



Published in final edited form as:

J Subst Abuse Treat. 2013 August ; 45(2): 242–248. doi:10.1016/j.jsat.2013.01.014.

Community opioid treatment perspectives on contingency management: Perceived feasibility, effectiveness, and transportability of social and financial incentives

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Abstract

Treatment community reluctance toward contingency management (CM) may be better understood by eliciting views of its feasibility, effectiveness, and transportability when social vs. financial incentives are utilized. This mixed method study involved individual staff interviews representing three personnel tiers (an executive, clinical supervisor, and two front-line clinicians) at 16 opiate treatment programs. Interviews included Likert ratings of feasibility, effectiveness, and transportability of each incentive type, and content analysis of corresponding interviewee narrative. Multi-level modeling analyses indicated that social incentives were perceived more feasible, more effective, and more transportable than financial incentives, with results pervading personnel tier. Content analysis suggested the more positive perception of social incentives was most often due to expected logistical advantages, positive impacts on patient quality-of-life, and philosophical congruence among staff. Weaker perception of financial incentives was most often influenced by concerns about costs, patient dissatisfaction, and staff philosophical incongruence. Implications for CM dissemination are discussed.

Keywords

contingency management; innovation adoption; treatment community views

1. Introduction

Contingency management (CM) encompasses a host of clinical methods available for use by the addiction treatment community. Petry (2000) notes as two binding tenets the objective detection of treatment adherence and provision of salient incentives when adherence occurs. Analog studies show robust impact of behavioral reinforcement on initiation, maintenance, and discontinuance of substance use [as reviewed by (Higgins, Silverman, & Heil, 2008; Stitzer & Petry, 2006)]. Meta-analyses of CM in addiction treatment settings note reliable efficacy (Dutra et al., 2008; Griffith, Rowan-Szal, Roark, & Simpson, 2000; Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006), and effectiveness trials conducted via NIDA's Clinical Trials Network document its positive impacts when employed at community-based clinics (Peirce et al., 2006; Petry et al., 2005). Still, the treatment community has been slow to embrace CM relative to other behavior

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therapies like motivational interviewing, relapse prevention, and 12-step facilitation (Benishek, Kirby, Dugosh, & Pavodano, 2010; Herbeck, Hser, & Teruya, 2008; McCarty et al., 2007; McGovern, Fox, Xie, & Drake, 2004).

Treatment community reluctance for CM may vary among what historically have been logistically heterogeneous clinical methods. Published accounts of CM implementation first arose in opioid treatment programs (OTPs) with social incentives—that is, rewards that promote treatment adherence through a variety of means whereby patients experience greater autonomy, convenience, and social status among their peers. For example, early studies documented that offering contingent take-home medication doses increased therapy session attendance, drug abstinence, and patient involvement in productive daily activity (Milby, Garrett, English, Fritschi, & Clarke, 1978; Stitzer et al., 1977; Stitzer, Bigelow, & Liebson, 1980). Subsequent studies replicated these effects (Schmitz et al., 1998; Stitzer, Iguchi, & Felch, 1992), or extended application of contingent take-home doses to reinforce other patient outcomes like employment or educational attainments (Magura, Casriel, Goldsmith, Strug, & Lipton, 1988). Studies have also shown the prospect of dose adjustments or supplements similarly improves therapy attendance, drug abstinence, and retention in treatment (Higgins, Stitzer, Bigelow, & Liebson, 1986; Stitzer, Bickel, Bigelow, & Liebson, 1986). Other studies have clarified the importance of using such incentives within CM systems that rest on reinforcement of treatment-adherent behavior, rather than systems reliant on punishment of treatment in-adherence (Iguchi, Stitzer, Bigelow, & Liebson, 1988; Stitzer et al., 1992). More recent studies of social incentives have extended this concept to show that contingent access to preferred opiate medications, priority dosing times, and other clinic services increases drug abstinence and treatment retention (Calsyn, DeMarco, Saxon, Sloan, & Gibbon, 2003; Hartzler, Cotton, Calsyn, Guerra, & Gignoux, 2010).

