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# An HIV, STD, and Hepatitis Prevention Program for Young Men Leaving Prison: Project START

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The rates of HIV, STD, and hepatitis infection are high among persons entering prisons, and many of these persons engage in high-risk behaviors after release. Therefore, innovative programs that reduce risk behaviors after release are urgently needed. Project START developed and evaluated two interventions designed for young men leaving prison. This article describes both interventions: the single-session intervention and the enhanced intervention. The single-session intervention focused on HIV/STD/hepatitis prevention only. The enhanced intervention consisted of two prerelease and four postrelease sessions that focused on HIV/STD/hepatitis prevention and more broadly on health and reintegration into the community. Specific procedures used to implement the interventions in correctional settings are described. Process data describing intervention attendance and fidelity to the intervention protocols are presented. Implications for future intervention studies are discussed.

**Keywords:** HIV; prisons; risk reduction; intervention; correctional health care

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At the end of 2004, more than 2.2 million adults were incarcerated in the United States, and most of them were male and members of communities of color (Bureau of Justice Statistics, 2005). Persons with a history of incarceration are at disproportionate risk for HIV, hepatitis, and other sexually transmitted diseases (STDs) (Hammett, Harmon, & Maruschak, 1999; Hammett et al., 1995; MacGowan et al., 2004; Maruschak, 2005; Mertz, Voigt, Hutchins, Levine, & the Jail STD Prevalence Monitoring Group, 2002; Sosman et al., 2005). Men leaving jails and prisons often engage in sexual and drug-related behaviors that put them and their partners at risk for these infections (Chen, Bovee, & Kerndt, 2003; Grinstead et al., 2005; MacGowan et al., 2003). There is an urgent need to

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- Institute of Medicine. (2003). *Priority areas for national action: Transforming health care quality*. Washington, DC: National Academy Press.
- Kirkman, M., Williams, S., Caffrey, H., & Marrero, D. (2002). Impact of a program to improve adherence to diabetes guidelines by primary care physicians. *Diabetes Care*, 25, 1946-1951.
- Legoretta, A., Christian-Herman, J., Hasan, M., Evans, R., & Leung, K. (2000). Variation in managing asthma: Experience at the medical group level in California. *American Journal of Managed Care*, 6, 445-453.
- Mara, C. (2002) Expansion of long-term care in the prison system: An aging inmate population poses policy and programmatic questions. *Journal of Aging and Social Policy*, 14(2), 43-61.
- McGlynn, E., Asch, S., Adams, J., Keesey, J., Hicks, J., DeCristofaro, A., et al. (2003). The quality of health care delivered to adults in the United States. *New England Journal of Medicine*, 348, 2635-2645.
- Quality Assurance Project, Healthcare and Workforce Improvement. Retrieved July 5, 2006, from <http://www.qaproject.org>
- Robbins, S. (2003). *Organizational behavior* (10th ed.). Upper Saddle River, NJ: Prentice Hall.
- Roberts, M., & Keith, M. (2002). Implementing a performance evaluation system in a correctional managed care pharmacy. *American Journal of Health-System Pharmacy*, 59, 1097-1104.
- Rundall, T., Shortell, S., Wang, M., Casalino, L., Bodenheimer, T., Gillies, R., et al. (2002). As good as it gets? Chronic care management in nine leading US physician organizations. *British Medical Journal*, 325, 958-961.
- Schoepflin, H., & Thrailkill, K. (1999): Pediatric diabetes management in Appalachian Kentucky: Adherence of primary care physicians to ADA guidelines. *Journal of Kentucky Medical Association*, 97, 473-481.
- Scholtes, P. R., Joiner, B. L., & Streibel, B. J. (2003). *The team handbook* (3rd ed.). Madison, WI: Oriel.
- Vanderbilt Center for Evidence-based Medicine. (2007). Retrieved January 9, 2007, from <http://ebm.vanderbilt.edu/keyfacts.htm>
- Williams, J., Ford, D., Thomas, J., Roberts, R., & Lervy, B. (n.d.). *A practical guide to achieving clinical effectiveness*. London: Swansea Clinical School.
- Young, A., Klap, R., Sherbourne, C., & Wells, K. (2001). The quality of care for depressive and anxiety disorders in the United States. *Archives of General Psychiatry*, 58, 55-61.

develop effective, feasible risk-reduction interventions specifically designed to meet the needs of persons who are incarcerated or who have recently been released.

Project START was designed to compare the relative effectiveness of two HIV, STD, and hepatitis risk-reduction interventions for 18- to 29-year-old men who were being released from prison in four states (California, Mississippi, Rhode Island, and Wisconsin). A single-session HIV/STD/hepatitis risk-reduction intervention (SSI) was compared with a comprehensive multisession intervention (enhanced intervention, or EI) involving HIV, STD, and hepatitis risk reduction, transitional planning and support, and community resource utilization.

To evaluate intervention effectiveness, participants were administered a quantitative survey at enrollment prior to program assignment and at 1, 12, and 24 weeks postrelease. The SSI was selected as the comparison intervention because a similar intervention was demonstrated to increase condom use at first sex postrelease among male prisoners (Grinstead, Zack, Faigeles, Grossman, & Blea, 1999). The intervention trial was preceded by 3 years of formative intervention and assessment development, including qualitative interviews with service providers (Grinstead et al., 2003; Seal et al., 2003) and a longitudinal qualitative and quantitative study of young men leaving prison (MacGowan et al., 2003; Margolis et al., 2006; Seal et al., 2004).

