



Regular article

## Adding positive reinforcement in justice settings: Acceptability and feasibility

Danielle S. Rudes, (Ph.D.)<sup>a,\*</sup>, Faye S. Taxman, (Ph.D.)<sup>a</sup>, Shannon Portillo, (Ph.D.)<sup>a</sup>,  
Amy Murphy, (M.P.P.)<sup>a</sup>, Anne Rhodes, (A.B.D.)<sup>a</sup>, Maxine Stitzer, (Ph.D.)<sup>b</sup>,  
Peter F. Luongo, (Ph.D., L.C.S.W.-C.)<sup>b</sup>, Peter D. Friedmann, (M.D., M.P.H.)<sup>c</sup>

<sup>a</sup>George Mason University<sup>b</sup>Johns Hopkins University<sup>c</sup>Providence VA Medical Center and Brown University

Received 29 March 2011; received in revised form 1 August 2011; accepted 4 August 2011

---

**Abstract**

Although contingency management (CM) approaches are among the most promising methods for initiating drug abstinence (S. T. Higgins, S. M. Alessi, & R. L. Dantona, 2002; S. T. Higgins, S. H. Heil, & J. P. Lussier, 2004), adoption and implementation of CM protocols into treatment programs are both challenging and infrequent. In criminal justice agencies, where roughly 70% of clients report substance abuse issues (F. S. Taxman, K. L. Cropsey, D. W. Young, & H. Wexler, 2007), CM interventions are virtually nonexistent. The Justice Steps (JSTEPS) study uses a longitudinal, mixed-method design to examine the implementation of a CM-based protocol in five justice settings. This article presents qualitative data collected during Phase 1 of the JSTEPS project regarding the acceptability and feasibility of CM in these justice settings. The study finds a level of acceptability (find CM tolerable) and feasibility (find CM suitable) within justice agencies, but with some challenges. These challenges are reflected in the following: (a) incorporating too many desired target behaviors into CM models; (b) facing intraorganizational challenges when designing CM systems; and (c) emphasizing sanctions over rewards despite the evidence-base for positive reinforcers. These findings have implications for advancing the dissemination, adoption, and implementation of evidence-based treatments (and CM in particular) in criminal justice settings. © 2011 Elsevier Inc. All rights reserved.

*Keywords:* Contingency management; Drug abstinence and treatment; Rewards/incentives; Criminal justice; Acceptability and feasibility

---

**1. Introduction**

Presently, 1 in 31 U.S. adults are involved in the criminal justice system (Pew Center on the States, 2009), and roughly half of all U.S. prisoners meet the criteria for drug abuse or dependence (Karberg & James, 2005; Mumola & Karberg, 2006). In the United States, the overall recidivism rate (defined as rearrest in 3 years following release) remains high at 70% (Langan & Levin, 2002). This rate is consistent among drug offenders, who rank second to property

offenders for most rearrests—66.7% versus 73.8%, respectively. This suboptimal state of affairs is a manifestation of the slow pace with which the correctional system has implemented effective treatments and practices (Chandler, Fletcher, & Volkow, 2009). Yet, public safety and public health outcomes of reduced drug use and criminal behavior are achievable with greater emphasis on using evidence-based treatments for substance abusers.

Researchers have long recommended expanding treatment options for those with a drug use history (Anglin & Hser, 1990; Higgins, Alessi, & Dantona, 2002; Taxman, 1998), leading to the founding and proliferation of drug courts and other treatment diversion programs (Nolan, 2001). However, these practices have typically relied on traditional criminal justice sanction systems. Criminal justice

---

\* Corresponding author. 10519 Braddock Road, Ste. 1900, MS 6D3, Fairfax, VA 22030. Tel.: +1 703 993 9897; fax: +1 703 993 6020.

E-mail address: drudes@gmu.edu (D.S. Rudes).

innovations have not incorporated newer evidence-based practices (EBPs) such as contingency management (CM) based on positive reinforcement of desirable behavior and behavior change, which has a long trajectory of positive research findings (Higgins et al., 1994, 1993; Higgins, Heil, & Lussier, 2004; Stitzer, Petry, & Peirce, 2010). CM is an incentive-based intervention specifically designed to alter individual behavior(s) by systematically dispensing contingent rewards. CM's underlying principles suggests that a person is more likely to continue certain behaviors if they receive positive reinforcement for doing so. Likewise, behaviors that typically would receive punishment are discontinued as the individual replaces the pleasure from receiving rewards. CM rewards positive choices/behaviors as a tool to shape behavior. Systematic reviews confirm the general overall positive findings from using CM in drug treatment settings (Griffith, Rowan-Szal, Roark, & Simpson, 2000; Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006). These studies establish an evidence base for transportability of the concept, yet they fail to provide a complete picture of how CM might be implemented within criminal justice settings.

Current criminal justice interest in CM protocols reignited with the evolution of drug treatment courts, which have adopted rewards as a core principle to shape offender behavior (National Association of Drug Court Professionals, 1997). The few controlled studies of CM among substance abusing criminal justice clients (Doctor & Polakow, 1973; Marlowe, Festinger, Dugosh, Arabia, & Kirby, 2008; Marlowe & Wong, 2008; Friedmann, Green, Rhodes, Harrington, & Taxman, 2010) have promising findings for some clients. However, the most serious limitations of prior work in this area is that researchers typically use trained clinicians and research assistants rather than substance abuse treatment staff or justice workers to administer CM protocols (Sinha, Easton, Renee-Aubin, & Carroll, 2003) or do not focus attention on how justice workers understand, perceive, and use the protocol. As such, we know little about the overall implementation—uptake, acceptability, and feasibility—of CM among the justice professionals who will ultimately use it with their clients.

Generally, implementing EBPs in organizational settings is challenging, and implementing CM in criminal justice organizations is no exception. This adaptation requires justice personnel to understand the scientific principles that underlie CM and implement these principles with sufficient fidelity to be effective in the context of their standard practices. Without direct oversight from CM experts, implementers—whether trained clinicians or justice professionals—display poor adherence to CM principles/procedures in terms of both monitoring and reinforcement of clients' change-related behaviors (Andrzejewski, Kirby, Morral, & Iguchi, 2001). In one study where justice workers (not clinicians or researchers) provided points and rewards, researchers used a single case

study design with a small number of participants ( $N = 23$ ; Doctor & Polakow, 1973). This work does not provide sufficient data to understand the various processes required for successfully implementing CM within justice settings. Only one study to date has examined CM implementation using a research–practitioner partnership, but the justice workers implemented a CM protocol developed by researchers (Friedmann, Rhodes, & Taxman, 2009). No study has examined how real-world organizational actors design and implement their own CM protocols.