Alternatively, some CM methods—most often promoted as *motivational incentives approaches*—rely specifically on providing reinforcement in the form of incentives with material appeal (e.g., monetary vouchers, prizes). Higgins and colleagues (1994; 1993) were the first to introduce the provision of monetary vouchers (exchangeable for selected goods or services) to patients as means of reinforcing cocaine abstinence, an approach shown to be efficacious and since widely-adapted (Lussier et al., 2006). Concern over the implementation costs of these voucher-based CM methods contributed to Petry's (2000) eventual design of a variable-ratio, variable-magnitude 'fishbowl technique' wherein patients' treatment adherence is reinforced by the earning of draws for monetary or material prizes (e.g., akin to a raffle). A prize-based CM protocol was tested in CTN-affiliate OTPs, with encouraging results (Peirce et al., 2006). However, sustained post-trial implementation of these procedures were reported by just 12% of CTN clinics (Roman, Abraham, Rothrauff, & Knudsen, 2010), thus raising questions about how CM methods that utilize financial incentives may be perceived among by OTP personnel.

Community treatment perspectives about social and financial incentives have been targets of prior empirical study. Kirby and colleagues (2006) surveyed U.S. treatment personnel, finding preferential attitudes toward social incentives and a range of concerns about financial incentives encompassing their feasibility, clinical effectiveness, and transportability. Other survey-based studies replicate these findings. For instance, Australian treatment personnel also endorse social over financial incentives in CM implementation (Ritter & Cameron, 2007). Additional studies of financial incentives alone further document reluctant staff attitudes at CTN clinics, and even lesser interest at non-CTN clinics (Ducharme, Knudsen, Abraham, & Roman, 2010; McCarty et al., 2007). Both studies note a moderating effect of clinic role, with more receptivity to use of financial incentives among those in managerial positions. Further muddying the picture are organizational factors, like a

clinic's internal culture or social architecture, that contribute variance in adoption attitudes about specific CM methods (Bride, Abraham, & Roman, 2011; Hartzler et al., 2012).

Given their varied nature, it may be unsurprising that community treatment attitudes toward CM have also been tapped by qualitative research methods. In interviews with Australian treatment personnel, Cameron and Ritter (2007) note generally positive attitudes about the adoption of CM in their clinical work but also common concerns specific to the use of financial incentives that reflect perceived cost and procedural impracticalities, potential for superficial or iatrogenic therapeutic effects, and philosophical incongruence. Sinclair et al. (2011) used focus groups to elicit attitudes among UK treatment personnel, also finding support for adoption of CM in principle voiced alongside similar concerns specific to the use of financial incentives. These qualitative studies offer converging international viewpoints of the treatment community toward social and financial incentives, which highlight preferences and concerns that encompass issues of their practicality, clinical impact, and real-world applicability.

The current study builds on this aggregate literature of incentive preferences, employing a mixed method convergent design (Creswell, Klassen, Plano-Clark, & Clegg-Smith, 2011) in the conduct of individual, semi-structured interviews with a subset of treatment personnel at 16 community-based OTPs. Given the range of treatment community considerations noted in prior research regarding use of social and financial incentives, the framework for interview questions was organized according to a widely-cited behavior therapy development model (Carroll & Rounsaville, 2007) delineating sequential stages for issues of feasibility (e.g., cost, staff time, logistics), effectiveness (e.g., impact on client abstinence, quality-of-life, treatment satisfaction), and transportability (e.g., staff familiarity, capability, philosophical congruence). Interview questions were posed to elicit an initial numeric rating. Each rating was followed by probing for a rationale for the provided rating, with these rationales later subjected to content analysis. This mixed method approach and the resulting viewpoints offered by community treatment personnel regarding use of social and financial incentives in CM implementation are described herein.