Results of the intervention trial ( $N = 522$ ) revealed significant differences between the two groups at the 24-week assessment (Wolitski & the Project START Writing Group, 2006). The EI group was significantly less likely than the SSI group to report unprotected vaginal or anal intercourse during their most recent sexual encounter. They were also less likely than men in the SSI group to report unprotected sex during the reporting period.

As effective risk-reduction interventions for correctional populations are being developed and evaluated, it is critical that detailed descriptions be made available to facilitate their adaptation and replication. In addition to providing much-needed information about how effective interventions were implemented, such descriptions provide the rationale for the intervention design and components. Our goal is to provide a detailed description of the interventions tested in the Project START intervention trial for young men leaving prison, to discuss the feasibility of replicating this intervention in other settings, and to report intervention process data, including participant retention, session length, and session content.

## Methods

### Conceptual Framework

The SSI and the EI were both designed to be participant centered. Essential components of both interventions were listening to and respecting participants' self-identified needs and priorities, as well as setting goals in accordance with their priorities. Principles of harm reduction (Marlatt, 1998) guided the development of specific goals. Staff worked with participants to set goals that were realistic and achievable in the context of participants' lives. Risk-reduction goals ranged from abstaining from risk behavior to implementing protective behaviors, such as using condoms consistently, reducing the number of sex partners, delaying sexual activity with new partners, and decreasing sexual activity while under the influence of alcohol or drugs. Staff drew on techniques of prevention case management, motivational enhancement, goal setting, and problem solving. They used role playing, rehearsal, and referrals to help participants develop and enact a risk-reduction plan based on the participant's priorities, preferences, needs, resources, and abilities. Although each

intervention session was tailored to each participant's life circumstances, a detailed intervention manual was provided to guide the sessions. (Contact authors for procedure manual and other project materials. For contact information, go to the Project START Web site: <http://www.cdc.gov/hiv/PROJECTS/ProjectSTART>).

The intervention manual contained educational and referral information. Interventionists used the pertinent sections of the manual in discussing topics during a given session. Furthermore, the intervention manual contained tools that the staff could use to identify motivators of behavior change, guide skills-building exercises, and assist with goal setting and problem solving. Each site developed an extensive community resource guide and developed relationships with a range of service providers in the community who were comfortable serving former prisoners. In the EI, staff actively facilitated referrals by taking part in telephone calls to providers or accompanying participants to appointments. Closure for each intervention session involved reviewing goals, setting up next contacts (including phone contacts and meetings), giving the participant an appointment card for the next session, and updating contact information.

### Selecting, Training, and Supervising Interventionists

Interventionists were required to (a) obtain security clearance to enter the prison; (b) communicate effectively with prison staff and participants; (c) be comfortable working with correctional populations, collaborating with community-based organizations, and discussing HIV/STD/hepatitis-related topics; and (d) travel locally and work flexible hours for the convenience of participants. The education of the interventionists, a racially and ethnically diverse group of men and women, ranged from high school diplomas or general equivalency diplomas to bachelor's degrees. Their prior experience included professional activities relevant to the intervention (e.g., HIV prevention and treatment services, residential case management), other professional experiences (e.g., banking), and life experience (e.g., incarceration history). Intervention experience ranged from none to 20+ years.

Two 5-day cross-site trainings were held immediately before the main intervention trial. Senior research and supervisory staff conducted the trainings, which included didactic information on the conceptual framework of the intervention and the intervention manual; research ethics, including consent, privacy, confidentiality, and the boundary between research and service; and role-play practice of modules in the intervention manual. Case studies from the formative phase were used to inform the training curriculum and role-play exercises. Training also included discussion of the safety of interventionists and participants during intervention sessions.

Supervisors at each site met regularly with staff to review notes and tapes of intervention sessions and provide additional training. To support the staff's emotional health and motivation, supervisors also addressed the potential stress of providing intensive interventions to incarcerated and recently released men. Both individual and group supervision were provided. Group supervision and case reviews involved discussion of implementation issues and clarification of intervention procedures. Individual supervision addressed staff concerns and details of the individual intervention sessions. Finally, supervisors participated in regular conference calls to discuss training and supervision issues at all sites.

### Working With the Correctional System

Because participants were recruited while incarcerated and the initial intervention sessions were conducted inside state prisons, the intervention procedures were designed to take into account the issues of working inside prisons. These issues included restrictions on staff

access to participants, restrictions on intervention tools (e.g., condoms and syringes for risk-reduction demonstrations), and teaching interventionists to remain flexible in order to meet unique challenges (e.g., restricted movement, locating and reserving confidential space for study activities, transfer/early release, prison lockdowns).

### **Recruiting Participants**

Potential participants were recruited 2 to 6 weeks before release from prison. In many cases, potential participants did not know why they were being called to meet with study staff. To build rapport, staff began by assuring the men that they were not in trouble, that the study was not sponsored by the department of corrections, and that they could terminate the recruitment session at any time without penalty. Recruitment sessions included a detailed description of the study, a review of the consent form, and answers to questions about participation. Staff also used an informed consent checklist to ensure that all of the important aspects of the study had been covered, including audiotaping of the sessions at three sites. Men who agreed to participate signed the consent form, provided postrelease contact information, and proceeded with the first assessment. Informed consent was reviewed at the beginning of every assessment and intervention session.

