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Collaborative Behavioral Management for Drug-Involved Parolees: Rationale and Design of the Step'n Out Study

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Abstract

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This article describes the rationale, study design, and implementation for the Step'n Out study of the Criminal Justice Drug Abuse Treatment Studies. Step'n Out tests the relative effectiveness of collaborative behavioral management of drug-involved parolees. Collaborative behavioral management integrates the roles of parole officers and treatment counselors to provide role induction counseling, contract for pro-social behavior, and deliver contingent reinforcement of behaviors consistent with treatment objectives. The Step'n Out study will randomize 450 drug-involved parolees to collaborative behavioral management or usual parole. Follow-up at 3-and 9-months will assess primary outcomes of rearrest, crime and drug use. If collaborative behavioral management is effective, its wider adoption could improve the outcomes of community reentry of drug-involved offenders.

Keywords

Community corrections; community reinforcement; contingency management; drug abuse; graduated sanctions; parole

INTRODUCTION

Substance use disorders are endemic among prisoners and parolees. In 2002, 68% of inmates had substance abuse or dependence prior to incarceration (Bureau of Justice Statistics, 2005). Of drug-involved offenders, only 13% to 32% report receipt of addiction treatment in prison (Belenko & Peugh, 2005; Mumola, 1999). Most drug-involved offenders return to the community without having received treatment in prison and many will relapse during the period of community reentry (Hanlon, Nurco, Bateman, & O'Grady, 1998). Approximately 24% of offenders return to prison within three years of release, typically as a result of violations of supervision requirements such as failure to attend treatment, detected substance use, or rearrest (Langan & Levin, 2002). Addiction treatment during the transition back to the community can reduce substance use and criminal behavior, but newly released offenders have limited motivation for treatment (Sung, Belenko, & Feng, 2001).

Innovations over the last two decades have sought closer coordination of community corrections with addiction treatment, but few controlled studies have tested collaborative interventions (Taxman & Thanner, 2006). Several models (diversion to treatment, seamless system models, drug courts, etc.) involve judicial mandates and improved communication to increase treatment retention, a prerequisite for improved drug-related outcomes (Young, 2002; Zhang, Friedmann, & Gerstein, 2003). This article reports the design and rationale for an ongoing multisite experiment of a collaborative behavioral management supervision strategy.

OVERVIEW OF THE ORIGIN, GOALS AND DESIGN RATIONALE FOR STEP'N OUT

Typical parole supervision involves weekly to monthly in-person contacts between the offender and parole officer (PO) in order to improve compliance with conditions of release (e.g. treatment attendance and drug abstinence). The intensity and orientation of supervision vary, but 'typical' supervision generally emphasizes detecting and sanctioning antisocial behavior such as crime and drug use, and has few formal mechanisms to reinforce pro-social behavior (Taxman, 2002). The emphasis on surveillance may explain why more intensive supervision leads to greater detection of technical violations and more revocation (Taxman, 2002; Petersilia & Turner, 1993). Behavioral science suggests that sustained positive change is more likely to follow reinforcement of desired behavior than punishment of undesired behavior. Planning for the current trial was thus guided by the belief that any effort to change the punitive dynamic

would need to give parole officers positive tools to manage behavior. Step'n Out proposes that the PO can and should be an effective agent of change for the parolee; not just to “punish” problem behavior, but to shape behavior in a pro-social direction through the definition and reinforcement of incremental steps toward rehabilitation.

Consistent with this belief, the study consciously invokes theories and strategies familiar to the treatment and correctional systems. The Step'n Out approach has its foundation in operant conditioning and procedural justice theory. Operant conditioning posits that behavior followed by reinforcement will be repeated whereas behavior followed by punishment will decrease or discontinue (Reynolds, 1975). Considerable research has shown that interventions that have their foundation in operant conditioning, such as the community reinforcement and voucher-based reinforcement approaches, are effective in reducing antisocial behaviors (Katz, Gruber, Chutuape, & Stitzner, 2001; Higgins et al., 1994; Petry, Martin, & Simcic, 2005; Hunt & Azrin, 1973; Azrin, Sisson, Meyers, & Godley, 1982; Meyers, Smith, & Lash, 2003) but they have not been adapted for delivery in community corrections. The theory of behavior change underlying these interventions is similar to that for the penal approach, except these interventions emphasize reinforcement of desired behavior rather than punishment for undesired behavior. However, delay and uncertainty of punishment for undesirable behavior are unavoidable consequences of due process, and drug use and crime are learned behaviors more strongly controlled by their reinforcing properties than by punishment (Brooner et al., 2004). Step'n Out thus posits that improvement in the expeditiousness and certainty with which desired behaviors (e.g. drug abstinence, treatment attendance) are reinforced should increase the effectiveness of parole or probation in changing behavior.

Procedural justice theory maintains that individuals are more likely to comply with rules perceived as fair and equally applied (Tyler, 1990; Taxman & Thanner, 2006). In a fair system, rules and behavioral expectations are clearly articulated, and rewards and penalties are delivered in a consistent, predictable manner. Role induction, a cognitive intervention designed to help individuals adopt the role of drug-treatment client, has been shown to improve engagement and retention of clients in addiction treatment (Dansereau, Joe, & Simpson., 1995; Katz et al., 2004; Ravndal & Vaglum, 1992; Stark & Kane, 1985; Verinis, 1996). Role induction counseling clarifies staff's expectations of clients and vice-versa, thus establishing a framework that limits the offender's ability to dismiss consequences as unfair or unreasonable. A systematic, predictable approach to reinforcement and punishment further enhances the offenders' perception of fairness.

OVERVIEW OF THE STEP'N OUT STUDY

The Step'n Out study, a six-site randomized clinical trial, evaluates whether (1) the period of parole supervision more effectively induces behavioral change if the parole officer collaborates closely with the substance abuse treatment provider and (2) having the PO shape behavior through both rewards and punishments increases pro-social behavior.