2. Methods

2.1 Study design, sampling, and method of inquiry

OTPs were targeted in the current study due to their heavy representation in prior CM literature, and the applicability of operant conditioning principles to federal and state regulations governing access to opiate agonist medication to which OTPs adhere. Investigators sought to enhance generalizability of the OTP sample via balanced representation of clinics' geographic location, local population density, and exposure to CM methods via CTN affiliation (Ducharme et al., 2010). Eight regions (Pacific Northwest, Southwest, Rocky Mountain, South, Midwest, Northeast, Mid-Atlantic, Southeast) were specified *a priori* from which a CTN and non-CTN OTP were to be drawn. Using the Substance Abuse and Mental Health Services Administration (SAMHSA) national OTP directory, investigators identified cities in each region with one CTN and multiple non-CTN OTPs. Census bureau statistics were accessed to identify corresponding county-level population density, then simplified to a three-level (small <750,000; medium 750,001 – 1,500,000; large >1,500,000) scale. Eight cities were then selected to enable comparable representation of small, medium, and large density areas.

Clinic recruitment was initiated via an investigator letter that broadly described study aims and procedures, and directed the OTP to contact the research team if interested. Study investigators then outlined a practical template for site visit procedures, confirmed clinic interest in study participation, requested a letter of clinic cooperation, and negotiated a site

visit date. In each region, the targeted CTN-affiliate OTP was contacted first. Once clinic interest was confirmed, a non-CTN OTP was then recruited based on proximity alone. Collectively, 19 OTPs were sent initial letters about study participation, of which two did not respond and another was deemed inappropriate due to report that it had discontinued its methadone dispensing services.

The lead author traveled to OTPs and conducted interviews amidst a full-day clinic site visit (procedures later described). Practical and fiscal limitations dictated that four individual staff interviews be conducted per OTP. As CM attitudes vary by professional role (Kirby et al., 2006), interviewees at each OTP consisted of an executive, a clinical supervisor, and two front-line staff. Upon determination of a clinic's site visit date, the executive director was provided a copy of the interviewee consent form and asked to review it with their clinical staff so all were apprised of the opportunity to participate. Individual staff members self-selected to participate in interviews during the site visit based on their interest in the study and availability during the site visit. Given that interviewees were stratified between clinics by geographic region and CTN affiliation status and within clinics by personnel tier, a stratified purposive nonprobability sampling approach is reflected (Sandelowski, 2000).

This mixed method, convergent design (Creswell et al., 2011) included confirmatory hypotheses for feasibility, effectiveness, and transportability ratings of privilege- vs. monetary-based CM. Consistent with extant literature, social incentives were expected to be seen as more feasible, effective, and transportable than financial incentives. Sandelowski (2000) notes as benefits of mixed method approaches the prospect of convergent validation (e.g., triangulation), and conceptual elaboration (e.g., complementarity). Accordingly, a content analysis was undertaken to identify the common, shared conceptual bases underlying these ratings.

2.2 Participants and procedures

All procedures were approved by the host university's institutional review board. Sixteen clinics were visited between October, 2010 – June, 2011 (N=64 staff interviews). With rare exception, site visits to clinics in the same region were completed during the same week. Site visits began with a gathering of background information about clinic attributes from an executive clinic representative, followed by a facilities tour. A sequence of staff interviews was then coordinated based on interested staff members' availability. At conclusion of each visit, the clinic received \$500 to account for staff time and clinic space utilized for study procedures.

A private room was designated for interviews, with informed consent provided prior to audio-recording. Interviewees were assured that interview content would not be shared with clinic management, and asked to avoid identifying references to clinic, self, other staff, or clientele. The interviewer initially inquired about CM familiarity, and augmented this as needed with concrete examples of methods involving social or financial incentives. Interviewees were then provided a placard outlining a Likert-rating scale (1=Not at all, 7=Extremely) and asked to rate feasibility, effectiveness, and transportability of social and financial incentives. After each of these six ratings, interviewees were asked to elaborate via standard probes ('what led you to rate that a...?'). Interviewees were also later asked to specify a preferred type of incentive for use at their clinic. Interviews also included later discussion of other professional topics not the focus of the current manuscript. Interviewees received \$50 in compensation for their time.