### **Single-Session Intervention**

The SSI consisted of a 60- to 90-minute individual HIV/STD/hepatitis risk-reduction session before release. The intervention was tailored to the participant's unique release situation and anticipated risk behavior after release. A needs assessment checklist was used to help participants identify their priorities. The SSI session included (a) assessment of the participant's HIV/STD/hepatitis transmission and prevention knowledge, and provision of factual information as needed; (b) discussion of personal risk and preventive behavior, including the factors facilitating or impeding sexual risk-reduction efforts (e.g., sex while under the influence of drugs or alcohol); (c) development of an individual plan for reducing risk; (d) safer sex and relational skills training (e.g., negotiation strategies) and role-play; and (e) information about community resources. Contact with SSI participants after their release from prison was limited to assessments at 1, 12, and 24 weeks. The following composite case illustrates the application of the SSI. Note that the SSI focuses on developing a case-specific risk-reduction plan and uses various techniques for motivational enhancement.

Joe Jones was recruited 30 days before his release from a 3-year sentence. He was 21 years old, unmarried, and planned to return to live with his parents in a rural area of the state. Joe and his interventionist reviewed his HIV/STD/hepatitis knowledge, discussed his risk behavior, and talked about barriers to, and facilitators of, risk reduction. Joe and the interventionist agreed that his primary risk was through unprotected vaginal and anal intercourse with casual female partners, particularly when he had been smoking marijuana or drinking. The interventionist worked with Joe to identify barriers to condom use and to make a specific behavioral plan to have condoms available when going out to meet women. Joe acknowledged that alcohol and drug use contributed to his sexual risk, although he was skeptical about needing alcohol or drug treatment services. Using techniques of motivational enhancement, the interventionist helped Joe identify his motivations for substance use treatment services and to accept a referral. At the end of the session, Joe received a written copy of his goals and his risk-reduction plan and made a commitment to contact the substance use treatment referral after his release from prison.

### Enhanced Intervention

The six sessions of the EI focused not only on HIV/STD/hepatitis risk reduction but also on planning to meet broader needs (e.g., housing, employment, social support, substance abuse treatment). The first session was identical to the SSI. Each man in the EI group participated in an additional 60- to 90-minute individually tailored prerelease counseling session focused on identifying his postrelease needs, developing a plan to address these needs, and discussing the barriers to, and facilitators of, goal achievement. When necessary, skills-building exercises and facilitated referrals were provided.

The four postrelease sessions (each approximately 45 to 60 minutes) took place at approximately 1, 3, 6, and 12 weeks following the participant's release from prison. During these sessions, interventionists continued to work with participants to reassess their HIV/STD/hepatitis risk behavior, reprioritize their risk-reduction and community reentry goals, provide support for risk-reduction accomplishments, problem-solve to overcome barriers to risk reduction, and provide facilitated referrals as needed. Additional sessions were provided when participants and interventionists agreed that they would be beneficial.

In addition to sexual risk reduction, the interventionist and the participant focused on broader reentry needs (e.g., housing, employment, family reintegration, avoiding reincarceration). Although the specific content and depth of discussion were dependent on the participant's life circumstances and needs, the general goals were to increase stability, facilitate community reintegration, develop positive social support for risk reduction, promote access to and use of resources, and resolve or avoid legal problems. Discussion of each of these topics was linked to HIV/STD/hepatitis risk behavior. For example, some participants described becoming frustrated about their inability to find a job, then using alcohol or drugs and then having unprotected sex. Another common pattern involved spending time with old friends who were engaging in risky behavior. A key component of the EI was learning to identify the association between life events and risky behavior and developing strategies for avoiding these risk patterns. The following composite case illustrates the application of the EI. Note that whereas the initial session is identical to the SSI, subsequent sessions are client-centered and address a broad range of topics in addition to always returning to the topic of risk reduction.

John Smith was recruited 45 days before release from a 2-year sentence. He was 27 years old, unmarried, and planning to live with a friend after release. In the first session, John and his interventionist reviewed John's knowledge about HIV, STDs, and hepatitis and discussed his risk. They agreed that his primary risk was through unprotected vaginal intercourse with the mother of his two children—a regular, but not committed, sex partner. The interventionist worked with John to identify barriers to condom use with this partner and made a behavioral plan to introduce condoms into their relationship; John was given a copy of his plan.

In the second prerelease session, John and the interventionist discussed broader postrelease goals. John said that finding a job was his first priority, so they discussed barriers to finding a job. They identified renewing John's driver's license and developing a résumé as important first steps and developed a step-by-step plan to accomplish these tasks. John was given a written copy of his transitional planning goals and action steps, he reviewed his HIV/STD/hepatitis prevention plan, and his first postrelease session was scheduled.

During the Week 1 postrelease session, John expressed frustration that he had not yet found employment. He reported drinking to ease his frustration and that on two occasions he had had unprotected sex with a casual partner while drunk. John and his interventionist discussed ways to enhance his job marketability, and the interventionist facilitated a referral to a temporary job agency. They also discussed more positive ways to cope with frustration and strategies for avoiding unprotected sex when drinking. John's risk-reduction and transitional plans were modified to reflect these new goals. At the end of this session and at each postrelease session, the interventionist gave John a supply of condoms and lubricant.