To examine the processes involved in implementing CM, the Justice Steps (JSTEPS) study uses a mixed-methods methodology to assess progress toward incorporation of CM-based positive reinforcement practices in justice settings. This article details the background, study design, development, acceptability, feasibility, and implications of using CM in select justice settings. We specifically focus on acceptability (how tolerable is the new practice for the organization) and feasibility (how suitable is the new practice for the organization) in the early implementation stages of CM.

## 2. JSTEPS design

The JSTEPS study was designed to examine the implementation process when CM protocols are introduced in community correctional settings. The JSTEPS study design uses a quality improvement, plan–do–study–act (PDSA) process (Deming, 1982; Shewhart, 1931) to help the users assess CM based on Rogers' (1995) diffusion theory where it is important to consider whether the innovation (a) has a relative advantage over current practice; (b) fits within the organization's mission, goals, values, and/or practices (compatibility); (c) is consistent with previous ideas and concepts (complexity); (d) develops into operational practice (trialability); and (e) is “felt” by organizational members (observability). The stages of organizational change—exposure, adoption, implementation, and routinization—are likely to occur when innovation aligns with organizational values, mission, and goals (Knudsen, Roman, & Ducharme, 2004). JSTEPS study sites learned about the features of a scientifically sound CM procedure (plan), designed their own protocol to fit within their particular organizational context (do), received feedback from researchers on the alignment of science-based CM principles with their protocols (study), and refined their protocols for implementation based on reexamining the core principles of CM (act). This process engaged practitioners (a) in a learning collaborative to support the development of an incentive CM point system compatible to the organization; (b) throughout implementation of the CM incentive system; and (c) during refinements of the CM protocol, specifically the point system. This article considers qualitative data collected during the learning collaborative and throughout the point system creation process.

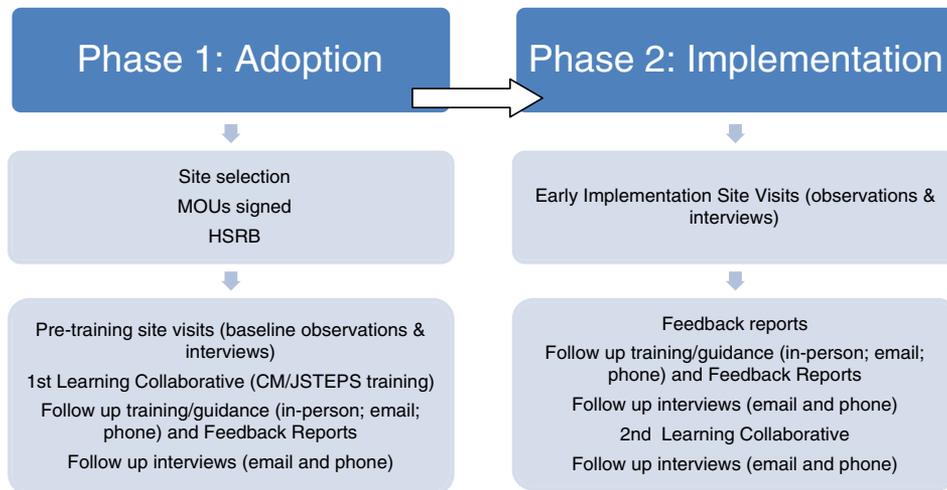


Fig. 1. JSTEPS program design (including only qualitative data collection).

### 3. Methods

This JSTEPS project uses an intensive, longitudinal mixed-method, collaborative research design that includes surveys, interviews, observations, training, and technical assistance (TA),<sup>1</sup> coaching, and continual feedback cycles. This article relies on data collected qualitatively during the first phase of the larger JSTEPS project. Phase 1 of the qualitative research design includes site visits at baseline and within 12 months post-CM training, monthly telephone calls, and periodic e-mails with study sites. Fig. 1 displays the study events and includes a study timeline.

#### 3.1. Participating sites

Participants in the JSTEPS study were five U.S. Federal Probation sites that included three different supervision and treatment settings: specialized problem-solving courts, a halfway house, and general probation supervision caseloads. Federal probation and district courts are committed to incorporating EBPs into both sentencing and supervision of offenders in the community (Sherman, 2009). To ensure that study sites were interested in strategies to improve offender compliance, we selected sites that had previously adopted a risk screening tool to identify offenders at the highest risk for violations of probation or parole (Taxman, Cropsey, Young, & Wexler, 2007). As the only other requirement for participation, all five selected sites agreed to consider the development of CM protocols. However, sites were not required to implement CM unless, after attending the learning collaborative, they believed it was in their interest. Part of the study was assessing the decision criteria to adopt

CM and gauging the degree to which the sites would accept using a structured incentive approach and whether the incentive protocol could feasibly operate in a justice setting.

The JSTEPS research team established Memoranda of Understanding (MOUs) with all five sites. The MOUs outlined the project goals and expectations regarding implementing CM. Once the MOUs were signed, George Mason University's Human Subjects Review Board approved the research. Table 1 presents an overview of the selected sites with data on each site's JSTEPS study participants ( $N = 39$ ), where and how they are considering using CM, and information about relevant contextual factors.

#### 3.2. Initial site visits and surveys

Prior to the study's CM training (collaborative learning session), our initial visits to the five sites totaled 87 hours with 39 justice workers (97% of the total number of workers involved with JSTEPS in each site) working within the setting where CM will be implemented. Two qualitative researchers traveled to all five sites to interview members of each participating team (including judges, probation officers [POs], and defense and prosecuting attorneys) and observe specialized courts in progress in the sites where they existed. Semistructured interviews focused on five key themes, including (a) prestudy understandings of the role of probation in the justice process; (b) personal/organizational philosophies; (c) workplace routines; (d) inter- and intraorganizational collaborations; and (e) present knowledge of CM and/or behavioral modification strategies in correctional environments. Using ethnographic techniques, we asked questions as they naturally occurred in conversations to both build rapport with subjects and increase the depth of information gathered (Emerson, 2001). Researchers addressed all key themes at all sites.