2.3 Measurement

At interview outset, the interviewer gathered simple interviewee demographics (i.e., age, gender, ethnicity/race, clinic role and tenure). The six aforementioned ratings were elicited in a standard sequence as paired feasibility ratings, paired effectiveness ratings, and finally paired transportability ratings. Brief definitions for these behavior therapy concepts were provided to ensure interviewee understanding. All interviews were later transcribed in their entirety, with numeric ratings noted and entered into an electronic database. Dimensions for the content coding scheme were developed by the authors (both trained in qualitative research methods) after conjoint review of the first 12 interviews. The authors then applied codes in independent, yet simultaneous reviews of each interview transcript after which discrepancies were immediately discussed and resolved to facilitate shared conceptual clarity in coding of subsequent transcripts. Feasibility codes noted cost (C), staff time (T), and logistics (L) issues. Effectiveness codes marked abstinence (A), quality of life (Q), and client satisfaction (S) indices. Transportability codes reflected procedural familiarity (F), capability (Cp), and treatment philosophy (P) dimensions. An 'other' code (O) was used to signify unique yet salient themes. Positive (+) or negative (–) valence was assigned to all codes, based on the manner of interviewee discussion.

2.4 Data analysis

Interviewee demographics were analyzed via simple descriptive statistics. Paired ratings of social and financial incentives (corresponding to their perceived feasibility, effectiveness, and transportability) were examined in three generalized linear multilevel models (GLMM). The use of SPSS 19 enabled GLMM analysis of these ordinal rating data, which incorporated clinic- and staff-level predictors. In each GLMM, paired ratings served as a fixed effect of incentive type. Given prior findings concerning their link to CM attitudes (McCarty et.al, 2007; Ducharme et.al, 2010), CTN affiliation (clinic-level) and personnel tier (staff-level) were added as fixed effects as were their interaction with incentive type. To account for potential clustering of co-worker ratings, clinic was also included in GLMM as a random effect. With respect to content coding and analysis, codes were noted on interview transcripts, from which their frequency was later tallied. The coding process occurred over many months, iteratively in blocked sets of interviews for the involved OTPs. Inter-rater reliability for coding content and valence was assessed by computing a series of Cohen's kappa (κ). Finally, excerpts were selected for purposes of conceptual elaboration, with representation of each interviewee at a set of OTPs with considerable direct experience employing CM with social and financial incentives.

3. Results

3.1. Sample description

As a function of their stratification by personnel tier, interviewees (N=64) were 16 executives, 16 clinical supervisors, and 32 front-line staff. A vast majority of front-line staff (91%) were chemical dependency counselors, and the remaining front-line staff interviewees were medical providers. The aggregate sample was 69% female. Mean age was 46.97 years ($SD=12.43$). Seven individuals (11%) identified as Hispanic ethnicity, and the racial distribution was 69% Caucasian, 19% African-American, 11% Latino, and 2% Iranian. Organizational tenure ranged from 2 months to 38 years, with a mean of 8.30 years ($SD=8.43$).

3.2 Coding reliability

Inter-rater reliability was strong across primary content domains. Reliability in feasibility domains was consistently excellent ($\kappa = .92-.97$), and more varied but still quite good in domains for clinical effectiveness ($\kappa = .85-.98$) and transportability ($\kappa = .84-.99$).

Reliability of ‘other’ codes was less strong ($\kappa = 74-.84$), but still adequate. Inter-rater reliability for valence coding was excellent across domains ($\kappa = .95-.99$).

3.3 Perceived feasibility

The GLMM included a robust effect of incentive type, $F(1,120) = 92.22, p < .001$, with stronger mean rating of social incentives ($M=6.31, SD=.65$) than financial incentives ($M=4.05, SD=.85$). While a direct effect of CTN affiliation trended toward statistical significance ($p = .064$), its interaction with incentive type was significant, $F(1,120) = 12.24, p < .001$. Less disparate mean feasibility ratings were found for the two incentive types at CTN-affiliate clinics ($M=6.14, SD=.65$ vs. $M=4.66, SD=.66$) than at non-CTN clinics ($M=6.48, SD=.62$ vs. $M=3.44, SD=.81$). Both the effect of personnel tier and its interaction with incentive type were nonsignificant (all p -values $> .29$), suggesting the consistent pattern of feasibility ratings across those in executive, clinical-supervisory, and front-line staff positions evidenced in Table 1.