Evolution of Step'n Out

The original design proposed to adapt a fishbowl contingency management approach to the parole setting (Petry et al., 2005). At a stakeholders meeting held August 4–5, 2003, correctional and addiction treatment partners advocated for a greater emphasis on social reinforcement as more naturalistic and sustainable than fish-bowl drawings. They felt the intervention should provide a clear message about the importance of addiction treatment, give the PO-client relationship a positive approach to behavior change, and reward progress toward pro-social goals. In response, the redesigned study emphasized clarification of expectations and pro-social goals using role induction, and reinforcement of progress toward those goals

through an adaptation of community reinforcement and voucher-based reinforcement approaches.

The Step'n Out Collaborative Behavioral Management (CBM) Intervention

CBM has four major components. First, it explicitly articulates both staff's and offenders' roles, their expectations of one another, and the consequences if offenders meet or fail to meet those expectations. Second, it negotiates a behavioral contract that specifies concrete target behaviors in which the offender is expected to engage on a weekly basis; these target behaviors include requirements of supervision and formal addiction treatment, and involvement in behaviors that compete with drug use (e.g., getting a job; enhancing non-drug social network). Third, it regularly monitors adherence to the behavioral contract, and employs both reinforcers and sanctions to shape behavior. The motto is "Catching People Doing Things Right," which is to say, the intervention creates the conditions to notice and reward offenders for achieving incremental pro-social steps as part of normal supervision. Fourth, CBM establishes a systematic, standardized, and progressive approach to reinforcement and sanctioning to ensure consistency and fairness.

The CBM intervention lasts 12 weeks and involves an initial session between the parole officer, counselor, and offender, followed by weekly contacts between the parole officer and offender; the treatment counselor joins these sessions at least once every other week. The offender is expected to participate in outpatient treatment programming.

Role Induction—During the initial session role induction strategies align expectations and enhance rapport, and an initial behavioral contract is established. The role induction component involves: (a) eliciting and addressing the offender's misperceptions about supervision and addiction treatment; (b) defining staff's roles; specifically what the client can expect of staff; (c) clarifying the expectations on the offender and the demands of CBM; and (d) instilling hope that behavior change is achievable. The clear definition of success and how it can be achieved is a key element to address offenders' ambivalence towards parole and treatment.

CBM Contract—Staff and offenders review the requirements of supervision and addiction treatment, negotiate the three most important priorities, and create a behavioral contract that reflects these priorities. The CBM contract specifies expectations in terms of concrete target behaviors that the offender must meet before the next weekly session. Examples of target behaviors include producing a negative urine specimen; attending supervision and counseling sessions; and completing incremental steps toward getting a job or finding adequate housing. These expectations are managed using a computer program, the Step'n Out COmputerized iNput Environment (SNOcone). The contract is printed out with copies for all three parties to sign and keep for their records.

The CBM contract is monitored weekly to expedite identification and reinforcement of compliance and sanction of non-compliance, and then the contract is renegotiated and printed for the following week. Compliance with the contract earns points and, when pre-established milestones are reached, material and social rewards. Problem-solving and graduated sanctions address non-compliance.

Expectation Levels—Target behaviors on the CBM contract fall within four levels of expectations depending on the compliance level: red, orange, yellow and green. Red expectations are non-negotiable public safety requirements such as not being involved in criminal acts, not carrying a weapon, and other criminal behaviors. The orange level involves verified abstinence, through urine and breath alcohol testing, from illicit drugs and alcohol.

Offenders cannot begin work on green goals until orange expectations are met. Compliance with red and orange expectations is necessary for earning rewards.

Yellow expectations address attendance at scheduled supervision sessions and weekly group counseling sessions. Yellow expectations also target helping offenders who are actively using drugs achieve abstinence, for example through the participation in additional counseling sessions or daily NA meetings, completing a detoxification program, or moving into a halfway house.

Green expectations support and sustain recovery. Specific goals derive from a negotiation between the staff and client about the priorities for supervision and treatment. These expectations may target specific requirements of supervision (e.g., getting a job), offender goals that are consistent with a drug-free lifestyle (e.g., improving relationships with children), or both. Since green expectations or goals require skills and time to achieve, parole officers, counselors, and clients work together to break them down into small objectives or target behaviors. These objectives are laddered in difficulty toward achievement of the longer-term goal, with easier objectives selected earlier and more difficult objectives later.

Addressing Compliance with the CBM Contract—SNOCCONE manages a progressive reinforcement schedule to encourage complete and sustained compliance with the contract. Clients earn a single point per target behavior for the first instance of compliance with yellow or green expectations. The number of points clients can earn for each target behavior increases by one point per target behavior per week of complete compliance (Higgins et al., 1991). Thus, during the first week, clients earn one point for each target behavior. In week 2, if the client demonstrates sustained compliance with all target behaviors, the maximum number of points earned for each compliant target behavior is 2, and forth up to a maximum of 12 points per objective.

Rewards: SNOCCONE tracks eligibility to earn two types of rewards, graduated positive social responses and material rewards, when the offender has earned a pre-determined number of points (milestones, Table 1). To encourage early compliance, reinforce early success and allow the client time to gain skills and resources needed for positive changes, milestones come weekly during the first three weeks should the client complete two of the three target behaviors. As the client becomes more engaged in recovery and begins to experience natural reinforcement, SNOCCONE delivers rewards less frequently.

Managing Non-Compliance—Non-compliance at all expectation levels causes the client to enter a reset period (Higgins et al., 1991) during which they can receive only one point per compliant target behavior. If the client is non-compliant with red, orange, or yellow expectations, any rewards earned are withheld; clients can still receive rewards despite non-compliance with green expectations. After two weeks of complete compliance, the reset period is lifted, the number of points per target behavior is returned to the previous highest amount earned, and withheld rewards are delivered.