<sup>1</sup> Technical assistance for this project includes both ongoing software training and researcher assistance with understanding the scientific evidence behind CM.

Table 1  
Study sites and preimplementation reactions to CM ( $N = 39$  site participants)

Site characteristics	Site 1	Site 2	Site 3	Site 4	Site 5
Implementation setting	Problem-solving court	Problem-solving court	Problem-solving courts (2)	General probation	Halfway house
Site participants involved	Judge AUSA FPD POs Treatment providers $n = 8$	Judge AUSA FPD POs $n = 5$	Judge AUSA FPD POs $n = 14$	POs $n = 5$	Judge FPD POs $n = 7$
Used some type of incentives before JSTEPS	Yes	Yes	No	No	No
Interorganizational dynamics	Have worked together for 4 years, know each other well, but maintain adversarial legal process, team makes decisions via consensus; team defers to judge even on minor decisions	Have worked together for 2 years, maintain traditional adversarial rules when talking through most issues, try to come to group consensus	Just establishing one court with a second less than 1 year old, very focused on team work and consensus decision making	Probation has autonomy when implementing new programs; PO chief works to maintain relationships with key leaders in other agencies in the system	Probation has autonomy when implementing programs in halfway house, does not include other organizational actors in the process
Initial acceptability of CM (within probation)	Dedicate a supervising and frontline PO to court. Both POs receptive to incentives. Has PO using workbooks to facilitate offender change. Will use CM in court process	Dedicates 1 PO to the court. PO has social work background and is very receptive to the idea of using incentives. PO uses workbooks to facilitate offender change. Will use CM in court process	Dedicate 2 POs to court; both have prior probation experience outside Federal system and hold sanction-based (nonincentives) philosophy toward participants. Will use CM in court process	No specialized court. Has behavioral modification program run by PO but using CM with general supervision. Chief and POs experienced with EBP and receptive to CM as EBP	Frontline PO working with halfway house will implement CM. Halfway house protocol is sanction-focused; PO wants to keep that focus even with CM

Note.  $n$  = JSTEPS team members per site.

### 3.3. CM learning session (training)

The study protocol includes one baseline in-person learning session and one postimplementation learning session for all five sites. The learning sessions were designed to facilitate an appreciation for and understanding of CM and the factors that are important in implementing a science-based CM process. Because of the complex organizational structures typically operating at these sites, considerable effort was made to include all team members at the training session. Table 1 shows that four of the five sites sent a multidisciplinary team to the training, whereas one sent only probation supervisors and staff. The research team developed a manual that provided guidelines on developing a CM procedure within justice settings (Taxman et al., 2010). The manual addressed the following issues: (a) the science behind CM; (b) point schemes (ways of standardizing a CM protocol for implementation); (c) diverse rewarding schemes (examples of rewards to incentivize participants); (d) sanctioning within a CM protocol; and (e) organizational action strategies. A series of worksheets on the CM learning process accompanied each section.

Each team was asked to consider the following CM principles in developing their protocol: (a) use a point system to provide positive incentives to clients; (b) establish clear guidelines about required (mandated) and point-earning behaviors; (c) emphasize abstinence as a key objective; (d)

provide adequate incentives early in the program to get clients started off on the right foot; (e) use point escalation to promote sustained good performance; (f) integrate the point system into the agency's normal operations; (g) use point bonuses to reinforce incentives for positive behavior; and (h) contract for no more than three behaviors at a time. These principles were emphasized by the research team based on the Step'n Out experience (Friedmann et al., 2008), a review of the CM literature, and recommendations from Dr. Maxine Stitzer, an expert in CM. Study sites designed CM systems in ways that aligned with their sociolegal systems; the designs reflect the issues related to transporting science into operational settings.

Sanctions are not part of traditional CM protocols in the drug treatment literature. The JSTEPS CM expert and the study team acknowledged that in the criminal justice system, where sanctions are a natural part of how justice workers accomplish their jobs, sanctions can be included in site designs. Sites were encouraged to design a sanction protocol in a similar manner as to incentives, including assigning points to undesirable behaviors. However, rewards should remain the focal point of the CM-based JSTEPS intervention. In the learning session, we instructed JSTEPS sites to consider the sanctions they typically use alongside the CM protocol they design. We only asked that sites administer sanctions swiftly and certainly (in accordance with CM rewards schedules). The JSTEPS

team recognizes that including sanctions represents an adaptation of CM as an EBP but given the context it was important to include in this scenario. This is part of the transportability of the concept (Schoenwald & Hoagwood, 2001), where it is needed to align the EBP to the environment. For example, studies on implementing motivational interviewing (MI; an EBP) often include various adaptations, such as using MI with groups rather than the tested individualized approach (McMurrin, 2009).

### 3.4. Posttraining activities

Following the PDSA model, participants from all five sites ( $n = 31$ , 79% of site participants interviewed during pretraining site visits) engaged in *planning* by attending the learning session, *doing* by designing their own CM protocol complete with points for rewards and a sanction system, *studying* the JSTEPS team feedback and redesigning CM protocols as desired, and *acting* by implementing their CM program with clients. To strategically address discrepancies between a stated emphasis on evidence-based treatments and the existing “way of doing business,” the research team generated feedback reports for sites on their actual progress. These feedback reports are the source of much of the data presented in this article since their design allows the sites to compare and map their planned CM protocol with the CM science.<sup>2</sup> We followed up all feedback reports with telephone calls and site visits to review the reports and to allow sites to raise issues and concerns.

### 3.5. Continued support, training, feedback, and analysis

As part of the PDSA process, the JSTEPS research team provides continued support, training, and feedback to sites via on-site, telephone, and e-mail-based TA; on-site TA; and written feedback reports. Although important facilitation tools, these communications also yield information for the research team about key process and implementation questions, including how workers understand CM and JSTEPS and if and how they are working CM into current routines and practices. JSTEPS qualitative researchers take detailed notes of all interactions with site participants (individuals or groups). All e-mail correspondence and typed transcripts of all telephone calls are included in the qualitative data set.