John missed his second postrelease session (Week 3) because he was too busy job hunting but told the interventionist that he was committed to making the next scheduled intervention session. By his third postrelease session (Week 6), John had enrolled in an employment development program and was scheduled for a job interview. He had terminated his sexual relationship with the mother of his children and had begun dating a new partner with whom he had not yet had sex. The interventionist reinforced John's positive progress toward getting a job, and they role-played the job interview. They also worked on a plan for talking about safer sex with his new partner, using condoms, and obtaining mutual HIV testing. John's risk-reduction and reintegration plans were modified to reflect these new goals.

During his final intervention session (Week 12), John reported that he had obtained a full-time job in a warehouse. The interventionist reinforced this accomplishment, and they discussed ways to retain this job. John also said that he had started having sex with his new girlfriend and that they had decided not to use condoms because both of them had tested negative for HIV and she was using oral contraceptives. John also mentioned that he had quit drinking to avoid casual sex partners and to increase his chances of maintaining long-term employment and avoiding recidivism. The interventionist took this opportunity to discuss the meaning of a negative HIV test result and to review information about the "window period" while reinforcing John's goal setting, follow-through, and risk-reduction efforts.

### **Session Locations**

To protect participants' confidentiality, the sessions in prisons took place in rooms where participants could not be overheard (in some instances, visual contact with correctional officers had to be maintained for security reasons). In-prison sessions were conducted in visitor areas, classrooms, libraries, cafeterias, lawyers' rooms, chapels, and empty offices. Postrelease sessions were conducted in community locations that offered privacy and safety. Telephone sessions were conducted when it was not possible to schedule an in-person appointment. Telephone sessions began with verifying the identity of the participant (using the personal identification code, a unique identifier given by the participant at the beginning of the study) and ensuring that the participant was alone and able to talk in confidence.

### **Tracing and Retention**

On the basis of data from the formative study regarding effective strategies for maintaining contact with participants after release, participants received pagers with voicemail, which were paid for by the project during the study. Participants were contacted before each session to confirm the time and location. To locate participants who had missed appointments, interventionists used telephone calls, letters to participants and their approved tracing contacts, and database searches (e.g., jail or prison databases).

### **Incentives**

Participants did not receive an incentive for intervention activities but were reimbursed \$10 for childcare and travel expenses if applicable. Participants were reimbursed for each assessment: prerelease (paid at their first contact after release) and at 1, 12, and 24 weeks after release. The assessments at Weeks 1 and 12 coincided with intervention sessions. At these points the assessment was conducted before the intervention session. Participants who completed all assessments were reimbursed a total of \$180 to \$200 depending on the site. Incentives increased over time to maximize retention at the final assessment (Week 24). Participants were offered educational materials and referrals after each intervention and/or assessment session, and were offered condoms after each intervention and assessment session that was conducted in the community.

## Results

### Retention

To ensure standardization across participants and across sites, a window was established during which each intervention session could be completed (see Figure 1). For example, if the Week 1 session was not completed within 17 days after release, that session was considered to have been missed and the next session was considered the Week 3 postrelease session. Some intervention sessions were conducted outside these windows because of last-minute schedule changes or because windows closed on weekends or holidays.

Table 1 presents the proportion of participants who attended each intervention session. As shown in Table 1, participation in the scheduled intervention sessions ranged considerably across time (89% to 99% for prerelease sessions; 66% to 80% for postrelease sessions). Among those assigned to the Enhanced Intervention, over two thirds (67%) of the men participated in at least five scheduled sessions and over three fourths (79%) participated in at least four scheduled sessions. Overall, 91 additional sessions were delivered to 49 participants. Most (61%) of those who received additional sessions received only one session.

Paired comparisons showed that attendance rates did not differ between the Week 1 and Week 12 sessions or between the Week 3 and Week 6 sessions, but the attendance rates for the Week 1 and Week 12 sessions were significantly higher than for the Week 3 and Week 6 sessions ( $p < .001$ ). As intended, the SSI session and the Week 1 EI session were of comparable length, and prerelease sessions were on average longer than postrelease sessions (see Table 1).

### Intervention Content

Interventionists completed a standardized checklist immediately after each session to document specific intervention activities. These checklists assessed the interventionist's fidelity to the intervention protocol. The checklist for the first session of both interventions contained seven topics, including HIV/STD/hepatitis risk education, assessment, and risk-reduction planning, as well as the use of each aspect of the conceptual model (harm reduction, goal setting, motivational enhancement). Table 2 shows the percentage of intervention sessions containing each topic. As intended in the research design, chi-square analyses showed no significant differences in session content between the SSI and Week 1 of the EI.

The EI session checklist was comprised of 15 topics that might be addressed in the second prerelease (EI-2) and postrelease (EI-3 to EI-6) sessions. These items assessed inclusion of the three aspects of the conceptual model and all of the content items from the initial intervention checklist (interventionists were trained to review the HIV/STD/hepatitis risk-reduction plan at each session). The EI checklist included additional topics related to community reentry, which may have been addressed by the participant or the interventionist during the session (e.g., legal issues, referrals to social service agencies).