Sanctions: In addition to a point reset, non-compliance with red, orange and yellow expectations results in sanctions appropriate to the severity and chronicity of non-compliance. Non-compliance with red expectations will usually result in a severe sanction (e.g., issuance of a warrant). If the non-compliance involves a new arrest that has not yet been adjudicated, the client enters a “pending” status in which the parole officer will continue to record compliance/non-compliance with other expectation levels. If charges are ultimately dropped, SNOCCONE will give the client all points and rewards that were earned during the pending period. If the offender is convicted, however, they do not earn any rewards and are subject to a sanction. For non-compliance with orange and yellow expectations, the parole officer will

initially issue a low level sanction (e.g., verbal warning). Each successive instance of non-compliance within a 30-day period invokes gradually more severe sanctions up to recommendation of revocation. Sanctions are reset back to the lowest level if the client is able to sustain a period of 30 or more days of full compliance. Sanctions are not issued for non-compliance with green expectations; rather the parole officer and counselor work with the client to explore barriers to compliance or to shape the target behavior through setting smaller, more incremental approximations (Higgins et al., 1991).

Participating Research Centers and Sites

Five CJ-DATS research centers participate in the Step'n Out study: Providence, Rhode Island, the lead center; Bridgeport, Connecticut; Hartford, Connecticut; Wilmington, Delaware; Richmond, Virginia and Portland, Oregon. Each collaborating research center was responsible for establishing a cooperative agreement with one or more local parole and probation office(s) and the local treatment programs to which these offices referred drug-involved offenders for treatment, and for adapting the intervention to their setting. Similarities and differences among the five sites are described in Table 2.

Training Parole Officers and Counselors

The initial two-and-half-day training for the Step'n Out teams occurred in December, 2004. This training brought together parole officer and addiction counselor teams and their supervisors. The training began with lecture presentation of the theoretical model and rationale for the intervention, research evidence for its components, and an outline of key elements. Training staff then demonstrated the key components of CBM. The remainder of the training focused on having the teams practice skills in case-based role plays with reinforcement and corrective feedback. A checklist of the key elements for fidelity to the protocol guided the role plays and feedback. The teams were encouraged to negotiate roles with regards to initiating the role induction discussion, establishing goals and setting target behaviors, but the protocol recommends that the PO take primary responsibility for rewards and sanctioning and the counselor for problem-solving. Additional on-site trainings were also scheduled due to the lag time between the initial training and the time that sites began recruitment, the addition of new sites, and staff turnover. A two-day booster training session in September, 2006 focused on enhancing both the fidelity and finesse with which teams delivered the intervention.

Fidelity

Procedures to ensure fidelity to the intervention (Yeaton & Sechrest, 1981) include: 1) preparation of a manual for the CBM approach; 2) uniform training and oversight of the CBM intervention teams; 3) a uniform booster training; and 4) cross-site procedures for monitoring delivery of the CBM intervention. A central trainer (EK) supervises protocol fidelity through review of 100% of audiotaped initial sessions and 100% of third sessions for protocol adherence. Each audiotape is rated using a fidelity rating sheet that lists specific staff behaviors that fall within three categories: (1) Essential and Unique; (2) Allowed but Not Unique; and (3) Not Allowed. Staff behaviors that are "Essential and Unique" distinguish Step'n Out from other behavioral interventions (e.g., explaining that compliance with the behavioral contract would earn points and rewards). Staff behaviors that are "Allowed but Not Unique" are not necessarily unique to Step'n Out but may still be essential to the intervention (e.g., asking about the client's previous experience in treatment or on parole) or are a routine part of clinical practice (e.g., encouraging NA attendance). Staff behaviors that are "Not Allowed" are prohibited in Step'n Out (e.g., delivering rewards that are not tied to achievement of a milestone). To be rated as adherent, staff must demonstrate 80% of the "Essential and Unique" items, 50% of the "Allowed but Not Unique" items, and fewer than 20% of "Not Allowed" items. Fidelity reviewers independently rate taped sessions to ensure inter-rater reliability.

Overall, percent agreement by the two coders has been in excess of 90%. Fidelity reports and direct feedback are provided to the parole officer and counselor team as well as the research project director. As of June 30, 2007, 82% of the induction sessions and 74% of the one-month sessions coded were adherent.

STUDY POPULATION

Inclusion and Exclusion Criteria

The target population is parolees with pre-incarceration substance use disorders who are at moderate-to-high-risk of recidivism. Inclusion criteria are: (a) at least 18 years of age; (b) English speaking; (c) Probable drug dependence immediately prior to incarceration as determined by a score of 3 or higher on the TCU Drug Screen II (Knight, Simpson, & Hiller, 2002) or mandated drug treatment; (d) Substance use treatment as a mandated or recommended condition of parole; (e) Moderate-to-high-risk of drug relapse and/or recidivism as determined by a Lifestyle Criminality Screening Form (LCSF) score of or greater (Walters & McDonough, 1998), or a history of two or more prior episodes of drug abuse treatment or drug-related convictions. Exclusion criteria are: (a) psychotic symptoms on a SCID screener (First, 2002); and (b) Correctional or supervision conditions that prohibit them from participating in the study, including failure to leave prison on parole or probation; mandate to a special parole caseload; or transfer to a non-participating supervision office.

Recruitment Procedures and Randomization

Because of variation in the criminal justice systems across the states, recruitment occurs at different points in the re-entry process. Some sites screen potential subjects in prison one or two months prior to release while others screen at the parole/probation office when the clients first report for supervision. Given the challenges of subject recruitment in correctional settings, adjustments in the initial recruitment strategy were common during the first year of the study (Table 3).

Following completion of screening, informed consent and a baseline interview, subjects are randomized to the collaborative behavioral management intervention or a comparison condition. Urn randomization (Stout, Wirtz, Carbonari, & Del Boca, 1994) ensures balance by gender; receipt of in-prison or transitional residential addiction treatment; length of incarceration more or less than 18 months; and moderate versus high risk for recidivism on the LCSF. Participants in the comparison group receive standard parole supervision from a different supervision officer at the usual office with traditional sanctions. Standard parole includes, at minimum, face-to-face contacts and drug testing (random, observed, etc.) at a frequency in keeping with local standards. If local standards do not provide adequate financial access to addiction treatment, the study guarantees that financial barriers do not prevent any subject from a minimum of 12 weeks of regular outpatient addiction treatment.