## 4. Data analysis

We used a constant comparative method for data analysis, expanding initial coding categories developed via a line-by-line coding process to monitor the data and codes, ensuring accuracy, enhancing validity, and triangulating perspectives

for increased reliability (Glaser, 1965). In iterative phases of coding, we queried the data set to fine-tune initial codes and develop deeper, more thematic codes that align with the project’s focus on adoption of CM in justice organizations. Next, we engaged in a third phase of coding for componential analysis to various categories into a taxonomic analysis, leading to data synthesis and the writing phase of the research. This multistep approach is suggested to define themes and is a highly respected form of data analysis for ethnographic coding (Charmaz, 1995; Emerson, 2001). Finally, the qualitative team wrote analytic memos incorporating raw, descriptive data with initial analytic interpretations moving our data analysis process beyond coding while simultaneously providing quality checks on analysis.

## 5. Results

Several CM principles were especially challenging for participants, including those that affect the feasibility of CM in the study sites. As described below, first, the teams had conceptual and normative difficulties with the general idea of an incentive-based system. They wrestled with the acceptability of incentives and the meaning of incentives and rewards within their organizational environment and broader networks. Second, some justice workers worried about the feasibility of imposing the behavioral contracting process on POs as an added work task. Third, all five sites struggled with creating point systems that included rewards directed at key target behaviors (defined as three behaviors). The following subsections outline the PDSA design and highlight some of the key challenges faced by justice workers throughout the CM protocol design process. We also consider how support, training, and feedback processes within our study addressed these challenges.

### 5.1. Conceptualizing incentives

When sites began initial talks about incentives, team members’ responses directly exposed differing perspectives regarding normative principles (acceptability). The first challenge emerged when teams debated the use of the terms *rewards* versus *incentives*. Although the literature uses both terms (often interchangeably) and a few organizational actors were opposed to either term, most felt that the term *incentives* was more appropriate than the term *rewards*. For example, a prosecutor and a PO vehemently argued against the concept of *rewarding* probationers. The prosecutor contended, “There is a big difference between calling it *incentives* and calling it *rewards*. Why should I *reward* someone for doing what they *should* be doing anyway?” Other study site participants argued this point as well, although less vigorously. Without much further debate, all five sites settled on the term *incentives*.

After the nomenclature consensus, the most common challenge involved a conflict between CM principles and

<sup>2</sup> A sample feedback report is available from the PI Dr. Taxman upon request at [ftaxman@gmu.edu](mailto:ftaxman@gmu.edu).

practitioners' perception of their organizational mission. With some exceptions, study site participants expressed the conflict between CM and organizational goals in expected ways. In general, whereas prosecutors and judges struggled with how a CM-based incentive system would look to others outside the immediate group, defense attorneys worried about the inequity of rewarding only some of the probationers in the system. POs expressed similar ambivalence about the use of incentives. Although the study site groups ultimately decided that incentives were acceptable, there were a number of notable objections during this process. For example, one particular prosecutor maintained that only incentives promoting prosocial behavior, such as museum passes or parenting classes, should be provided. The following exchange illustrates some issues about what items were perceived as acceptable for use as rewards in an incentive system:

Federal public defender (FPD): "I want an iPod in the reward cabinet." PO-1 (PO): "An iPod can be traded for drugs...but so can most prizes...(exasperated). Now we're *helping* them buy their drugs." U.S. prosecutor (AUSA): "I like the movie or gift certificate idea and want one prize to be a day at a local museum." PO-2: "But that's not a good idea because *no one* wants to go there." AUSA: "So what, at least we'd broaden their horizons." FPD: "The rewards are supposed to be worth getting (attractive) to them" (offenders). AUSA: "I think the POs should help them choose." PO-2: (frustrated) "You can't *force* them to choose a certain reward. That defeats the whole purpose here."

After months of debate (postlearning collaborative meeting), the group in the prior discussion decided on a list of incentives,<sup>3</sup> many promoting prosocial behavior, but also with some incentives identified by participants in surveys that POs distributed. It should be noted that the distribution of the incentive surveys to clients represents tangible evidence that POs had buy-in and understanding of the CM principles being taught.

Although many of the sites initially stated they were open to and accepting of the idea of positive incentives for participants, there were some initial issues with feasibility. Some of these issues rested in the prior history individual team members or groups had within their local setting. For example, when Site 1 started its drug court, the judge provided a social reward (e.g., applause and praise) and a small material reward each week for participants who were doing well. Material rewards were donated by the court staff and did not exceed \$1 per reward. The court, however, received bad press locally and was not internally supported by the district's chief judge for handing out these rewards. At the learning collaborative meeting, the drug court judge revealed his hesitancy to reintroduce incentives to the court. However, he suggested that participation in JSTEPS was

perhaps a way to reintroduce incentives legitimately to the court. He noted that his chief judge is still concerned about bad press and is not sure he can justify using incentives within the court's mission. To resolve this issue, the drug court judge tried enlisting the assistance of attorneys in the Federal Bar. He said that a representative from the Federal Bar could hand out the material rewards in court, allowing them to become more involved with the court. Unfortunately, if the Federal Bar distributes material rewards, participants will only be able to cash out points for rewards during the first meeting of the month when a representative of the Federal Bar can attend court. Although this moves their incentive system away from the CM principle of swift rewards for positive behavior, it does shield the team against the political fallout of providing material inducements for participants. This represents one way study sites adopted JSTEPS incentives within localized contexts.

### 5.2. Behavioral contracting

Along with incentives, behavioral contracting is another key component of the JSTEPS approach. The behavioral contract is a tool for POs to set up the conditions for compliance and expectations of CM by creating clear behavioral guidelines between clients and their supervisors. To some extent, this contracting challenges a norm of the court process in which there is reluctance to explain expectations and consequences fully to clients to retain a "surprise" factor that is felt to maximize flexibility and enhance saliency of interventions with clients. Another concern with contracting, expressed by POs in all five sites and probation supervisors and chiefs in several sites, was that contracting would add additional duties to PO's workload. As a representative example of how POs discussed behavioral contracting, one PO noted, "It will take a lot more time to do JSTEPS; inputting the data with the client [in-person] rather than inputting it later." This PO then asked, "Are you saying we have to see all of the clients in the office and do this [behavioral contracting] with them each time?" When told "yes" by a JSTEPS team member, one PO shook his or her head and muttered, "That's ridiculous."