Corresponding content analysis offered convergent validation. With respect to social incentives, 74% of feasibility codes had positive valence, and prevalence of applied codes was 42% for logistics, 34% for staff time, and 13% for cost. Prevalence of ‘other’ feasibility codes for social incentives was 13%, reflecting themes of sustainable clinic practice, patient familiarity/routine, and congruence with clinic treatment mission. For financial incentives, 73% of feasibility codes had negative valence, and prevalence of applied codes were 69% for cost, 45% for logistics, and 39% for staff time. Prevalence of ‘other’ codes was 22%, reflecting social injustice among patients, negative past implementation experiences, and lack of systemic support. Interview excerpts of personnel at one OTP with prior experience implementing CM with social and financial incentives were selected to offer conceptual elaboration:

Executive Director: “First, it’s like ‘where you gonna get the \$200–300 to do [financial incentives]’ when you’re already nickel-and-diming in a program. And where is it going to be managed, who’s going to have the funds, how will they be secured, accounted for, and replenished. The logistics of that become burdensome—and diminished our interest in continuing to use them. And relative to the raffle stuff, maybe there are other rewards in life that are richer, and require less management and accounting.”

Clinical Supervisor: “Social incentives are a strong motivator for the clients. And they don’t require a whole lot of security or staff time to make them work.”

Front-Line Staff: “If clients do what they’re supposed to, it’s easier to give take-home doses and have them not be here. It’s a reward for them and us. If a client is doing well, I go from seeing them 4,5,6 times a month to once a month. They get to go live their life.....and are less likely to get into issues here with other clients. Social incentives make it easier for everyone.”

Front-Line Staff: “What they tried here was one system of financial incentives for one client group, and another system for a 2nd group, and another for a 3rd group.....it was a nightmare.”

3.4 Perceived effectiveness

The GLMM included a significant effect of incentive type, $F(1,120) = 10.63, p = .001$. On average, social incentives were perceived to be more clinically effective ($M=5.67, SD=.92$) than financial incentives ($M=4.96, SD=.94$). Direct effects of both CTN affiliation and personnel tier were nonsignificant (all p -values $> .13$). Thus, the pattern of effectiveness

ratings appears to be consistent across community treatment personnel in executive, clinical-supervisory, and front-line staff positions at both CTN and non-CTN clinics (see Table 1).

The corresponding content analysis similarly provided convergent validity. With respect to social incentives, 79% of effectiveness codes had positive valence, and the prevalence of applied codes was 33% for patient quality of life, 28% for treatment satisfaction, and 17% for abstinence. Prevalence of ‘other’ codes was 22%, reflecting themes of patient hope, escalating value of privileges over time, and positive identity development. For financial incentives, 60% of effectiveness codes had negative valence, and the prevalence of applied codes was 30% for patient treatment satisfaction, 20% for abstinence, and 6% for quality of life. Prevalence of ‘other’ codes was 39%, reflecting potential for patient diversion/criminality, diminished generalizability of learning experiences, and effect moderation based on patient attributes. Interview excerpts of personnel at a 2nd OTP with experience implementing CM with social and financial incentives were selected to offer conceptual elaboration:

Executive Director: *“Social incentives are tied right into client behaviors...there’s a natural connection that reinforces what therapeutically we’re trying to do...as opposed to something artificial that intends to create short-term compliance or attendance. Financial incentives are not very effective for what you really want them to do, which is continue on with their life.”*

Clinical Supervisor: *“Social incentives impact clients’ daily life and existence. To not have to come down here every day...if you have a job, that’s invaluable. And they have status among clients as well. If you have a take-home dose lockbox, people know you’ve done some good things.”*