The high proportion of EI-2 to EI-6 sessions in which risk assessment or reduction was discussed suggests that interventionists, as instructed in the intervention protocol, did indeed return to the topic of HIV/STD/hepatitis risk reduction during the second EI session (89%) as well as in the postrelease sessions (75% to 92% of all postrelease sessions). Across all postrelease sessions, HIV/STD/hepatitis risk assessment and risk reduction were the most frequently discussed topics, and substance abuse treatment was the least frequently discussed topic. As expected, given the participant-centered nature of the intervention, there was a broad distribution of topics across the different EI sessions, and all topics were covered in some of the sessions. Data also support the interventionists' adherence to the conceptual model. For



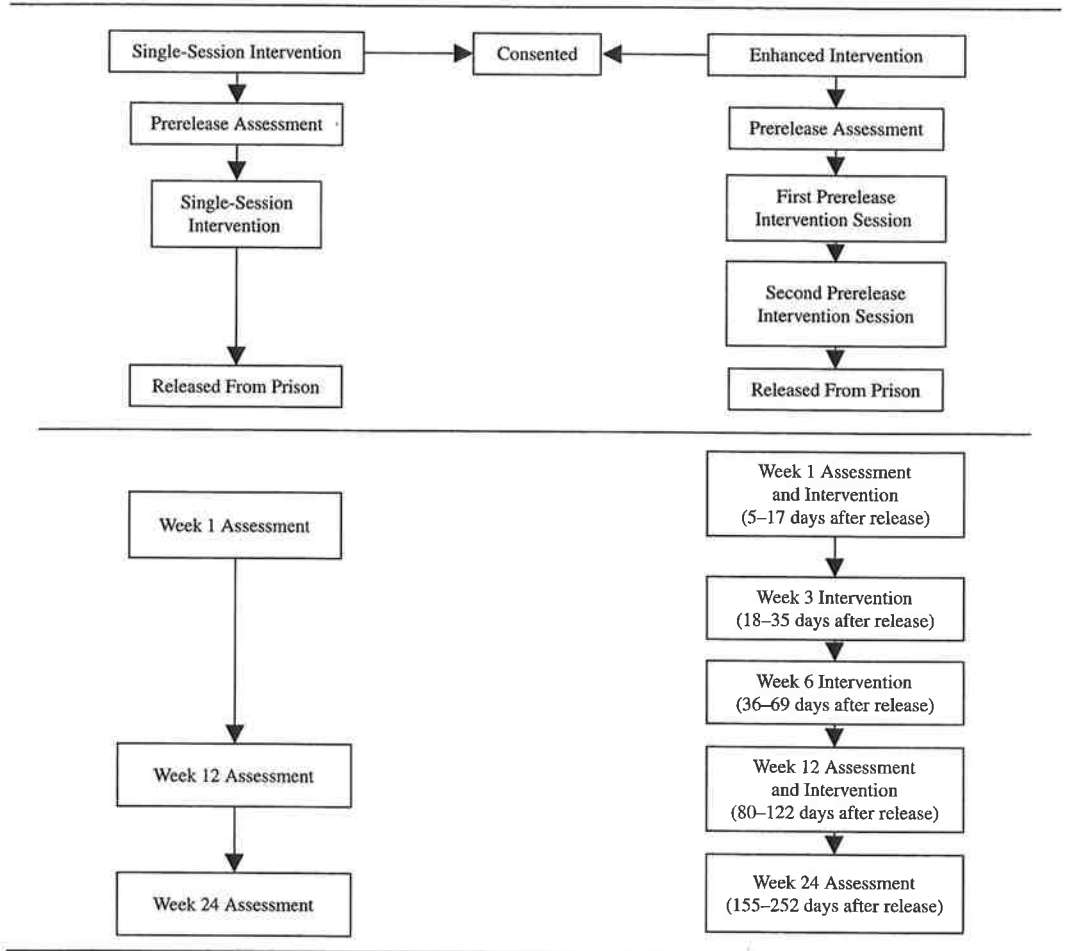


Figure 1. Project START recruitment and intervention.

Table 1. Attendance and Length of Sessions: Project START Intervention in Prisons in Four States, 2001 to 2002

	Attendance (%) <sup>a</sup>	Average Session, Length in Minutes (N) <sup>b</sup>
Prerelease sessions		
SSI	244/259 (94)	73.2 (159)
EI-1	259/263 (99)	72.3 (179)
EI-2	233/263 (89)	69.3 (152)
EI postrelease sessions		
EI-3 (Week 1)	210/263 (80)	48.0 (143)
EI-4 (Week 3)	173/263 (66)	48.7 (109)
EI-5 (Week 6)	173/263 (66)	48.5 (105)
EI-6 (Week 12)	196/263 (75)	50.6 (121)

Note: SSI = single-session intervention; EI = enhanced intervention.

a. Data on session attendance were available from all four intervention sites (N = 522).

b. Data on session length were available from three of the four intervention sites; number of observations across the three sites vary by session and are all shown in parentheses.