Recruitment and retention of transitioning offenders into a randomized trial has proven very challenging. Many inmates who agree to randomization during prison or transitional residential addiction treatment never reach the parole office with sufficient time remaining on parole or conditions that allow participation. Reasons for subject loss prior to initiation of the intervention include completion of the sentence in prison without parole (“flattening”); release with less than three months of parole time remaining; parole or probation without a mandate or recommendation for substance abuse treatment; transfer to a parole office in another jurisdiction; or violation of parole in a halfway house with an early return to prison. As of June 30, 2007, ninety of 522 subjects randomized did not have an initial parole session. No significant differences existed between the 44 control and 46 intervention subjects who did not initiate parole.

Data Collection

Personal interviews performed at baseline (pre-randomization), 3-, and 9-months after the initial parole session are the primary tool of assessment. Participants receive \$20, \$40, and \$60 in grocery store certificates for the three interviews, respectively. These amounts are adjustable to the standards of local IRBs. This study utilizes standardized procedures to track subjects for follow-up interviews (Hall et al., 2003). As of June 30, 2007, follow up rates are 92%, at 3 months, and 88% at 9 months.

Personal interviews use the CJ-DATS Intake and Follow-up instruments developed for CJ-DATS intervention studies (CJ-DATS, 2004). They provide detailed information on sociodemographic background, family and peer relations, health and psychological status, criminal involvement, drug use history, and HIV/AIDS risk behaviors. The intake gathers baseline characteristics on the subject prior to the arrest that led to the most recent incarceration, while the follow up forms capture information for the appropriate follow up window. Where appropriate, the assessment uses validated measures of other domains. A Timeline Followback (TLFB) calendar interview (Sobell & Sobell, 1992; Ehrman & Robbins, 1994; Miller, 1996) assesses drug use, criminal behavior, living situation and treatment utilization. Self-report is verified through the use of urine toxicology and file reviews at the parole offices. As of June 30, 2007, 206 subjects who provided urine samples at the three month interview, compared to reported drug use in the prior three days on the timeline followback, agreement was 85% for the intervention group and 79% for the controls (overall kappa, .39), suggesting that final outcomes should include a combination of self-report and toxicological results.

To examine changes in process and structure within parole and treatment, other measures examine therapeutic alliance, collaboration, parole orientations and attitudes, and organizational functioning. Therapeutic alliance is measured by administering the Working Alliance Inventory-Short Form (Horvath & Greenberg, 1989) and PO-Probationers Relationships Form (a 45-item instrument developed by Skeem and Taxman, unpublished) to clients at the three-month follow-up. Parole officers and treatment counselors report on collaboration, attitudes and organizational functioning using adaptations of the Index of Interdisciplinary Collaboration (Bronstein, 2002), the Interorganizational Relationships Questionnaire (Konrad & Sussanj, 1996), the Probation and Parole Strategies Questionnaire (Shearer, 1991), and the TCU Survey of Organizational Functioning (Lehman, Greener, & Simpson, 2002) before training and 12 months later.

Data Management

The quality of data collection is maximized through uniform training of research assistants at all sites in standard operating procedures and the data collection instruments and close oversight by the Lead and Coordinating Centers. Teleform optically scanned forms, are faxed, scanned, or emailed to the Coordinating Center. Logic checks and data validation of the Teleforms are done in real-time and quality control reports are sent to the centers on a weekly basis. Timeline Followback data are entered into secure web-based platforms. Each site submits a sample of paper forms for double re-entry on a monthly basis. The Coordinating Center sends out a quality assurance report monthly to each site, which includes missing measures and requests for corrections of inconsistent information.

Human Subjects

The protocol complies with the special protections pertaining to behavioral research involving prisoners (OHRP, 2005). While a Federal Certificate of Confidentiality applies nationally, each site obtained IRB, OHRP and administrative approvals locally. Participating centers work closely with the Lead Center, Coordinating Center and CJ-DATS Steering Committee to maintain compliance with policies established by the OHRP and the Data and Safety

Monitoring Board (DSMB) established by the Division of Epidemiology, Services and Prevention Research (DESPR) at NIDA.

Analysis Plan Primary Outcomes

Primary analyses will test whether the CBM intervention condition decreases recidivism, crime and relapse to drug use compared to standard parole supervision. Principal stratification methods will examine whether a causal relationship can be established between compliance with the intervention and the outcome (Roy & Hogan, 2006).

Secondary analyses will examine moderator and mediator effects such as participant characteristics, treatment participation, collaboration between the supervision officer and treatment counselor, and therapeutic alliance with the client. Interaction terms will examine whether the effect of CBM might be modified by participant characteristics such as female gender, greater motivation, greater risk of recidivism (Thanner & Taxman, 2003), longer index incarceration, “harder” primary drug (e.g. heroin or cocaine), longer treatment history, antisocial personality disorder or psychosocial functioning (Marlowe, 2003). Secondary analyses will also assess the influence of Step'n Out adherence among POs and treatment counselors. Cost analyses are also planned.

Characteristics of Participants

Recruitment for the Step'n Out study began in March 2005 and will continue until September 2007. The refusal rate has been approximately 10% with another 10% of contacted subjects failing to meet eligibility criteria. Across sites, 406 participants have been randomized and had their initial meeting with their parole officer between March 10, 2005 and June 30, 2007. Subjects are approximately 83% male, mean age is 34 ± 8.9 years, and traditional racial minorities comprise the majority enrolled. As of June 30, 2007, the randomization procedure appears to have balanced the study conditions for most baseline characteristics, and the loss of subjects who did not initiate parole has not affected that balance (Table 4).