Front-Line Staff: *“Clients get very motivated by the fact that they can come in earlier to dose, or get take-homes and don’t have to come in, or have less required counseling, you know. In that way, those types of social incentives are very effective.”*

Front-Line Staff: *“I’ve only had one client who benefitted from financial incentives. He was appreciative of it, though I don’t know that it necessarily helped him with any of the issues on which we were working clinically. But it did help him have gas for his car to get here.”*

3.5 Perceived transportability

The GLMM included a significant effect of incentive type, $F(1,120) = 26.55, p < .001$. On average, social incentives were perceived to be more transportable ($M = 5.96, SD = .92$) than were financial incentives ($M = 4.91, SD = .90$). Direct effects of CTN affiliation and personnel tier were nonsignificant, as were their respective interactions with incentive type (all p -values $> .22$). This suggests that pattern of transportability ratings was consistent across executive, clinical-supervisory, and front-line staff at both CTN and non-CTN clinics (see Table 1).

The corresponding content analysis again provided convergent validity. With respect to social incentives, 88% of transportability codes had positive valence. Code prevalence was 50% for staff treatment philosophy, 39% for staff familiarity, and 13% for staff capability. Prevalence of ‘other’ codes was 13%, reflecting staff interest to improve treatment experiences, opportunity for peer recognition among patients, and greater patient certainty about earned incentives. For financial incentives, 74% of transportability codes had negative valence. Code prevalence was 64% for staff treatment philosophy, 13% for staff familiarity, and 11% for staff capability. Prevalence of ‘other’ codes was 13%, reflecting negative public perception, incongruence with funders, and staff apathy. Interview excerpts of

personnel at a 3rd OTP with prior experience implementing CM with social and financial incentives again offer conceptual elaboration:

Executive Director: “Staff would say ‘why do we have to give clients something tangible to encourage them to do something that they should want to do.’ They would feel that it’s not the right thing to do to try and motivate somebody by giving them vouchers or things like that.”

Clinical Supervisor: “Everything is time-consuming...you know, it’s part of the job. Social and financial incentives are both part of the clients’ needs, and we’re here to help the clients’ however we can. So if it takes an extra 5 minutes, then it takes an extra 5 minutes. It is what it is.”

Front-Line Staff: “With social incentives, staff is extremely comfortable with the time they take and complexity of the procedures. They may have opinions about ways to make sure we do certain things so those incentives aren’t being abused... but people are extremely comfortable using them here.”

Front-Line Staff: “Using social incentives is a pretty easy procedure...it’s not time-consuming, you know. And if clients have been clean and obtaining all their treatment recommendations, you know, why not let them earn a few take-home doses?”

3.6 Preference among incentive types

Responses to a forced-choice question regarding the preferred type of incentive for clinic use in future CM implementation were consistent with the previously-described pattern of results. Specifically, 92% of these community treatment personnel endorsed a preference to use social incentives in future clinic implementation of CM.

3.7 Additional notes

Broadly, most clinics in the sample had prior or current CM implementation experience that informed staff views and highlighted contextualized adaptations or issues. For instance, two clinics evidenced creative ways to overcome feasibility challenges. One clinic opportunistically used monetary vouchers to reinforce group therapy attendance, for which the reimbursement rate was *40 times* the dollar value of the vouchers (resulting funding surpluses supported otherwise unsustainable social services). A 2nd clinic successfully petitioned legislation to provide an extra take-home dose to reinforce new patients opting to complete an elaborated intake process with a family member. With respect to effectiveness, many clinics reported current or past CM systems targeting special populations (e.g., pregnant women, intensive outpatient clients). Also, notions of matching incentives to patient stage of treatment was raised at several clinics—with financial incentives suggested as means to initiate treatment adherence by new patients, and social incentives fostering or sustaining adherence in continuing or long-term patients. Still other interviewees touched on unique transportability issues. As one example, multiple executives described use of CM with staff regarding work performance, with prospects of an annual professional development stipend offered as an incentive for meeting specified productivity levels. This parallel process of applying CM to staff was also discussed as a means of improving the familiarity and philosophical congruence of operant conditioning principles and methods.