**Table 2.** Content of Intervention Sessions, by Session Type in Prisons in Four States, 2001 to 2002

	Prerelease Sessions (%)			Postrelease Sessions (%)			
	SSI <sup>a</sup>	EI-1 <sup>a</sup>	EI-2	EI-3	EI-4	EI-5	EI-6
Harm reduction	96	93	85	85	80	82	76
Motivational enhancement	91	91	89	89	90	86	90
Problem solving/goal setting	88	89	86	83	78	77	75
HIV/STD/hepatitis information	100	100	78	72	63	61	64
Other information/education	99	99	64	56	53	55	48
Risk assessment/reduction	99	98	89	92	75	77	81
HIV/STD/hepatitis prevention skills	96	94	77	81	75	74	74
HIV/STD/hepatitis facilitated referral	—	—	54	48	41	35	35
Substance abuse treatment	—	—	48	36	29	28	34
Educational/vocational training	—	—	78	67	62	56	57
Housing/food/financial assistance	—	—	65	55	50	45	51
Social services referral	—	—	80	76	59	56	58
Physical health, mental health, family, spirituality	—	—	70	66	65	64	66
Parole, probation, legal issues	—	—	74	69	66	71	70
Condoms provided <sup>b</sup>	—	—	19	77	68	66	69

Note: Figures indicate percentage of sessions that included each content or process item. SSI = single session intervention; EI-1 through EI-6 are the first through sixth sessions of the enhanced intervention. *N* = 486 participants who completed at least one valid session checklist form.

a. The SSI and EI-1 sessions focused only on HIV/STD/hepatitis risk reduction; other topics were not addressed.

b. Although condoms could not actually be distributed in the EI-2 (second prerelease) session, in 19% of EI-2 sessions the interventionist indicated that condoms had been provided. This is because condoms were sometimes mailed to participants' homes so they would be available on their first day out. In these cases, interventionists noted on the EI-2 session checklist that condoms had been provided.

example, of all second prerelease sessions, 85% included harm-reduction strategies, 89% included motivational enhancement, and 86% included problem solving or goal setting. Note that although condoms were offered at each assessment and intervention session that occurred outside a correctional facility, in some cases, participants did not take the condoms.

### Validity of Checklists

At three sites, with the permission of participants, most intervention sessions were audiotaped, and supervisors periodically reviewed the tapes to ensure that sessions were being conducted according to the protocol. At all sites, a supervisor reviewed staff field notes and intervention checklists for the purpose of quality assurance.

To ensure the validity of the interventionists' ratings of session content, supervisors completed the session content checklist for a randomly selected 10% of sessions while listening to the session tape. At the site that did not audiotape sessions, 5% of sessions were randomly selected for observation, and the observer completed the session checklist. Interrater reliability was calculated separately for the in-prison intervention session (SSI and first EI session; 59 observations) and for all the additional EI sessions together (115 observations; Tables 3 and 4). Interrater reliability was calculated by using percentage agreement and the tetrachoric correlation ( $\rho$ ; Hutchinson, 1993). Percentage agreement was calculated by dividing the number of agreements by the number of observations. Agreements were defined as observations in which the interventionist and the supervisor agreed that the topic was or was not covered during that session. Percentage agreement for the seven topics on

the checklist for the SSI and the Week 1 sessions of the EI ranged from 100% ( $\rho = 1.00$ ) for giving HIV/STD/hepatitis information and other information to 92% ( $\rho = 0.72$ ) for problem solving or goal setting. Percentage agreement for the EI sessions after the first prerelease session ranged from 97% ( $\rho = 1.00$ ) for a facilitated referral for HIV/STD/hepatitis-related services to 82% ( $\rho = 0.80$ ) agreement for discussion of educational or vocational training. Percentage agreement on all items was more than 82%.

### Session Locations

Private homes were the most popular locations for postrelease intervention sessions (47%), followed by project offices (20%) and restaurants (10%). Although not the preferred method of delivering the intervention, 12% (91/752) of postrelease sessions were conducted on the telephone because a face-to-face meeting could not be arranged. Overall, 13% (95/752) of postrelease sessions were conducted in prison or jail; this proportion increased over time from 3% (7/210) of Week 1 sessions to 21% (45/196) of Week 12 sessions.

### Discussion

Outcome analysis of the Project START behavioral trial showed that EI was more successful than SSI in reducing sexual risk behaviors (Wolitski et al., 2006). Detailed descriptions of interventions and intervention process data—including session content and intervention retention data—are rarely published. Sufficient space is not typically available to address these issues in publications devoted to intervention trial results. Intervention retention rates, in particular, are not often clearly reported, although this can be a critical issue in assessing both the effectiveness and feasibility of an intervention. We encourage the publication of more detailed accounts of intervention process data from successful behavioral intervention trials, perhaps in topic-specific journals.

Our data support the feasibility of conducting intervention outcome research with this population. More than 500 men were recruited, and 79% of EI participants completed at least four of the six intervention sessions. The recruitment and retention rates were high despite the challenges of working within correctional systems and with men recently released from prison. The interventionists consistently addressed participants' most pressing needs (e.g., housing, employment) while maintaining a focus on HIV/STD/hepatitis risk reduction, which may not have been a participant's highest priority at every session. The intervention was conducted by agencies outside the department of corrections, and participants chose whether to include their parole or probation officer as a tracing contact. Research project data were also protected by a federal certificate of confidentiality. We reviewed the informed consent document at each contact, reiterating the voluntary nature of the intervention and assessment activities. These study procedures may have contributed to the men's willingness to participate and their trust that their survey responses would be confidential. Other possible contributors to acceptance and retention were compensation for assessments and the study staff's flexibility, availability, and persistence in maintaining contact with participants both in the community and inside correctional facilities if they had been reincarcerated.

