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Client Incentives versus Contracting and Staff Incentives: How Care Continuity Interventions in Substance Abuse Treatment can improve Residential to Outpatient Transition

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Abstract

Interventions for improving transition from short-term residential to outpatient treatment were examined. Usual care (UC; N = 114) was referral to a preferred outpatient program with advance appointment optional. Client Incentive (CI; N = 97) offered up to \$100 in gift cards for intake and attendance during the first 30 days of treatment. Contracting with staff incentives (CSI; N = 49) consisted of meeting with an outpatient counselor prior to residential discharge, signing an attendance contract, receiving an appointment and payment to staff if clients attended. CSI significantly improved rates of successful transition (84%) and admission (74%) compared to UC (64% contact; 49% admitted). CI did not result in significantly improved outcomes (74%; 60%). CSI was likely mediated by the reliability (92% vs 52% in UC) and immediacy (1.0 vs 3.9 days) of appointment scheduling. This study supports use of CSI for improving rates of transition between residential and outpatient continuing care treatment.

Keywords

substance abuse treatment; treatment transients; residential treatment; outpatient treatment; contracting; incentives

Introduction

In 2010, one million people received treatment for drug or alcohol abuse at an inpatient facility (Substance Abuse and Mental Health Services Administration, 2011). Typically, about half of the patients who receive treatment at a short-term (14–28 day) residential facility relapse to drug and alcohol use while half to two thirds remain abstinent or resume

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low levels of use (Alterman et al., 1994; Gossop, Stewart, Browne & Marsden, 2002; Harrison & Asche, 1998; Lash, et al., 2007; McKetin et al., 2012; Sannibale et al., 2003). Specific rates, of course, may depend on a number of factors including the type and severity of substance use disorder, the type and duration of residential treatment and the socioeconomic resources of the client. One factor that can increase rates of post-residential abstinence is participation in outpatient continuing care, which offers a continuation of the initial treatment episode at a step down in the intensity. Although it is well accepted among both researchers and treatment providers that continuing care is essential following brief residential treatment (Arbor, Hambley & Ho, 2011; McKay, 2005; 2009), service delivery systems are infrequently set up in a manner that facilitates the continuum of care (Lash, Timko, Curran, McKay & Burden, 2011). About 40–50% of residential clients may make the initial transition into outpatient continuing care, although they frequently do not stay for the entire recommended duration of that care (Arbour et al., 2011; Lash, 1998; Sannibale et al., 2003; Stein, Kogan & Sorbero, 2009). Further, there are a number of barriers that contribute to low rates of transition into continuing care that include inconvenience of treatment locations, lack of communication across agencies and financial and insurance barriers (Lash et al., 2011).

Several interventions have been developed and tested that can improve rates of transition from brief residential to outpatient continuing care treatment. Moreover, many of these are relatively simple, low-cost interventions that could be adopted within community treatment systems (McKay, 2009; Lash et al., 2011). For example, one study by Chutuape, Katz & Stitzer (2001) found that only 24% of patients who completed a short-term medically assisted detoxification under usual care conditions made contact with a designated outpatient continuing care program versus 76% who were offered a ride to the program plus a \$13 incentive payment upon completion of the intake assessment. The \$13 payment alone increased rates of initial contact from 24% to 44%, although this was not a statistically significant increase. Since reinforcer magnitude has been identified as a feature of such interventions associated with outcomes (Lussier, Heil, Mongeon, Badger & Higgins, 2006; Svikis, Lee, Haug, & Stitzer, 1997), it is possible that a larger payment would provide stronger motivation to attend an continuing care program.

Other interventions have been developed to help communication across agencies and improve treatment alliance. Lash (1998) studied transition interventions in 40 primarily alcohol dependent males at an inpatient 28-day substance abuse treatment program. Half received a 20-minute orientation session conducted by a therapist from the continuing care program who explained the benefits of continuing care, and asked the patients to sign an 8-week attendance contract. The remainder watched a video tape on motivation to reach goals. Participants who received the continuing care orientation were much more likely to attend the outpatient program at all (70% versus 40% in minimal intervention) and to attend subsequent sessions (37% versus 17% of scheduled sessions attended) over the first 8 post-discharge weeks.