DISCUSSION

The Step'n Out Collaborative Behavioral Management intervention is an attempt to integrate public safety and public health strategies to optimize offenders' outcomes. Integration of supervision with treatment has the potential to improve treatment adherence for drug-dependent offenders reentering the community (Thanner & Taxman, 2003). However, related research on intensive supervision has been haunted by the finding that closer surveillance leads to more detection of technical violations and more revocations, thus increasing re-incarceration costs without improving public safety (Petersilia, 1990; Petersilia & Turner, 1993). When negative sanctions are the only tools parole officers have to manage behavior, more contacts inevitably lead to more detection of non-compliance, sanctioning and revocation. In addition, drug-involved parolees reenter the community with multiple behavioral expectations (e.g. conditions of parole) that are often unclear, unrealistic or discrepant between parole and addiction treatment. They are commonly warned to “stay out of trouble” with little guidance about the steps necessary for community reintegration and recovery. Punishment is uneven, “blunt,” and arbitrary, and frequently experienced by clients as “unfair.” They may feel overwhelmed and “set up to fail.” Finally, parole officers have few tools to reinforce pro-social behavior. The current system is thus suboptimal for facilitating lasting behavioral change in drug-involved offenders.

Based on procedural justice theory, a more optimal system would ensure that roles and behavioral expectations are clear, realistic, aligned (i.e. “everyone on the same page”), and consistently applied (Thanner & Taxman, 2003). Operant conditioning theory suggests that

immediate and reliable reinforcement of pro-social behavior is necessary to counter, in part, the strong reinforcing effects of drug use and crime. Natural reinforcers associated with rehabilitation and recovery are delayed (i.e. it takes time to get a good job, develop sober relationships, etc.), thus short-term reinforcement from the parole officer and treatment counselor seems essential to bridge the period until natural reinforcement arises. Step'n Out and other contingency management procedures attempt to make reinforcements more temporally proximal to the behaviors of interest. The Step'n Out project has developed a theory-based intervention to decrease unrealistic and discrepant behavioral expectations, to facilitate explicit rehabilitative goals increase parolees' sense of fairness in the system, and to increase pro-social behavior through reinforcement. The ongoing field experiment is designed to provide empirical support for this concept relative to standard parole and addiction treatment procedures.

The Step'n Out intervention has potential benefits at both the client and organizational level. At the client level, unlike routine supervision which focuses on monitoring behavior and sanctioning non-compliance, Step'n Out is designed to clarify and reinforce positive goal attainment in order to facilitate expected behaviors (e.g. attendance at appointments). This approach may also facilitate more supportive contacts, reinforce functional decision-making and build self-efficacy, changes that may be associated with sustained reductions in drug use and crime. At the organizational level, the partnership might create a culture in which treatment providers gain greater understanding of POs' role in managing offender behavior and ensuring public safety, while PO's would gain greater understanding of the importance of treatment and a positive rehabilitative approach in inducing long-term behavioral change, and that behavioral change is key to public safety. Thus, the proposed integration of the community supervision and addiction treatment systems might be considered a joint venture or alliance, in which both parties contribute resources and expertise to create a new entity better designed for the task of reintegrating drug-involved offenders back into the community. If collaborative behavioral management proves to be successful, its wider adoption would strengthen collaboration between the addiction treatment and criminal justice systems, which, in turn, is expected to improve the behavior and social adjustment of the ex-offender.

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REFERENCES

- Azrin NH, Sisson RW, Meyers R, Godley M. Alcoholism treatment by disulfiram and community reinforcement therapy. *J. Behav Ther Exp Psychiatry* 1982;13(2):105–112. [PubMed: 7130406]
- Belenko S, Peugh J. Estimating drug treatment needs among state prison inmates. *Drug Alcohol Depend* 2005;77(3):269–281. [PubMed: 15734227]
- Bronstein LA. Index of interdisciplinary collaboration. *Social Work Research* 2002;(26):113–126.