In a different line of concern, one PO noted the importance of getting probationer buy-in. He suggests that the probation system overall needs to do a much better job with how offenders start in the program. He says, "We need to get them to buy in. We should think about the role of the offender in the process more broadly." He wonders if and how behavioral contracting via JSTEPS will help with this or just make the process more confusing for clients. In Site 2, probation supervisors agreed to use the JSTEPS software to standardize PO weekly reports in conjunction with behavioral contracts. Prior to JSTEPS, the POs developed their own reports using Microsoft Word. Although there was some initial hesitancy with the JSTEPS software because POs felt it would take away some of their discretion, there was eventual consensus from the team that using standard

<sup>3</sup> Incentives for this site, and all study sites, mostly include gift cards for small dollar amounts (\$5 or \$10) at local stores and restaurants participants said they frequent.

probation reports combined with behavioral contracts would benefit the participants overall. Despite these initial concerns about behavioral contracting, all five study sites agreed to use behavioral contracts.

5.3. Designing CM point systems

Each site developed its own CM point and incentive systems with the help of various members of their working team. Overall, the sites had initial difficulty developing a CM protocol that adhered to the core CM principles. The point systems they developed were often cumbersome, focusing on too many behaviors and in complicated ways. Their intricate systems sometimes resulted from interorganizational compromises based on social/relational considerations between various justice organizations. In sites implementing point systems exclusively in probation, dense designs often

resulted from inclusion of too many probation conditions combined with a long list of desired prosocial behaviors. Other sites also focused on too many behaviors, and some initially neglected to award points for abstinence, a key behavior desired of drug-involved probationers.

Sites struggled with decisions about which behaviors would earn incentives. For example, during the initial development of their point system, Site 1’s POs proposed a point system that focused solely on sobriety. The FPD had problems with that design because it may create another obstacle for clients trying to finish the phases of the court. The PO model had tied the progression of points to the four phases of the court, so if a client struggled with sobriety, it would take them longer to finish the program than if they were consistently abstinent. After the FPDs raised their concerns in the presence of other members of the team, the judge suggested that they not tie the points to

Table 2  
Overview of site-designed point and incentive systems

Site	Incentives for...	Incentives	Sanctions for...	Sanctions	Full compliance
Site 1	<ul style="list-style-type: none"> <li>• 1 pt visit PO and attend tx</li> <li>• 2 pts AA/NA, weekly compliance</li> <li>• 5 pts court on time; search/keep job; pay restitution; do writing assignment</li> <li>• Bonus: 10 pts joining court; 25 pts get job</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition</li> <li>• Gift cards</li> <li>• Prosocial (e.g., glasses, teeth)</li> </ul>	<ul style="list-style-type: none"> <li>• Positive UA</li> <li>• Miss PO/tx appt</li> <li>• Late for court</li> <li>• Noncompliance</li> </ul>	First = no social reward Second = same as above plus writing assignment or community service	36 incentives over 1 year; earn first incentive after 1 month
Site 2	<ul style="list-style-type: none"> <li>• 1 pt for first neg UA with escalation to cap at 10</li> <li>• 1 pt per tx, reporting, and attending tx/program</li> <li>• 1–3 pts apply job, lose weight, kids activity w, DL, soc. sec. card, etc.</li> <li>• Bonus: neg UA first week; 10 pts 5th, 9th, 13th, 20th neg UA</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition</li> <li>• Gift cards</li> <li>• Fishbowl</li> </ul>	<ul style="list-style-type: none"> <li>• Noncompliance inc. positive UA, criminal behavior, not attend tx</li> </ul>	Varies with seriousness of violation including reprimand in court, observe other court proceedings (sit sanction), community svcs, curfew, EM, custody, day reporting, residential tx, program termination	5 incentives in 1 year; earn first incentive at eighth session (4 months into program)
Site 3	<ul style="list-style-type: none"> <li>• 1 pt for first neg. UA with escalation; cap at 8</li> <li>• 5 and 10 pts for behaviors support recovery (no escalation)</li> <li>• 20 pts 90-day employment and GED</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition</li> <li>• Gift cards</li> <li>• Prize chest (e.g., tickets to local events)</li> </ul>	<ul style="list-style-type: none"> <li>• Criminal behavior</li> <li>• Positive UA</li> <li>• Not comply court rules</li> </ul>	First = writing assignment second + = jail, home monitoring	10 incentives over 1 year.; roughly 2 months until first incentive earned
Site 4	<ul style="list-style-type: none"> <li>• 1 pt for negative UA; reporting to PO, attending tx/svs; look for job, enrolling in school, paying restitution, other compliance; location monitoring</li> <li>• Escalation 1 pt per test for abstinence</li> <li>• 5, 10, 20, 25, 50, and 75 pts For various behaviors support crime/drug free life</li> <li>• Bonus: 10 pts neg UA; 10 pts start tx or job readiness</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition</li> <li>• Gift cards</li> <li>• Bracelets</li> <li>• Coins</li> </ul>	<ul style="list-style-type: none"> <li>• Positive UA</li> <li>• Failure to attend tx or other req. attendance</li> <li>• Technical probation violation</li> </ul>	First = verbal reprimand, writing assignment, curfew Second = written reprimand, writing assignment, increased curfew Third = discharge from program/revocation	5 incentives over 1 year; roughly 1 month until first incentive earned; second incentive after Month 3
Site 5	<ul style="list-style-type: none"> <li>• 5 pts for neg. UA (with escalation, cap at 20)</li> <li>• 3 pts attend counseling (with escalation, cap at 12)</li> <li>• 2 pts completing daily schedule (escalation; cap at 8)</li> <li>• Bonus pts for every fourth negative UA, tx session</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition</li> <li>• Gift cards</li> </ul>	<ul style="list-style-type: none"> <li>• Failure to comply with any of three behaviors lead to point accumulation suspension and reset</li> </ul>	First = 7 days in jail Second = dismissal from program Continued noncompliance or refusing to schedule can lead to revocation of privileges at facility	3 incentives in 6-month program with first incentive after 1 week

Note. tx = treatment; neg = negative; svcs = services; UA = urinalysis; pt/s = point/s; EM = electronic monitoring; DL = driver’s license; GED = General Education Diploma; AA/NA = Alcoholics or Narcotics Anonymous; appt = appointment.

the phases of the court. Instead, the judge suggested focusing points on prosocial behaviors such as reuniting with family, acquiring a driver's license, and completing vocational training. Subsequently, the POs created a more extensive plan focusing points in three areas: sobriety, employment, and prosocial behavior. After considering this new model, each team member felt close to compromise and almost ready to get started with their points system. However, after receiving the JSTEPS feedback report from the research team suggesting that they focus only on a limited number of behaviors, the team decided they should mostly focus on sobriety.