A similar Therapeutic Alliance (TA) intervention was studied by Campbell et al. (2009) in a multisite, randomized trial conducted within the National Drug Abuse Treatment Clinical Trials Network. A therapist from an outpatient program affiliated with the agency where the detoxification unit was located, conducted a single session that focused on treatment preparation, treatment goals, and treatment experiences, and ended with the opportunity for the participant to schedule an outpatient appointment. The study showed significantly higher rates of initial contact with the outpatient program for TA (21%) versus treatment as usual (14%) with no significant differences in subsequent retention.

Overall, there is an urgent need to improve continuum of care and specifically to improve rates of patient transition from residential to outpatient treatment. Within a complex community treatment system, short-term residential and outpatient continuing care services are often situated in different locations and run as independent agencies. Within this services configuration, there are evidence-based interventions that, if feasible for reliable implementation, could improve rates of transition from residential to outpatient care. The purpose of this study was to examine two such interventions with real world feasibility: 1) monetary incentives for clients designed to promote contact with and engagement in outpatient continuing care (Client Incentive) and 2) outpatient orientation via personal contact with a counselor from the program with staff incentives (Contracting with Staff Incentives). The hypothesis was that rates of transition would be higher for both Client Incentive (CI) and Contracting with Staff Incentives (CSI) interventions compared with those seen under a usual care referral procedure.

Methods

Study setting

The study took place within an adult residential substance abuse treatment facility, located in West Baltimore, Maryland. The treatment facility offered inpatient, outpatient and halfway house services for individuals presenting voluntarily and via referral from the criminal justice system. The study recruited participants from the facility's 28-bed short-term (21–28 day) medically monitored intensive residential program.

Outpatient referral sites

Eight outpatient programs were selected for participation as referral sites. Primary criterion for selection was geographic dispersal around the Baltimore City area. Although serving a similar clientele, each program was unique in its organization, client eligibility criteria (e.g. insurance requirements) and operational characteristics. One of the outpatient referral sites was located at the substance abuse treatment facility where recruitment for the study occurred. Key features of the programs are shown in Table 1. All but one offered an IOP program which required that newly admitted patients attend 3–5 days per week.

Participant recruitment

Study participants were recruited between October 2009 and September 2011. Those eligible for outpatient referral through the study were eighteen years or older, understood English and had been in the residential facility for 14 days or longer from day of admission. Individuals were deemed ineligible for the study if they (a) were a prior consented study participant (b) would be living somewhere outside Baltimore City or immediate surrounding areas at time of discharge, (c) were being discharged to a specific outpatient treatment program due to prior affiliation (e.g. enrolled in and referred from that program) or special needs (e.g. insurance mandates, desire for methadone maintenance, court system arrangements), or (d) were being discharged to a residential treatment programs in the surrounding area that offered substance abuse treatment on-site or at an affiliated outpatient program.

As shown in Figure 1, a total of 938 clients entered treatment during the recruitment period of which 372 were ultimately deemed eligible, with 289 consented and given referral to an outpatient program; 260 were included in analysis, excluding 29 who participated in a pilot phase. Of those screened, 566 (60% of all treatment clients) were excluded for one or more eligibility factors (see Figure 1). The largest cohort of ineligible clients were those discharged to another residential treatment program after their stay at the 21–28 day program (N = 266; 47% of ineligible), followed by those referred to a specific outpatient

program not affiliated with the study (N = 136; 24% of ineligible) and those who left the program early (N=116; 20% of ineligible). Study refusal rate was 22% (83 of 372 eligible). Statistical comparison between eligible and included patients (N = 260), ineligible patients (N = 566) and study refusals (N = 83) indicated that ineligible were younger in age (mean = 41 vs. 44 years old) and more likely to be Caucasian (29% vs. 14%). No other differences were found on variables of gender, zip code at admission, primary drug of abuse and residential counselor assignment.

Participant characteristics

Table 2 shows demographic characteristics of the 260 study participants included in the results and indicates that there were no differences across study conditions. The majority of the participants were African American (84%); about 60% were male, and about half indicated heroin as their primary drug of choice.

Study screening and condition assignment

Initial screening visits with potential participants were conducted within seven days after admission (to determine potential eligibility). Eligibility status was finalized after the second week of residential stay when research staff verified housing and continuing care plans with the individual and their residential counselor. Those who remained eligible were asked to sign informed consent, provided with information about the location and operation of the eight study outpatient programs and asked to choose one of these programs for their referral. After signing informed consent and choosing an outpatient referral site, participants were informed of the study condition under which their residential discharge would take place as well as with details about the procedures involved in their study condition.