4. Discussion

This mixed-method study found robust differences in community treatment views of feasibility, effectiveness, and transportability of social versus financial incentives. Multi-level models and corresponding content analysis of semi-structured interviews revealed that

social incentives were seen as more: 1) feasible, most often due in part to perceived logistic advantages, 2) clinically effective, most often due in part to perceived benefits to patient quality-of-life, and 3) transportable, most often due in part to philosophical congruence for staff. Contrasting views toward financial incentives most often reflected fiscal concerns, doubts about patient satisfaction with treatment, and staff philosophical incongruence. Notably, personnel tier did not appear to influence ratings in any of the multi-level models. Content analysis of the interviews offered convergent validity for these findings. Specifically, interviewees' discussion of social incentives was aligned with 74–88% positive codes, whereas that for financial incentives was aligned with 60–74% negative codes. Interview excerpts from staff of three participating OTPs, each having considerable prior implementation experience involving both types of incentives, are offered for conceptual elaboration. Finally, when given a forced-choice, 92% of interviewees indicated a preference to use social rather than financial incentives in future clinic implementation of CM. Collective study findings are broadly consistent with extant literature involving survey of community treatment views (Ducharme et al., 2010; Kirby et al., 2006; McCarty et al., 2007).

The most robust comparative effect was in perceived feasibility for social over financial incentives, a substantial gap only somewhat attenuated among CTN clinics. The attenuation may reflect direct or vicarious influences of a prior CM-themed CTN trial (Peirce et al., 2006) or greater staffing, resources, or absorptive capacity (Ducharme, Knudsen, Roman, & Johnson, 2007; Knudsen & Roman, 2004). The finding of greater perceived feasibility of social incentives in the aggregate sample is consistent with prior research (Ducharme et al., 2010), as are prominent cost-related concerns with financial incentives (Kirby et al., 2006; Cameron & Ritter, 2007; Sinclair et al., 2011). The apparent logistical appeal of social incentives likely signals greater perceived compatibility with existing OTP practices, an attribute of innovations most often adopted in common use (Rogers, 2003). Interestingly, prevalent codes applied to discussions of clinical effectiveness were broad treatment dimensions (patient satisfaction and quality-of-life), which stand in contrast to the behavioral specificity inherent in design and focus of many CM treatment trials. Incorporating such dimensions among reported outcomes may enhance treatment community interest in future CM trials. Consistent with prior research (Kirby et al., 2006; Cameron & Ritter, 2007; Sinclair et al., 2011), philosophical congruence (or lack thereof) was often reflected in discussions of transportability—suggesting that inklings about the incentives involved in CM implementation are deeply rooted in what may for some be strongly dogmatic views about treatment provision.

Methodological caveats of the study bear acknowledgement. A diverse clinic sample was recruited, yet caution should be taken in generalizing findings to the treatment community at-large. Participating clinics were OTPs, and consequently the views voiced about social and financial incentives could differ from those found in abstinence-based settings. Also, while the selection of regionally-paired OTPs based on proximity may have accounted for influences of local population density, it prevented matching based on other potentially salient clinic attributes (e.g., staff size, patient census). Further, selection bias may be evident in that OTPs in the current sample allowed the PI to visit their busy setting and interview staff members over the course of a routine day of clinical practice, and may consequently differ in some way from OTPs less open to such intrusion. Potential for selection bias also applies to individual staff members. Informed by the prior work of Kirby and colleagues (2006), interviewees were stratified across three personnel tiers. But given staff members' self-selection to participate in the interviews and variance in staff size among the OTPs, interviewee representativeness is hard to know. Also, though the interviewee sample size was consistent with that suggested by Sandelowski (1995) for an ethnographic analysis [the primary purpose of the larger data collection, see (Hartzler & Rabun, in press)],

this was a small sample on which to conduct GLMM analyses. Thus, caution is warranted regarding magnitude of some reported effects. Finally, aspects of the content coding (such as binary approach to code valence) may have over-simplified the richness of some interviewee narratives. Our attempts to mitigate this concern include the use of ‘other’ codes, and the inclusion of interview excerpts from staff at three implementation-savvy OTP clinics.

