with a condom. Those reporting no sexual activity were treated as if all sex was protected. The mean proportion of noncondom sex was 40%, and the standard deviation was 45%.

Bivariate Results

Figure 2 shows the results of the independent samples t-tests measuring whether there were significant differences between the study groups. The DVD Targeted Intervention group reported that 32% of their sexual contacts in the 90 days since release were unprotected. The groups receiving the NIDA Standard Intervention reported 43% unprotected sex, while the Standard Practice group reported 45% of their sexual activity was unprotected. The difference between the DVD Targeted and Standard Practice groups was 13%, which marked a significant difference at $p < .05$. The difference between the DVD Targeted group and those receiving the NIDA Standard Intervention was 11%, which was significant at $p < .10$. The difference between the NIDA Standard and Standard Practice groups was not significant.

FIGURE 2
Unprotected Sex by Study Group (N = 343)



*$p < .10$ (DVD Targeted vs. NIDA Standard).
**$p < .05$ (DVD Targeted vs. Standard Practice).

TABLE 3
Multivariate Regression Predicting Unprotected Sex Acts

	Unstandardized Coefficients		Standardized Coefficient	T	Sig
	ß	Std Error	ß		
(Constant)	.228	.116		1.963	.051
Age (Years)	.004	.002	.086	1.594	.112
Gender (F=1)	-.051	.069	-.040	-.745	.457
Race (AA=1)	-.017	.050	-.019	-.350	.726
Months in Jail	.002	.001	.117	2.167	.031
HS Grad (Yes=1)	.165	.050	.176	3.276	.001
NIDA v. Standard Practice	-.030	.057	-.032	-.524	.600
DVD v. Standard Practice	-.122	.059	-.126	-.2084	.038

In order to assess whether the bivariate results were due to an underlying relationship between condom use and some combination of background variables, we conducted multivariate analysis as well. Table 3 reports the outcome of a multivariate ordinary least squares regression analysis predicting the percentage of unprotected sex acts 90 days post release as a function of intervention condition (measured as dummy variable contrasts from the omitted standard practice intervention) and other putative predictors of condom use. As can be seen in the table, being in the DVD Targeted group was associated with a significant decrease (ß = -.13) in unprotected sex acts, compared to the Standard Practice group, net of all other factors in the model. Interestingly, being in the DVD Targeted group was the only factor that significantly reduced the percentage of unprotected sex acts, and the effect is stronger in the multivariate results than in the bivariate results. When comparing the NIDA Standard group to the Standard Practice group on unprotected sex acts, the difference is not statistically significant. Race, gender and age were all nonsignificant in this model, while length of time in prison and being a high school graduate both significantly increased the percentage of times subjects failed to use condoms when having sex. It is worth noting that the effects of time in prison and education were significant net of age of respondent, which was also included in the model. The effect of time in prison is not perhaps surprising. The effect of education is worth noting in that high school graduates were more likely to have unprotected sex. This effect will be examined on its own in subsequent analyses. Other analyses of treatment success among offenders have found educational attainment to be negatively associated with treatment success (Martin et al. 1999; Inciardi et al.

1997). This may indicate that those with higher education who have been incarcerated may have confounding issues (e.g., mental health) predictive of both criminal justice involvement and lack of intervention/treatment success.

DISCUSSION

The increasing number of persons leaving prison, coupled with offenders' propensity for high-risk behaviors, makes it important to consider the reentry period as a critical point for HIV and HCV prevention interventions. In order to reach significant numbers of this at-risk population, interventions must fit seamlessly into criminal justice practice. This requires that interventions be both brief and reasonably simple to administer. The current project developed a brief DVD-based intervention aimed at reentering offenders and tested it in a randomized trial. In both bivariate and multivariate analyses, the DVD Targeted intervention group was significantly less likely to report unprotected sex 90 days past release from prison. In reviewing the literature on offenders, this appears to be the first report of a reduction in sexual risk coming from a truly brief intervention. It appears, therefore, that it is possible to develop and deploy brief interventions using current technology that maintain a high degree of fidelity in the field (by locking the intervention in the DVD format), and that are both effective and have the potential for widespread adoption. Although this trial conducted the interventions one-on-one, the technology also may lend itself to group administrations or even online use, either web-based or on an Intranet system that may be more conducive to correctional settings.

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