Study design

The study used a quasi-experimental design, in which all study participants received the same study condition during a given block of time, while conditions rotated over time according to a Latin square sequence. Only one condition was available at any given time. Thus, the participant's residential discharge date determined the intervention that s/he would receive. During the 92 weeks of recruitment, each condition was implemented 6 times for 4–6 week durations (usually 6 weeks) for a total implementation duration of 30–32 weeks. Among those eligible and referred, 30 individuals who left residential treatment during the CSI condition did not receive the intervention that they should have received according to the study design. This was due to staffing changes at the facilities whereby the individual trained in CSI was no longer available to conduct the outreach session. These participants were subsequently coded as usual care (see Fig. 1). The majority of these (70%) were referred to the on-site outpatient clinic.

Outpatient referral and residential discharge procedures

In all study conditions, participants received a referral to one of the eight outpatient programs affiliated with the study. Many participants had clear ideas of their own about where they wished to go for outpatient continuing care. When guidance was requested, research staff stressed geographic proximity to their residence as a factor in the choice but clinic hours and services as well as insurance requirements were also taken into account in guiding the participant's choice. Once a program was selected and agreement obtained from the participant, research staff could call the intake worker or counselor assigned as liaison to this study to schedule an appointment. Although most programs initially claimed they could accommodate same-day intakes on the day of residential program completion, this ideal in fact was rarely achieved during the study. During the study, there was a 5-month period when no appointments were accepted at the on-site referral clinic. Rather, participants were

invited to come on a “walk-in” basis for an intake appointment. This policy affected 11% of usual care (N = 13), 17% of client incentive (N = 16) and 8% of contracting with staff incentives (N = 4) participants.

The outpatient programs were notified of all referrals by fax with the discharge date of the client noted as well as their insurance status and the study intervention condition under which the discharge would take place. Both the participant and their residential counselor were given a summary sheet with the location and intake practices of the referral program as well as time of the scheduled appointment if one had been made. Outpatient program policies included counselor outreach attempts to be made by phone and/or letter if a referred client did not come to the clinic after discharge. However, no data was collected on the frequency or timing of any such attempts.

Study participants were also offered a ride on their day of discharge as part of the incentive for study participation and they could choose the ride destination (e.g. home versus directly to the outpatient program). Overall, 108 (42%) study participants accepted a ride from the residential program on their day of discharge. Of the rides accepted, 84% were to the participant’s home, 10% were to a recovery or half-way house and 6% were to an outpatient program. However, there was no relationship between rides taken and subsequent entry to treatment. Therefore, this factor was ignored in analysis of intervention effects.

Intervention Procedures

Usual Care—Usual care participants interacted with research staff to select an outpatient referral site and were given a information describing the location, contact numbers, hours of operation, services and intake process of the program. In order to maintain external validity in usual care practices, these participants were given the option of having an intake appointment scheduled for them at their outpatient referral program or scheduling the appointment themselves. No other intervention was offered.

Client Incentives—In this condition outpatient appointments were always scheduled for participants with the exception of the “walk-in” phase at the onsite clinic. During the Client Incentive conditions, participants were informed at the time of referral about the financial incentives that would be available to them if they successfully enrolled and participated in outpatient treatment at their chosen location. Specifically, four \$25 gift cards to a store of their choice (e.g. Walmart, CVS) were available to them at the outpatient program. The first gift card was delivered by outpatient clinic staff after the participant successfully reported for intake. Remaining cards were delivered upon completion of the next three clinical contacts (including admission contact if that was separate from the initial intake visit). However, no more than one card per week was available in weeks 2–4 of treatment (i.e. for first contact of the week) and all cards had to be delivered within 30 days of initial enrollment.

Contracting with Staff Incentives—The goal for Contracting with Staff Incentives clients was to provide a brief (15 minute) in-person orientation session to the client prior to discharge delivered by a designated staff member from their chosen outpatient program. These staff members were designated as “In reach” counselors, indicating their role in placing aftercare within reach of clients. In reach counselors, after training by the research staff, used a Motivational Interviewing approach to discuss benefits of continuing care, provide anonymous reports about past successful continuing care clients, and a clear description of the outpatient program (location, structure, philosophy, offered services). The session was concluded with the scheduling of an intake appointment and signing of a continuing care contract modeled after contracts used in Lash et al.’s study, (1998, 2007).