- Brooner R, Kidorf M, King V, Beilenson P, Svikis D, Vlahov D. Behavioral contingencies improve counseling attendance in an adaptive treatment model. *Journal of Substance Abuse Treatment* 2004;27(3):223–232.
- Bureau of Justice Statistics. Substance dependence, abuse, and treatment of jail inmates 2002. Bureau of Justice Statistics; Washington, D.C.: 2005. (NCJ 209558)
- CJ-DATS. CJ-DATS Core Instruments. 2004 [June 12, 2007]. from: <http://cjdat.org/ka/ka-2.cfm?folder/id=269>
- Dansereau DF, Joe GW, Simpson DD. Attentional difficulties and the effectiveness of a visual representation strategy for counseling drug-addicted clients. *Int J. Addict* 1995;30(4):371–386. [PubMed: 7541782]
- Ehrman RN, Robbins SJ. Reliability and validity of 6-month timeline reports of cocaine and heroin use in a methadone population. *Journal of Consulting Clinical Psychology* 1994;62:843–850.
- First MB. The DSM series and experience with DSM-IV. *Psychopathology* 2002;35(2–3):67–71. [PubMed: 12145486]
- Hall, EA.; Zuniga, R.; Cartier, J.; Anglin, MD.; Danila, B.; Ryan, T.; Mantius, K. ng In Touch: A Fieldwork Manual Of Tracking Procedures For Locating Substance Abusers In Follow-Up Studies. 2003 [May 30, 2007]. from: <http://www.uclaisap.org/trackingmanual/manual.html>
- Hanlon TE, Nurco DN, Bateman RW, O'Grady KE. Response of drug abuser parolees to a combination of treatment and intensive supervision. *Prison Journal* 1998;78(1):31.
- Higgins ST, Budney AJ, Bickel WK, Foerg FE, Donham R, Badger GJ. Incentives improve outcome in outpatient behavioral treatment of cocaine dependence. *Arch Gen Psychiatry* 1994;51(7):568–576. [PubMed: 8031230]
- Higgins ST, Delaney DD, Budney AJ, Bickel WK, Hughes JR, Foerg F, Fenwick JW. A behavioral approach to achieving initial cocaine abstinence. *Am J Psychiatry* 1991;148(9):1218–1224. [PubMed: 1883001]
- Horvath AO, Greenberg LS. Development and validation of the working alliance inventory. *Journal of Counseling Psychology* 1989;(36):223–233.
- Hunt GM, Azrin NH. A community-reinforcement approach to alcoholism. *Behav Res Ther* 1973;11(1):91–104. [PubMed: 4781962]
- Katz EC, Chutuape MA, Jones H, Jasinski D, Fingerhood M, Stitzer M. Abstinence incentive effects in a short-term outpatient detoxification program. *Exp clin Psychopharmacol* 2004;12(4):262–268. [PubMed: 15571443]
- Katz EC, Gruber K, Chutuape MA, Stitzer ML. Reinforcement-based outpatient treatment for opiate and cocaine abusers. *Journal of Substance Abuse Treatment* 2001;(20):93–98. [PubMed: 11239734]
- Knight, K.; Simpson, DD.; Hiller, ML. Screening and referral for substance-abuse treatment in the criminal justice system.. In: Leukefeld, CG.; Tims, FM.; Farabee, D., editors. *Treatment Of Drug Offenders: Policies And Issues*. Springer; New York: 2002. p. 259-272.
- Konrad E, Su ssanj Z. Influences of industry on organizational culture and climate. *Review of Psychology* 1996;3(1):3–10.
- Langan, PA.; Levin, DJ. Recidivism Of Prisoners Released In 1994. U.S. Department of Justice, Bureau of Justice Statistics; Washington, DC: 2002. (Publication No. NCJ-193427)
- Lehman WE, Greener JM, Simpson DD. Assessing organizational readiness for change. *Journal of Substance Abuse Treatment* 2002;(22):197–209. [PubMed: 12072164]
- Marlowe DB. Integrating substance abuse treatment and criminal justice supervision. *Science & Practice Perspectives* 2003;2:4–14. [PubMed: 18552716]
- Meyers RJ, Smith JE, Lash DN. The community reinforcement approach. *Recent Developments in Alcoholism* 2003;16:183–195. [PubMed: 12638638]
- Miller WR. Form 90. A structured assessment interview for drinking and related behaviors. Project MATCH monograph series 1996;5:96–4004. (In search of how people change: Applications to addictive behaviors)
- Mumola, C. Substance abuse and treatment, state and federal prisoners, 1997 (Special Report: U.S. Dept. of Justice). Office of Justice Programs, Bureau of Justice Statistics; Washington, D.C.: 1999.

- OHRP. Code of federal regulations: Part 46 protection of human subjects. Jun 232005 [May 29, 2007]. from <http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#skip>
- Petersilia J. When probation becomes more dreaded than prison. *Federal Probation* 1990;54(1):23–27.
- Petersilia, J.; Turner, S. Intensive probation and parole.. In: Tonry, M., editor. *Crime and justice: A review of research*. Vol. 17. University of Chicago Press; Chicago, IL and London, UK: 1993. p. 281–336.
- Petry NM, Martin B, Simcic F Jr. Prize reinforcement contingency management for cocaine dependence: Integrationwithgroup therapyina methadone clinic. *Journal of Consulting Clinical Psychology* 2005;73(2):354–359.
- Ravndal E, Vaglum P. Different intake procedures. The influence on treatment start and treatment response—a quasi-experimental study. *J Subst Abuse Treat* 1992;9(1):53–58. [PubMed: 1593664]
- Reynolds, GS. *A Primer of operant conditioning*. Scott Foresman; Glenview, IL: 1975.
- Roy, J.; Hogan, JW. Causal Comparisons in Randomized Trials of Two Active Treatments: The Effect of Supervised Exercise to Promote Smoking Cessation. Preprint Series (Article 6). Jul2006 [May 30, 2007]. from: <http://biostats.bepress.com/cobra/ps/art6>
- Shearer, RA. *The probation strategies scale*. Sam Houston State University; Huntsville, TX: 1991.
- Sobell, LC.; Sobell, MB. Time line follow-back: A technique for assessing self-reported alcohol consumption.. In: Litten, R.; Allen, J., editors. *Measuring alcohol consumption*. Humana Press; Totowa, NJ: 1992. p. 41–72.
- Stark MJ, Kane BJ. General and specific psychotherapy role induction with substance-abusing clients. *Int J Addict* 1985;20(8):1135–1141. [PubMed: 4077315]
- Stout RL, Wirtz PW, Carbonari JP, Del Boca FK. Ensuring balanced distribution of prognostic factors in treatment outcome research. *Journal of Studies on Alcohol Supplement* 1994;(12):70–75. [PubMed: 7723001]
- Sung HE, Belenko S, Feng L. Treatment compliance in the trajectory of treatment progress among offenders. *Journal of Substance Abuse Treatment* 2001;(20):153–162. [PubMed: 11306218]
- Taxman FS. Supervision – exploring the dimensions of effectiveness. *Journal Probation* 2002;66:14–27.
- Taxman FS, Thanner M. Risk, need, and responsivity (rnrr): It all depends. *Crime & Delinquency* 2006;52(1):28–51. [PubMed: 18542715]
- Thanner MH, Taxman FS. Responsivity: The value of providing intensive services to high-risk offenders. *Journal of Substance Abuse Treatment* 2003;24:137–147. [PubMed: 12745031]
- Tyler, TR. *Why people obey the law*. Yale University Press; New Haven, CT: 1990.
- Verinis JS. The effect of an orientation-to-treatment group on the retention of alcoholics in outpatient treatment. *Subst Use Misuse* 1996;31(10):1423–1431. [PubMed: 8879082]
- Walters GD, McDonough JR. The lifestyle criminality screening form as a predictor of federal parole=probation=supervised release outcome. *Legal and Criminological Psychology* 1998;3:173–181.
- Yeaton WH, Sechrest L. Critical dimensions in the choice and maintenance of successful treatments: Strength, integrity, and effectiveness. *Journal of Consulting Clinical Psychology* 1981;(49):156–167.
- Young DW. Impacts of perceived legal pressure on retention in drug treatment. *Journal Justice and Behavior* 2002;29(1):27–55.
- Zhang Z, Friedmann PD, Gerstein DR. Does retention matter? Treatment duration and improvement in drug use. *Addiction* 2003;98(5):673–684. [PubMed: 12751985]