The pattern of session attendance (significantly higher at Weeks 1 and 12 compared with Weeks 3 and 6) is consistent with the participant incentive schedule: The Week 1 and Week 12 sessions were conducted in concert with assessments for which incentives were provided, and at the Week 1 session, participants also received payment for their in-prison

**Table 3.** Interrater Agreement for Enhanced Intervention Session 1 and the Single-Session Intervention in Prisons in Four States, 2001 to 2002

	Agreement (%)	$\rho$ (Tetrachoric Correlation)
HIV/STD/hepatitis information	100	Not estimable <sup>a</sup>
Other information/education	100	1.00
HIV/STD/hepatitis risk assessment/risk reduction	97	0.83
HIV/STD/hepatitis skills	93	0.78
Harm reduction	97	1.00
Motivational enhancement	97	Not estimable <sup>b</sup>
Problem solving/goal setting	92	0.72

Note:  $N = 59$  observations.

a. Not estimable because of empty cells; all raters agreed that this topic was discussed.

b. Not estimable because of empty cells; all interventionists indicated that the technique was used.

**Table 4.** Agreement Between Interventionist and Supervisor Checklists for Enhanced Intervention Sessions 2 to 6 in Prisons in Four States, 2001 to 2002

	Agreement (%)	$\rho$ (Tetrachoric Correlation)
HIV/STD/hepatitis information	86	0.85
Other information/education	91	0.95
HIV/STD/hepatitis risk assessment/risk reduction	91	0.87
HIV/STD/hepatitis skills	88	0.80
Other skills	87	0.79
HIV/STD/hepatitis facilitated referral	97	1.00
Substance abuse treatment	95	0.99
Educational/vocational training	82	0.80
Harm reduction	92	0.84
Housing/food/financial assistance	91	0.96
Social services referral	90	0.91
Physical health, mental health, family, spirituality	94	0.97
Parole, probation, legal issues	90	0.91
Motivational enhancement	97	1.00
Problem solving/goal setting	96	0.88

Note:  $N = 115$  observations.

assessment. Kamb et al. (1998) found that payments motivated participation in interventions. Participants who attended the Week 1 session were more likely to attend the later sessions, indicating the importance of early contact. Also, interventionists reported anecdotally that some participants felt that they had not had enough time to work with their postrelease plan between the Week 1 session and the Week 3 session.

The likely feasibility of replicating this intervention is supported by the fact that most of the staff who conducted the intervention were not professional counselors and did not have postsecondary degrees. The interventionists reflected a variety of professional and life experiences. Some staff had life experiences similar to those of the participants and this may have contributed to rapport. The procedure manual was clear, detailed, and well organized, enabling the interventionists to deliver the intervention consistently to all participants at all sites. Training and supervision were structured and meticulous, and the interventionists were trained and managed by supervisors who were highly skilled and experienced. Training and supervision included intervention delivery skills as well as attention to supporting the

staff in this demanding work. This attention to training, supervision, and ongoing support of the interventionists may have been one of the keys to the success of the intervention.

We provided participants with pagers and engaged in aggressive tracing if participants missed their appointments. Participants were also offered monetary incentives for the assessments related to the research study. We cannot assume that the high rate of intervention attendance would have been possible without these collateral activities or that those implementing the intervention in the community would be able to bear the cost of pagers and the intensive staff resources that were given to tracing and retention for the purpose of assessment. These costs may be offset, however, as in a community, the intervention would be offered to those most in need and most likely to benefit from it. The EI was comprised of six individual sessions at specific times. We do not know whether such specific timing could be used in a community-based intervention; even within the research protocol, we offered additional sessions and saw participants outside the session windows when necessary. Although the specific time intervals were used in an effort to standardize the intervention, we do not know whether the timing of the sessions was important to the outcome. This issue should be explored in future research involving the EI.

The intervention was conducted in nine prisons in four states. The intervention was feasible at all sites, which had different policies, procedures, and physical environments, suggesting that it may be feasible to provide in other prisons as well. With regard to feasibility, a wide range of community resources were available at the different sites. Some sites had an abundance of resources for risk reduction (e.g., HIV/STD/hepatitis testing, risk-reduction counseling, condom distribution, needle exchange) and other issues (e.g., employment, housing); at other sites, community resources were more limited. The EI is a generic intervention outline that can be tailored to the setting and to the level of resources available. The procedure manual is essentially a set of tools and resources that are to be adapted to each intervention site and that were designed to capitalize on existing resources through the process of facilitated referral.

Successful interventions face the challenge of translation from a research protocol into the "real world" of community-based service provision. In Project START, we began to meet this challenge by including a community-based agency (Centerforce) on the research team and by collaborating with correctional institutions. Each site worked closely with the local department of corrections to ensure that the study would be acceptable to custody staff (their input was solicited in the formative stages of intervention development; Grinstead et al., 2003; Seal et al., 2003). Application of some of the lessons learned from Project START, such as the importance of following participants from the inside to the outside and flexibility during the postrelease period, may be useful in taking the intervention into community-based settings. The development of a population-specific resource guide at each site and the assurance that each referral agency would be "prisoner friendly" may have also been important components of the intervention; both these components can be readily implemented by community agencies.