Specifically, the contract pointed out that aftercare increases the chances of remaining sober and drug-free after residential treatment. This was followed by 3 commitment statements: “I want to increase my chances of staying sober; therefore, I will go to my aftercare program; I will go the same day I leave residential treatment if possible; I will only miss aftercare appointments for emergencies and will make up missed appointments.” Information followed about the name and location of the clinic as well as day and time of the scheduled appointment. The contract concluded “By signing this contract, I agree to complete this aftercare plan.” Research staff monitored all CSI sessions to ensure that essential elements were delivered. Participants were given a folder with descriptive information about the agency, contact information for the in-reach counselor, the day and time of their appointment, and a copy of their continuing care contract.

To encourage cooperation on part of the outpatient programs, the program could receive up to \$100 per participant referred during the CSI condition, based on successful enrollment of the participant in treatment. Payment schedule was similar to that used in CI with \$25 for each participant that completed intake, and \$25 for each of the next three clinical contacts within thirty days of outpatient admission. Payments were made to the program in a lump sum after the last CSI participant in each study phase completed their initial 30 days and all attendance data had been collected from the programs. It was recommended to the outpatient programs that the bonus money be used for the benefit of the entire outpatient staff.

Outcome Variables

The primary outcome examined was the percent of participants in each study condition that made initial contact with their referral outpatient program ($N = 260$). Because programs differed on their intake procedures, initial contact was in most cases not synonymous with treatment admission. Thus, another important outcome examined was the percent of participants making initial contact ($N = 184$) that were actually admitted to the program ($N = 150$). Latency (days) between residential discharge and the initial contact was also examined as a function of study condition as was the percent receiving an outpatient appointment and time (days) between residential discharge and the appointment for the subgroup that received an appointment. Finally, number of treatment contacts during the first 30 days was obtained from electronic records or clinic staff and examined for the subgroup of participants who were admitted to a program and had data on attendance available ($N = 136$; 47 UC, 53 CI, 36 CSI).

Data analysis

Data were analyzed using SPSS version 19. Chi square analyses were performed on percent of participants in each condition receiving an outpatient appointment, making initial contact and being admitted to the outpatient treatment program with z-tests between proportions used to examine between group differences. Initial contact and treatment admission was examined for both the intent to treat (ITT) and treatment received samples while remainder of analyses are based on the treatment received sample (See Fig. 1). Site effects for primary outcomes were examined using logistic regressions predicting initial contact and treatment admission. Analyses were conducted with clinic site (on-site clinic versus all other clinics combined) and study condition (UC, CI, CSI) as effects. Interaction terms (site X condition) were not significant and so were not included in the final analysis. Time to the appointment, time to initial contact and number of sessions attended in the first 30 days of treatment was analyzed for the treatment received sample using one-way ANOVAs followed by Tukey's post-hoc tests to identify specific between group differences.

Results

Initial contact and treatment admission

Overall, 71% (184/264) of study clients made initial contact with an outpatient treatment program. As shown in Figure 2, initial contact rates were 84%, 74% and 64% for CSI, CI and UC participants, respectively, $X^2(2, N=260) = 8.48, p = .014$. Comparable values for the ITT sample were 82%, 74% and 58% ($X^2(2, N = 260) = 12.29, p = .002$). Post-hoc tests for the treatment received sample indicated that more clients in the CSI condition than in the UC condition made initial contact with an outpatient program ($p < .05$) while the intermediate outcome for CI condition did not differ significantly from either of the other groups.

Overall, 58% (150/260) of clients were admitted to an outpatient program. As shown in Figure 2, admission rates were 74%, 60% and 49% for CSI, CI and UC participants, respectively in the treatment received sample ($X^2(2, N=260) = 8.60, p = .014$). Comparable values for the ITT sample were 74%, 60% and 41% ($X^2 = 17.62, p = .000$). Only CSI and UC differed significantly in post-hoc testing ($p < .05$) for the treatment received analysis but in ITT analysis, UC differed significantly from both CI and CSI ($p < .05$).