In sites without interorganizational problem-solving court workgroups, the development of point systems was more straightforward, coming largely from key people in the probation office. The POs in Sites 4 and 5 initially discussed point systems with incentives prioritizing prosocial behaviors not directly tied to sobriety. The POs discussed the incentive system as an extra carrot to get participants to complete activities that were usually considered above and beyond regular probation supervision. These activities include acquiring a driver's license or reuniting with family members. Although both sites eventually developed systems with some focus on abstinence, Site 4 also included an extensive number of point-earning behaviors. There was little clarity for clients about which of the many behaviors they should focus on. In contrast, Site 5's point system prioritized abstinence and rewarding that behavior accordingly.

Table 2 provides an overview of the initial point system from the JSTEPS study sites. Although all five point systems appear somewhat similar with escalating point systems, staggered sanctions, and incentive schedules, closer examination shows dramatic differences in design and potential outcomes. For example, a client going through all five systems would fare very differently based on identical behaviors. A fully compliant client would not receive any sanctions but would receive a range of awards over the course of involvement in the programs. Clients would receive a first incentive after 1 week at Site 5 but have to wait roughly 1 month at Sites 1 and 4. They would not receive any

incentive for good behavior at Site 3 until after 2 months in the program and at Site 2 until after 4 months in the program. Over the course of a fully compliant client's movement through each sites' CM system, the client would earn 6, 5, 10, 5, and 3 incentives at Sites 1 through 5, respectively.

Table 3 illustrates the changes that occurred in the five sites based on the feedback report. Qualitative researchers reviewed feedback reports and field notes to determine the priority each site gave to each CM principle. Priority refers to the emphasis the site placed on a particular CM principle in their design and refinements. The feedback reports increased awareness of the core CM concepts and provided additional considerations of the CM procedures. Two CM principles were particularly difficult for study sites to adopt as part of their overall strategy even after feedback: emphasizing abstinence and requiring no more than three behaviors at a time. Generally, sites accepted and found CM acceptable but had difficulty adhering to several concepts that the JSTEPS research team suggested were important. This suggests challenges concerning feasibility. However, researchers require more time to discern this based on the adaptations of CM in this context.

## 6. Discussion

This researcher–practitioner collaboration study brought together interagency teams to develop CM protocols for the use of incentives with drug-involved and other offenders. The interagency approach was based on prior research findings that such an approach advances the implementation of innovations in justice settings (Fletcher et al., 2009; Taxman & Bouffard, 2000). As shown by the field visits, various team members had initial concerns about using rewards. Although survey findings reveal overall support for the concept of using rewards (Murphy, Rhodes, & Taxman, 2010), team processes need to reconceptualize the meaning of incentives and their use as a tool for offender management into a more acceptable and feasible form. In JSTEPS, justice workers from various agencies were willing to accept and implement

Table 3  
Site-designed point and incentive systems as aligned with CM principles postfeedback<sup>a</sup>

CM principles	Site 1	Site 2	Site 3	Site 4	Site 5
Positive incentives with point system	High priority				
Clear guidelines about earning points	Low priority				
Emphasizes abstinence	Low Priority	Low priority	No priority	Low priority	High priority
Early incentives	Low priority	No priority	No priority	Low priority	High priority
Point escalation	No Priority	Low priority	Low priority	Low Priority	High priority
Integrating point system into existing system	Low priority	High priority	Low priority	Low priority	High priority
Bonuses	Low Priority	High priority	No priority	Low Priority	High priority
No more than 3 behaviors at a time	No priority	No priority	No priority	No priority	High priority

<sup>a</sup> Shading indicates change occurred post study team feedback.

the EBP of CM, but the actual ability to align the CM principles with the context was “buried in the details.” Each site was able to develop an “acceptable” CM protocol despite having the option of not doing so (which would indicate that the concept was not feasible). The concept of acceptability here focuses on willingness to design a system of incentives. The concept of feasibility reflects the choices that are made as to which CM principles to use, such as the more refined efforts of limiting the incentives to a single target behavior (e.g., drug abstinence, treatment attendance). Nonetheless, when justice workers in a traditionally sanction-driven environment are willing to adapt/design, adopt, and implement an incentive-based system for working with an offender population, it displays a level of acceptability and feasibility despite the challenges that may accompany it.

The study team also took care to break the CM development process into finite steps. These steps include (a) dividing target behaviors into different types (crime, drug use, behaviors supporting abstinence, and behaviors supporting recovery)<sup>4</sup>; (b) allocating points for the target behaviors and rewards; (c) formalizing behavioral contracting and point delivery as parts of an operational process within probation; and (d) developing and implementing a computer program that tracks the behavioral contract and points. The clarification of CM principles provided the study sites with principled guidelines to use in designing their CM protocols.

The JSTEPS process encouraged each team to tailor the points and incentives to their own needs and preferences. This process revealed the fragility of the science-based principles in justice settings. First, unlike in substance abuse treatment settings, where abstinence receives priority, individuals on probation have an array of prioritized behaviors. Target behaviors can relate to criminal behavior, abstinence, attendance at different required settings (e.g., court, treatment, probation, employment), and other related issues such as parenting classes and joining a social support club, among others. The choice of which behaviors to prioritize is enmeshed within existing site-specific organizational and interactional dynamics. All five teams had difficulty limiting the number of target behaviors due to the nature of criminal supervision. Ironically, four of the five sites do not privilege abstinence (the main goal of CM for drug-involved offenders), either considering it low or no priority in their point system design. This prioritization is demonstrated in CM point systems where probationers can earn significantly more points for non-drug-related targeted behaviors like getting a job and completing daily assigned tasks without significant point escalation or bonus points for

negative drug/alcohol tests. The difficulty of defining target behaviors and determining which behaviors to reward expresses not only the concerns about the demands placed on individuals to perform under criminal supervision but also the difficulties of being successful on supervision (see [Taxman, 2010](#)).