Table 1

Examples of Social and Material Reinforcers

	Social	Material
Small	<ul style="list-style-type: none"> Public recognition of client with cake • Coffee while client waits for drug screen • Help from PO in searching want ads • Arrange for a family member to cook client's favorite meal • Reserved time for assistance with job application • GED program • Child care • Comfortable chair in group treatment session • Rides to treatment • Reduce time spent with PO • Handwritten letter from PO and counselor specifying accomplishments to date • Handwritten letter from parole supervisor and/or treatment program director specifying accomplishments to date • A telephone call from the PO and counselor to the clients selected partner, parent or friend to say how well she/he is doing • Access to telephone and quiet space to contact employer • Public recognition of client with cake 	<ul style="list-style-type: none"> • Bus tokens or passes • Manicure or haircut • Gym pass • Gift certificate for phone card • Voucher for toiletries • Gift certificate for meal with children • Condoms • Food before group • Phone call from office (long-distance) • Toothbrush • Candy bar • Toys, diapers, baby food • H/C gift certificate • Gift certificate to take sponsor for coffee or lunch • Gift certificate for gasoline • Purchase of fine paper for resume and cover letter
Medium	<ul style="list-style-type: none"> • PO attends 30 day chip ceremony at AA • Organized group outing honoring client • Recognition Circle with cards (PO, Treatment counselor, and others attend and present client with cards with handwritten notes of appreciation/recognition) • Opportunity to act as Group Leader • Designated parking spot for "Client of the Week" • Opportunity to come to staff meeting and give feedback • Methadone take home privilege • Arrange Mock interview with client to practice interviewing skills • Certificate of Attendance at treatment • A telephone call from the PO to the client's partner, parent or friend asking them to give a massage or cook favorite meal • Step'n Out medallion • Secretary time to type up resume/cover letter 	<ul style="list-style-type: none"> • Waiver of supervision fee • Access to a personal trainer • Gift certificate for shoes/apparel • Tickets to a sporting event • Gift certificate for child care • Magazine subscription • Gift certificate to Home Depot • Clothing • Monetary assistance with obtaining driver's license • Rebates for treatment • Tickets to take children to zoo • Partial payment of rent or utilities • Gift certificate for groceries • Partial payment toward purchase of equipment for work or books for school • Payment toward purchase of clothes for interview • Partial payment of tuition for GED or other training program

	Social	Material
	<ul style="list-style-type: none"> • Change to different format of contact (e.g., bi-weekly phone contacts alternating with bi-weekly in person contacts) • Client earns a “bye” week (i.e., client is allowed to miss a single session or urine test without consequences) 	<ul style="list-style-type: none"> • Partial payment for prescribed medications or doctor's visits • Partial payment of fines or restitution
Large	<ul style="list-style-type: none"> • Letter to Department of Children and Families reporting progress in treatment • Letter to the Judge or Parole Board requesting that a specific condition of parole be relaxed (e.g., that the client be released from home monitoring) • Certificate of program completion (“aftercare diploma”) • Letter from the Judge, Parole Chairperson, or a Senior Correctional Officer (with a copy in her/his file) for perfect or near perfect attendance to date • Decrease reporting frequency • Decrease frequency of UA testing 	

Step'n Out Rationale and Design

Table 2

Characteristics of Step'n Out Sites

	Providence, Rhode Island*	Bridgeport, Connecticut	Hartford, Connecticut	Wilmington, Delaware	Portland, Oregon	Richmond, Virginia
Parole Characteristics						
Intensive supervision available	Y [†]	Y	Y	Y	Y	Y
No. contacts per month with parolees	2 or more	1.5	2-4	2	1	1
Ratio of Parole Officer to Parolee	1/44	1/96	1/60	1/34	1/132	1/125
No. urine tests per month	1	1	2	1	4	1
Basis for urine testing	Random & Suspicion	Random	Random & Suspicion	Suspicion	Random & Suspicion	Random & Suspicion
POS trained in substance abuse treatment?	Some	N	N	Some	Y	Y
Formal system of graduated sanctions	Y	Y	Y	Y	N	N
Months of outpatient treatment state pays for Outpatient Treatment Characteristics	0-4	12	3	2-3	4-6	As needed
Regular outpatient treatment available	Y	Y	Y	Y	Y	Y
No. group sessions per week	1	1.5	1	1	1-2	1-2
No. hours each group session	1	1.5	1	1.5	1.5-2	1-1.5
No. individual sessions per week	1	1	1	0.25	0.15	1
No. hours each individual session lasts	1	1	1	1	0.75-1	1
Ratio of Counselor to Client	1/33	1/22	1/50	1/25	1/32	1/50
Primary focus of outpatient treatment	Cognitive-Behavioral	Cognitive-Behavioral	Recovery	Cognitive-Behavioral	Alcohol and Drug Education & Motivation	Cognitive-Behavioral
Frequency that treatment staff contact POs	At least once per week	At least once per week	Daily	At least once per week	At least once per week	At least once per week
Written treatment plan for parolees	Y	Y	Y	Y	Y	Y
Written behavioral contract for parolees	Y	N	N	Y	Y	Y
Program basis for urine testing	Random	Scheduled Suspicion	Random	Random Suspicion	Random	Random
Results of positive drug tests reported to PO	Y	Y	Y	Y	Y	Y
Results of negative drug tests reported to PO	Y	Y	N	Sometimes	Y	Y

Notes:

* Rhode Island has a single state parole office

[†] In keeping with local parole board standards, all Rhode Island participants begin on electronic monitoring parole.