Site effects

Detailed data for site effects is shown in Table 3. Site effect was significant in logistic regression (Wald = 4.63; $p = .031$; OR = 1.83; CI = 1.05 – 3.17). Percent with initial contact at the on-site clinic was 76% versus 64% at all other off-site clinics combined. Analysis of percent admitted to treatment revealed a non-significant trend (Wald = 2.630; $p = .105$; OR = 1.52; CI = 0.92–2.53) with 62% admitted at the on-site clinic versus 52% at all off-site clinics combined. As noted in methods, the site X condition interaction terms were not significant.

Time to initial contact

Mean time to initial contact with the outpatient program was 3.7 (SD = 4.8) days. As shown in Figure 3, means for the treatment received intervention groups were 1.9 (SD = 2.6), 4.4 (SD = 5.9) and 4.1 (SD = 4.4), days for, CSI, CI and, UC respectively ($F(2, 181) = 4.06, p = .019$). Post-hoc comparisons reveal that CSI participants made their initial contact sooner than both the UC and CI participants, which did not differ from one another. [Figure 3 here]

Outpatient appointments

Overall, 71% of all participants had an appointment made by research staff. Appointments were made for 92%, 83% and 52% of participants in CSI, CI and UC conditions, respectively, $X^2(2, N=260) = 63.45, p = .000$. Post-hoc tests indicated that both CI and CSI participants were more likely to have an appointment scheduled than were UC participants ($p < .05$).

Mean time to outpatient appointment for those who received an appointment ($N = 184$) was 2.9 (SD = 3.8) days. As shown in Figure 4, mean days to the outpatient appointment were 3.9 (SD = 4.5), 3.2 (SD = 3.8) and 1.0 (SD = 1.5) for UC, CI and CSI groups, respectively, $F(2, 181) = 9.07, p = .000$. Post-hoc comparisons indicate that time to the appointment was significantly shorter for CSI than for either CI or UC ($p < .05$).

Incentive payments

As shown in Figure 5, the majority of available incentives were earned in both CI (participant incentives) and CSI (staff incentives) conditions.

30-day treatment retention

Attendance data were available for 136 (91%) of participants admitted to treatment. The admitted sample overall attended 6.2 ($SD = 4.7$) visits to the outpatient program in the first 30 days. As shown in Table 4, mean number of visits for the three groups was 6.1, 7.4 and 5.0 for CSI, CI and UC participants, respectively, $F(2, 133) = 3.45$, $p = .035$. Exploratory post-hoc tests indicated that CI participants attended more treatment visits than UC but not significantly more than CSI participants.

Discussion

This study showed that a contracting with counselor incentive procedure modeled after that described by Lash (1998) is effective for increasing rates of successful transfer from residential to outpatient programs. While previous literature has documented rates of transfer between 40 to 50%, in this study, rates were found to be as high as 84% for initial contact in the most successful intervention (CSI), and as high as 74% (CSI) for admission to treatment. The present study extends previous findings by conducting the intervention with a large sample of residential substance abuse treatment patients in a real world treatment context consisting of a single large residential program and several affiliated outpatient referral programs.

A statistically significant effect of the CSI intervention was obtained despite an impressively high (64%; 58 % for ITT sample) baseline rate of successful transfer in the usual care group. Usual care transition rate was significantly higher for the on-site outpatient program (68%) than for the off-site referral programs (55%) suggesting that an on-site program is beneficial for supporting the transition to continuing care; the on-site program was also desirable to patients, as evidenced by the high rate of patient referrals (about 60%; Table 1). In interpreting this high rate of successful transfer under all conditions, it is important to keep in mind that the study samples excluded a large number of patients who were transferred to other housing and residential treatment options and excluded those (22% of the eligible sample) who did not agree to attend an outpatient program following their residential treatment stay. Clearly, these rates might be very different absent housing options and if all residential patients had been automatically included in the study.

The fact that the positive impact of contracting with staff incentives was still apparent in spite of the high baseline rate of transition is impressive and speaks to the real world effectiveness of the intervention. It is also important to note that CSI was significantly better than usual care when outpatient program admission was the focus of analysis rather than initial contact, since the two are not synonymous. In all conditions, there was a 10% – 15% decline between rates of initial contact and rate of program admission. This is consistent with other reports of treatment outcomes in psychosocial outpatient programs (e.g. Petry et al., 2005). The transition interventions in the present study did not appear to impact this early drop-out rate, which may be due in part to misunderstandings (e.g. insurance requirements for treatment) or new information available only once a patient reached the outpatient program (e.g. greater than expected attendance requirements). More information is needed to understand the reasons for this persistent pattern of early drop-off and to develop counteracting strategies.