Second, sites also had great difficulty at the start of the JSTEPS project determining the appropriate language to use with clients and associated organizations. The debate over the terms *incentive* and *reward* indicates an important intraorganizational dynamic that may have had long-term effects on implementation had sites not been free to adapt the terminology to suit their preferences. In the end, the sites designed protocols that are acceptable and feasible (with the software to calculate points) if less than fully aligned with CM principles. Other design limitations concerned providing greater points as the probationer continues to make positive strides. The contingency of escalating incentives is designed to reinforce periods of sustained prosocial behavior ([Silverman et al., 1996](#)). Criminal justice teams had difficulty in accepting the notion that the points should vary over time, demonstrating a limited understanding of the operating principles underscoring the evidence-based treatment. Thus, point escalation was a detail that the sites did not consider in this early stage of implementation.

Third, the variability in point systems across the five sites illustrates how much discretion exists. For example, a partially noncompliant client in Sites 1, 2, 3, and 4 would receive a social sanction and/or minor writing assignment for their first positive drug test, but in Site 5, that same client would spend 7 days in jail for their first instance of noncompliance. A second positive urinalysis test would earn that client another social or writing-based sanction in Sites 1, 2, and 4, but in Site 3, he or she would get jail or home monitoring, and in Site 5, he or she would be dismissed from the program. These disparities are inherent in the system and suggest the potential value of CM as a tool to standardize that the application of rewards and sanctions. The CM process could promote procedural justice by giving system actors comparative benchmarks of the expectations across jurisdictions.

The PDSA process provided the teams with a tool to facilitate organizational learning. This learning system also provided a formula for interagency consensus building on key operating principles relating to expectations of offenders under criminal supervision as well as the requirements for success. The PDSA process assisted teams in the implementation process by focusing on the acceptability and feasibility of a new idea or concept (e.g., an EBP) as discussed by [Proctor et al., \(2009\)](#). Proctor et al.’s conceptual framework also guided the research team to disaggregate the implementation process into three components: (a) learning, (b) design, and (c) refinement based on EBP science principles. Further, the study design repeated the refinement at two points: initial design and postimplementation as sites use CM with the offenders. In this study, only Sites 1 and 4 altered

<sup>4</sup> The JSTEPS software divided these behaviors using color zones (see [Friedmann et al., 2008](#) for a discussion of the color zones). Criminal behaviors were red, abstinence behaviors were orange, behaviors supporting abstinence were yellow, and behaviors supporting recovery were green.

their point systems based on initial feedback from the study team. Performance reports on client progress will become the topic of the second learning collaborative and subsequent research articles. In the second phase, our study team will represent the core CM principles to sites to help them consider further refinements.

Overall, the experience with JSTEPS to date highlights the challenges of implementing EBPs in real-world justice settings, particularly around the transportability into justice settings. The literature on technology transfer focuses much attention on organizational readiness (see Backer, 1995), but the essential question is “readiness for what?” Attention to the concepts of acceptability and feasibility transforms the notion of organizational readiness to examining the suitability of the new technology in the organizational context. The concept of acceptability emerges from the premise that an innovation is compatible with existing norms within an organization. In the example of CM, this study suggests that giving rewards might not be acceptable in criminal justice settings, but providing incentives might be. Feasibility refers to transportability, whether the innovation is similar to and fits into existing practices. From the perspective of feasibility, behavioral contracting for a subset of goals might be difficult to implement given the time constraints on POs and the multiplicity of behaviors the court requires for successful completion of the program. Further work on the uptake of CM in justice systems will extend our understanding of the transportability of the CM into justice settings. Ultimately, the continued feasibility of CM will be the subject of the next phases of the JSTEPS study.

### Acknowledgments

This study was funded by a grant from the National Institute on Drug Abuse (U01-DA016213-07-A). The authors gratefully acknowledge the collaborative contributions of the federal staff from the National Institute on Drug Abuse, members of the JSTEPS project teams in the five federal U.S. districts, Mark Sherman from the Federal Judicial Center, members of the Administrative Office of the Courts, and the graduate student researchers within the Center for Advancing Correctional Excellence at George Mason University, who assisted with data collection for this project.

### References

Andrzejewski, M. E., Kirby, K. C., Morral, A. R., & Iguchi, M. Y. (2001). Technology transfer through performance management: The effects of graphical feedback and positive reinforcement on drug treatment counselors' behavior. *Drug and Alcohol Dependence*, 63, 179–186.

Anglin, M. D., & Hser, Y. (1990). Treatment of drug abuse. *Crime and Justice: A Review of Research*, 13, 393–460.

Backer, T. E. (1995). Assessing and enhancing readiness for change: Implications for technology transfer. *NIDA Research Monograph*, 155, 21–41.

Chandler, R. K., Fletcher, B. W., & Volkow, N. D. (2009). Treating drug abuse and addiction in the criminal justice system: Improving public health and safety. *JAMA*, 301, 183–190.

Charmaz, K. (1995). Grounded theory. In R. M. Emerson (Ed.), *Contemporary field research: Perspectives and formulations* (pp. 335–352). Prospect Heights, IL: Waveland Press.

Deming, B. (1982). *Evaluating job-related training: A guide for training the trainer*. Englewood Cliffs, N.J.: Prentice-Hall.

Doctor, R. M., & Polakow, R. L. (1973). *Behavior modification program for adult probationers*. Washington, D.C.: American Psychological Association.

Emerson, R. M. (Ed.). (2001). *Contemporary field research: Perspectives and formulation*. (2nd edition). Prospect Heights, IL: Waveland Press.

Fletcher, B. W., Lehman, W. E., Wexler, H. K., Melnick, G., Taxman, F. S., & Young, D. W. (2009). Measuring collaboration and integration activities in criminal justice and substance abuse treatment agencies. *Drug and Alcohol Dependence*, 103(Suppl 1), S54–S64.

Friedmann, P. D., Katz, E. C., Rhodes, A. G., Taxman, F. S., O'Connell, D. J., Frisman, L. K., et al. (2008). Collaborative behavioral management for drug-involved parolees: Rationale and design of the Step'n Out Study. *Journal of Offender Rehabilitation*, 47, 290.

Friedmann, P. D., Rhodes, A. G., & Taxman, F. S. (2009). Collaborative behavioral management: Integration and intensification of parole and outpatient addiction treatment services in the Step'n Out study. *Journal of Experimental Criminology*, 5, 227–243.