Caveats notwithstanding, this study replicates prior research in documenting differential treatment community views toward social and financial incentives. It extends beyond that prior work by distinguishing attitudinal dimensions for three stages of behavior therapy development (e.g., feasibility, effectiveness, transportability) and by applying content analysis to interviews of U.S. addiction treatment personnel. Clear preference and supporting rationales for use of social incentives coincide with like-minded community treatment opinions gathered in Australia and the United Kingdom (Cameron & Ritter, 2007; Sinclair et.al, 2011). This is noteworthy, given the heavy promotion of *motivational incentives approaches* in recent years and its limited rate of community adoption (Roman et.al, 2010). A convergence of international treatment perspectives documenting greater affinity for social incentives may suggest that CM advocates reconsider this dissemination strategy. In particular, a ‘one-size-fits-all’ approach that promotes this single method (at the exclusion of other empirically-supported CM practices) may be overly simplistic. Instead, it seems greater attention is needed for how operant conditioning principles may be contextualized to the needs and resources of individual clinics. As for the incentives a clinic may incorporate in implementing CM, creative organizational thinking about what its clients value—and eliciting of consumer feedback about that—may be worthwhile. Inasmuch as debates about the ‘right’ incentives to use in CM may frame this as a forced-choice, a viable strategy for many clinics may be to offer a mix of social and financial incentives while still adhering to core principles of operant conditioning. Doing so may afford greater opportunity for client choice, and thereby enhance the magnitude of reinforcement. Tremendous potential still exists for use of CM in the addiction treatment community, but a more thoughtful and flexibly-minded dissemination approach appears needed.

Acknowledgments

Financial Support: K23 DA025678-01A2

This work was supported by K23 DA025678-01A2 (Integrating Behavioral Interventions in Substance Abuse Treatment, Hartzler PI). The authors wish to thank the participating clinics for opening their doors as well as the involved treatment personnel for sharing their perspectives.

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Table 1
Feasibility, effectiveness, and transportability ratings for social vs. financial incentives

Rating Domain	CTN-Affiliate Clinics			Non-CTN Clinics		
	Executive Directors (n = 8) M (SD)	Clinical Supervisors (n = 8) M (SD)	Direct-Service Clinicians (n = 16) M (SD)	Executive Directors (n = 8) M (SD)	Clinical Supervisors (n = 8) M (SD)	Direct-Service Clinicians (n = 16) M (SD)
Feasibility						
Social Incentives	6.29 (.49)	6.29 (.76)	6.00 (.68)	6.63 (.52)	6.25 (.71)	6.50 (.63)
Financial Incentives	4.57 (.51)	4.86 (1.03)	4.57 (.65)	4.00 (.60)	3.75 (1.18)	2.81 (.64)
Clinical Effectiveness						
Social Incentives	6.00 (.58)	5.86 (.69)	5.36 (.75)	5.38 (.92)	5.38 (1.18)	5.94 (1.06)
Financial Incentives	5.57 (1.01)	5.29 (1.20)	5.50 (.79)	4.13 (.86)	5.25 (.68)	4.56 (1.05)
Transportability						
Social Incentives	5.86 (.69)	6.14 (1.07)	6.00 (.55)	5.63 (.86)	6.13 (.92)	6.00 (.99)
Financial Incentives	5.43 (.93)	5.71 (1.05)	4.93 (.91)	4.13 (1.04)	5.00 (.90)	4.75 (.87)

Notes: Ratings elicited during semi-structured individual interviews at 8 CTN and 8 non-CTN OTP clinics; all ratings based on Likert Scale (7=Extremely, 1= Not at all); neither clinic-level CTN affiliation nor staff-level personnel tier were significant predictors of feasibility, clinical effectiveness, or transportability ratings in GLMM analyses.