Table 3

Recruitment History

Site	Initial Recruitment Strategy	Revised Recruitment Strategy	Date of First Recruitment
Providence, Rhode Island	Recruited in prison for standard parole subjects. Enrollment limited because most potential subjects were released on electronic monitoring parole or serving sentence in prison without parole conditions at release.	In July 2006, initiated recruitment of electronic monitoring parole subjects less than two weeks before prison release.	8/18/2006
Wilmington, Delaware	Recruited in prison but found that large portion of subjects violated in halfway house or not eligible for aftercare were no longer eligible for the study.	In June 2006, got permission from CJ system to begin recruitment at parole intake – number of those not reporting for parole decreased.	3/10/2005
Bridgeport and Hartford, Connecticut	Recruited at parole office from referrals from the addiction treatment staff – no post-randomization ineligibles but fairly small case flow.	In November 2006, opened second site at Hartford parole office.	4/11/2005 – Bridgeport 11/15/2006 – Hartford
Richmond, Virginia	Recruited at parole office both at intake and from parole officer referrals - found some subjects would still be ineligible after randomization.	In April 2006, changed process to file reviews of all new intakes and receiving referrals from treatment personnel.	2/21/2006
Portland, Oregon	Recruited at parole office - flow of subjects was inadequate.	In May 2006, began recruitment at 2 prisons in the state where other projects have had success.	10/5/2005

Table 4
 Characteristics of Subjects Randomized and Initiating Parole through June 30, 2007

	Control		Intervention	
	Randomized	Initiated Parole	Randomized	Initiated Parole
Total	260	200	262	206
Female Gender, <i>N</i> (%)	42 (16.2)	33 (16.5)	41 (15.6)	35 (17)
Age, \pm SD	33.6 \pm 9.2	33.6 \pm 9.0	34.1 \pm 9.1	34.4 \pm 8.9
Race, <i>N</i> (%)				
Hispanic/Latin	28 (10.9)	23 (11.7)	34 (13.0)	31 (15.1)
African American/Black	136 (52.9)	106 (53.8)	129 (49.4)	101 (49.3)
White	94 (36.6)	69 (35.0)	98 (37.5)	73 (35.6)
Asian	3 (1.2)	3 (1.5)	1 (.4)	1 (.5)
Native American/Pacific Islander Race	9 (3.5)	7 (3.5)	9 (3.4)	7 (3.4)
Other Site, ercent;)	21 (8.2)	18 (9.1)	28 (10.7)	25 (12.2)
Richmond, Virginia	44 (16.9)	39 (19.5)	33 (12.6)	33 (16.0)
Bridgeport, Connecticut – Bridgeport	37 (14.2)	36 (18.0)	35 (13.4)	32 (15.5)
Connecticut – Hartford	13 (5.0)	11 (5.5)	16 (6.1)	14 (6.8)
Wilmington, Delaware	120 (46.2)	77 (38.5)	129 (49.2)	86 (41.7)
Portland, Oregon	34 (13.1)	25 (12.5)	34 (13.0)	27 (13.1)
Providence, Rhode Island	12 (4.6)	12 (6.0)	15 (5.7)	14 (6.8)
Primary Drug of Abuse, <i>N</i> (%)				
Heroin	49 (18.8)	42 (21.0)	69 (26.3)	52 (25.2)
Other opioids	4 (1.5)	4 (2.0)	2 (0.8)	2 (1.0)
Cocaine	61 (23.5)	45 (22.5)	64 (24.4)	49 (23.8)
Methamphetamine	18 (6.9)	15 (7.5)	19 (7.3)	16 (7.8)
Cannabis	40 (15.4)	33 (16.5)	41 (15.6)	33 (16.0)
Other	88 (33.8)	61 (30.5)	67 (25.6)	54 (26.2)
Number of Arrests Lifetime, <i>mean</i> \pm SD	13.9 \pm 23.74	11.21 \pm 11.79	13.70 \pm 23.36	12.47 \pm 15.88
Number of Arrests Past 6 months, <i>mean</i> \pm SD	1.42 \pm 1.65	1.42 \pm 1.56	1.17 \pm 1.49	1.17 \pm 1.61
Number of Times in Jail Lifetime, <i>mean</i> \pm SD	12.8 \pm 63.27	7.67 \pm 9.88	11.20 \pm 23.06	10.14 \pm 15.14
Number of Times in Jail Past 6 months, <i>mean</i> \pm SD	.75 \pm 1.21	.66 \pm 1.05	.64 \pm .97	.57 \pm 1.00
Number of Months in Jail Lifetime, <i>mean</i> \pm SD	64.0 \pm 62.50	64.53 \pm 63.97	66.44 \pm 56.99	68.66 \pm 58.41
Number of Days in Jail Past 6 months, <i>mean</i> \pm SD	15.3 \pm 36.06	13.31 \pm 33.66	14.78 \pm 37.27	16.81 \pm 39.89
Lifetime Criminality Screening Form Score, <i>N</i> (%)	9.8 \pm 3.2	9.3 \pm 3.2	9.7 \pm 3.2	9.3 \pm 3.2
Moderate (<10)	87 (33.6)	74 (37.2)	84 (32.2)	75 (36.6)
High (\geq 10)	172 (66.4)	125 (62.8)	177 (67.8)	130 (63.4)
Number of Drug-related Crimes Lifetime, <i>mean</i> \pm SD	3447 \pm 1880	3230 \pm 1876	3687 \pm 1742	3473 \pm 1724
Number of Drug-related Crimes Past 6 months, <i>mean</i> \pm SD	853 \pm 1029	903 \pm 1143	829 \pm 900	823 \pm 982