Friedmann, P. D., Green, T., Rhodes, A., Harrington, M., & Taxman, F. S. (2010). *Collaborative behavioral management reduces drug-related crime, substance use among drug-involved parolees*. Washington DC: Association for Medical Education and Research in Substance Abuse.

Glaser, B. (1965). The constant comparative method of qualitative analysis. *Social Problems*, 12, 436–445.

Griffith, J. D., Rowan-Szal, G. A., Roark, R. R., & Simpson, D. D. (2000). Contingency management in outpatient methadone treatment: A meta-analysis. *Drug and Alcohol Dependence*, 58, 55–66.

Higgins, S. T., Alessi, S. M., & Dantona, R. L. (2002). Voucher-based incentives: A substance abuse treatment innovation. *Addictive Behaviors*, 27, 887–910.

Higgins, S. T., Budney, A. J., Bickel, W. K., Foerg, F. E., Donham, R., & Badger, G. J. (1994). Incentives improve outcome in outpatient behavioral treatment of cocaine dependence. *Archives of General Psychiatry*, 51, 568–576.

Higgins, S. T., Budney, A. J., Bickel, W. K., Hughes, J. R., Foerg, F. E., & Badger, G. J. (1993). Achieving cocaine abstinence with a behavioral approach. *American Journal of Psychiatry*, 150, 763–769.

Higgins, S. T., Heil, S. H., & Lussier, J. P. (2004). Clinical implications of reinforcement as a determinant of substance use disorders. *Annual Review of Psychology*, 55, 431–461.

Karberg, J. C., & James, D. J. (2005). *Substance dependence, abuse, and treatment of jail inmates, 2002*. Rockville, MD: Bureau of Justice Statistics.

Knudsen, H. K., Roman, P. M., & Ducharme, L. J. (2004). The availability of psychiatric programs in private substance abuse treatment centers, 1995 to 2001. *Psychiatric Services*, 55, 270–273.

Langan, P. A., & Levin, D. J. (2002). Recidivism of prisoners released in 1994. *Federal Sentencing Reporter*, 15, 58–65.

Lussier, J. P., Heil, S. H., Mongeon, J. A., Badger, G. J., & Higgins, S. T. (2006). A meta-analysis of voucher-based reinforcement therapy for substance use disorders. *Addiction*, 101, 192–203.

Marlowe, D. B., Festinger, D. S., Dugosh, K. L., Arabia, P., & Kirby, K. C. (2008). An effectiveness trial of contingency management in a felony preadjudication drug court. *Journal of Applied Behavior Analysis*, 41, 565–577.

Marlowe, D. B., & Wong, C. J. (2008). Contingency management in adult criminal drug courts. In S. T. Higgins, K. Silverman, & S. H. Heil (Eds.),

- Contingency management in substance abuse treatment* (pp. 334–354). New York: Guilford Press.
- McMurrin, M. (2009). Motivational interviewing with offenders: A systematic review. *Legal and Criminological Psychology, 14*, 83–100.
- Mumola, C. J., & Karberg, J. C. (2006). *Drug use and dependence, state and federal prisoners, 2004*. Rockville, MD: Bureau of Justice Statistics.
- Murphy, A., Rhodes, A. G., & Taxman, F. S. (2010). Survey findings on JSTEPS. Presented at the National Association of Drug Court Professionals, Boston, MASS.
- National Association of Drug Court Professionals. (1997). *Defining drug courts: The key components*. Washington, D.C.: Bureau of Justice Statistics.
- Nolan, J. L. (2001). *Reinventing justice*. Princeton, NJ: Princeton University Press.
- Pew Center on the States. (2009). *One in 31: The long reach of American corrections*. Washington, D.C.: The Pew Charitable Trusts.
- Prendergast, M., Podus, D., Finney, J., Greenwell, L., & Roll, J. (2006). Contingency management for treatment of substance use disorders: A meta-analysis. *Addiction, 101*, 1546–1560.
- Proctor, E., Landsverk, J., Aarons, G., Chambers, D., Glisson, C., & Mittman, B. (2009). Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research, 36*, 24–34.
- Rogers, E. M. (1995). *Diffusion of innovations*. (4th ed). New York: Simon and Schuster.
- Schoenwald, S. K., & Hoagwood, K. (2001). Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services, 52*, 1190–1197.
- Sherman, L. W. (2009). Evidence and liberty. *Criminology and Criminal Justice, 9*, 5–28.
- Shewhart, W. A. (1931). Statistical method from an engineering viewpoint. *Journal of the American Statistical Association, 26*, 262–269.
- Silverman, K., Higgins, S., Brooner, R., Montoya, I., Cone, E., Schuster, C., et al. (1996). Sustained cocaine abstinence in methadone maintenance patients through voucher-based reinforcement therapy. *Archives of General Psychiatry, 53*, 409–415.
- Sinha, R., Easton, C., Renee-Aubin, L., & Carroll, K. M. (2003). Engaging young probation-referred marijuana-abusing individuals in treatment: A pilot trial. *American Journal on Addictions, 12*, 314–323.
- Stitzer, M. L., Petry, N. M., & Peirce, J. (2010). Motivational incentives research in the national drug abuse treatment clinical trials network. *Journal of Substance Abuse Treatment, 38*(Supp 1), S61–S69.
- Taxman, F. S. (1998). *Reducing recidivism through a seamless system of care: Components of effective treatment, supervision, and transition services in the community*. Washington, D.C.: Office of National Drug Control Policy.
- Taxman, F. S. (2010). Parole: Moving the field forward through a new model of behavioral management. In H. Sung, & L. Gideon (Eds.), *Rethinking corrections: Rehabilitation, reentry, and reintegration* (pp. 307–326). Thousand Oaks, CA: SAGE Publications.
- Taxman, F., & Bouffard, J. (2000). The importance of systems in improving offender outcomes: New frontiers in treatment integrity. *Justice Research and Policy, 2*, 37–58.
- Taxman, F. S., Cropsey, K. L., Young, D. W., & Wexler, H. (2007). Screening, assessment, and referral practices in adult correctional settings. *Criminal Justice and Behavior, 34*, 1216–1234.
- Taxman, F. S., Rhodes, A., Rudes, D., Portillo, S., Murphy, A., & Jordan, N. (2010). *JSTEPS: Using structured rewards and sanctions in justice supervision programs. Manual*. Bethesda, MD: National Institute on Drug Abuse.