Our study highlighted the importance of building trust with participants from the first contact and the effectiveness of starting an intervention before release and continuing it after release. We learned that reimbursement and timing may be important variables in retention to the intervention as well as to assessment sessions. We also learned that with a significant investment in training, supervision, and quality assurance monitoring, this intervention does not require that staff have advanced academic degrees or professional licenses. Among the unique approaches were a harm-reduction orientation (which fit well with the type of issues raised during sessions), the development of comprehensive community referral guides, and the use of facilitated referrals. This program was well attended, suggesting that the intervention sessions were responsive to participants' concerns and priorities while preparing for and following release from prison. We encourage others to consider implementing this intervention with men leaving prison, to consider adapting the intervention to

related populations (e.g., incarcerated women, jail detainees), and to continue evaluating both the process and the efficacy of the intervention.

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## References

- Bureau of Justice Statistics. (2005). *Prisoners in 2004* (Publication No. NCJ 210677). Washington, DC: Author. Retrieved January 17, 2007, from <http://www.ojp.usdoj.gov/bjs/abstract/p04.htm>
- Chen, J., Bovee, M., & Kerndt, P. (2003). Sexually transmitted diseases surveillance among incarcerated men who have sex with men: An opportunity for HIV prevention. *AIDS Education and Prevention, 15*(Suppl. A), 117-126.
- Grinstead, O., Faigeles, B., Comfort, M., Seal, D., Nealey-Moore, J., Belcher, L., et al. (2005). HIV, STD, and hepatitis risk to primary female partners of men being released from prison. *Women and Health, 41*(2), 63-80.
- Grinstead, O., Seal, D., Wolitski, R., Flanigan, T., Fitzgerald, C., Nealey-Moore, J., et al. (2003). HIV and STD testing in prisons: Perspectives of in-prison service providers. *AIDS Education and Prevention, 15*, 547-560.

- Grinstead, O., Zack, B., Faigeles, B., Grossman, N., & Blea, L. (1999). Reducing postrelease HIV risk among male prison inmates: A peer-led intervention. *Criminal Justice & Behavior*, 26, 468-480.
- Hammett, T. M., Harmon, P., & Maruschak, L. M. (1999). *1996-1997 update: HIV/AIDS, STDs, and TB in correctional facilities* (Issues and Practices in Criminal Justice NCJ 176344). Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Hammett, T. M., Widom, R., Epstein, J., Gross, M., Sifre, S., & Enos, T. (1995). *1994 Update: HIV/AIDS and STDs in correctional facilities*. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Hutchinson, T. P. (1993). Kappa muddles together two sources of disagreement: Tetrachoric correlation is better. *Research in Nursing and Health*, 16, 313-315.
- Kamb, M., Rhodes, F., Hoxworth, T., Rogers, J., Lentz, A., Kent, C., et al. (1998). What about money? Effect of small monetary incentives on enrollment, retention, and motivation to change behaviour in an HIV/STD prevention counselling intervention. *Sexually Transmitted Infections*, 74, 253-255.
- MacGowan, R. J., Margolis, A., Gaiter, J., Morrow, K., Zack, B., Askew, J., et al. (2003). Predictors of risky sex of young men after release from prison. *International Journal of STD and AIDS*, 14, 519-523.
- MacGowan, R., Sosman, J., Eldridge, G., Moss, S., Margolis, A., Flanigan, T., et al. (2004, July). *Sexually transmitted infections in men with a history of incarceration* (Abstract ThPeC7475). Poster session presented at the XV International Conference on AIDS, Bangkok, Thailand.
- Margolis, A. D., MacGowan, R. J., Grinstead, O., Sosman, J., Kashif, I., Flanigan T. P., et al. (2006). Unprotected sex with multiple partners: Implications for HIV prevention among young men with a history of incarceration. *Sexually Transmitted Diseases*, 33, 175-180.
- Marlatt, G. A. (Ed.). (1998). *Harm reduction: Pragmatic solutions for changing high risk behavior*. New York: Guilford Press.
- Maruschak, L. M. (2005). *HIV in prisons, 2003* (Publication NCJ 210344). Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. Retrieved January 17, 2007, from <http://www.ojp.usdoj.gov/bjs/abstract/hivp03.htm>
- Mertz, K. J., Voigt, R. A., Hutchins, K., Levine, W. C., & the Jail STD Prevalence Monitoring Group. (2002). Findings from STD screening of adolescents and adults entering corrections facilities: Implications for STD control strategies. *Sexually Transmitted Diseases*, 29, 834-839.
- Seal, D. W., Belcher, L., Morrow, K., Eldridge, G., Binson, D., Kacanek, D., et al. (2004). A qualitative study of substance use and sexual behavior among 18- to 29-year-old men while incarcerated in the United States. *Health Education and Behavior*, 31, 775-789.
- Seal, D. W., Margolis, A. D., Sosman, J., Kacanek, D., Binson, D., & the Project START Study Group. (2003). HIV and STD risk behaviors among 18- to 25-year-old men released from U.S. prisons: Provider perspectives. *AIDS and Behavior*, 7, 131-141.
- Sosman, J. M., MacGowan, R. J., Margolis, A. D., Eldridge, G., Flanigan, T., Vardaman, J., et al. (2005). Screening for sexually transmitted diseases and hepatitis among 18-29 year-old men recently released from prison. *International Journal of STD and AIDS*, 16, 117-122.
- Wolitski, R. J., & the Project START Writing Group, for the Project START Study Group. (2006). Relative efficacy of a multisession sexual risk-reduction intervention for young men released from prisons in 4 states. *American Journal of Public Health*, 96, 1854-1861.