Contracting with client incentives is a multi-faceted intervention characterized by face-to-face contact with someone from the outpatient program and including elements of information exchange, motivation boosting and signing of a commitment contract. The procedure used was modeled directly on that developed by Lash and colleagues (Lash, 1998; Lash et al., 2007) that showed efficacy in studies with patients treated at a VA hospital. The active elements of the package cannot be discerned from the present study. However, our

data suggest that one highly impactful aspect of the intervention was the more reliable and immediate access to an outpatient appointment provided by the in-reach counselors compared with that available when research staff made appointments for participants in the other study conditions (Fig. 4). Specifically, 92% of CSI versus 52% of usual care participants received an appointment at an outpatient program when appointments were presented as optional in usual care. Further, the delay to the appointment was much shorter for CSI than for usual care (1 vs. 4 days) and this was reflected in time to initial contact, which was half as long for CSI as for usual care (2 vs. 4 days). The positive association between appointment delay and transition outcome is consistent with previous research which has found that wait time to the appointment is a significant factor in show rates for initial clinic appointments (Festinger, Lamb, Marlowe, & Kirby, 2002; Stark, Campbell, & Brinkerhoff, 1990). Thus, the data suggest that outpatient appointments should be made an opt-out rather than an opt-in feature of aftercare transition and that they should be scheduled as close to the residential discharge date as possible. The extent to which other aspects of the CSI intervention (e.g. interpersonal contact) contributed to the outcome variance should be examined in future research. However, our observation highlights the potential importance of reliable and immediate appointment scheduling as a critical factor in successful treatment transition.

An important caveat to the effectiveness of the CSI intervention resides in its feasibility. Significant effort went into identifying and training CSI counselors (including backups) from each outpatient clinic. Further, CSI sessions were predictable as they were scheduled to occur on a set day of the week for each outpatient clinic. Finally, the research team was proactive in notifying the counselors when a patient was identified for referral to their clinic. Nevertheless, even in this situation where the intervention was being closely coordinated and monitored by a research team, nearly 40% of the patients scheduled to receive the CSI intervention did not in fact receive it and were exposed instead to usual care treatment (Fig. 1). This was primarily due to staffing turnover as well as financial and staffing constraints (e.g. other priorities) at the outpatient programs. Thus, while the outpatients programs were very willing to be a part of the project and while staff were enthusiastic and cooperative, system level constraints came into play that prevented full implementation. The solution may lie in systems level improvements that can specifically fund transition interventions and reduce high staff turn-over found in many programs (McLellan, Carise, & Kleber, 2003) or possibly technology innovations such as conducting in-reach sessions via tele-conferencing.

Contrary to our hypothesis, the client incentive intervention did not significantly boost initial contact rates with the outpatient programs despite the availability of a significant amount of money (\$100) for entering and remaining in a program. This is consistent with the pattern of results found previously when a somewhat smaller amount (\$13) was offered for initial contact with an outpatient program (Chutuape et al., 2001). In fact, the two studies are not that discrepant in the reinforcer magnitude offered since in the present study, only \$25 was actually available for the first visit while the remainder was dependent upon on-going contact with the program during the first 30 days. A larger impact on initial contact rates may well have been achieved if a larger amount (e.g. the entire \$100) were given at the initial visit. However, this was deemed clinically inadvisable, particularly since in many cases, patients had to return to the clinic a second time to complete the admission process.

Incentive programs such as the one used in this study are attractive because they are relatively straightforward easy to implement and are seen as desirable by participants. However, their effectiveness may depend on many factors including the magnitude, scheduling and delay of reinforcement. Thus, the present study may have been less than ideal in terms of the amount offered and delay imposed (i.e. 3–4 days until the intake appointment) in acquisition of the initial reinforcer as well as the amount of behavior (return

visits) required to obtain the full amount. There may be other conditions under which a monetary incentive intervention would be effective in boosting continuing care enrollment, something that could be a topic of future research. An important factor to consider in this regard would be the time to initial appointment with the outpatient program; if this could be shortened, a financial incentive might have a larger effect on outcome

In contrast to their non-significant effects on initial contact rates, other incentives did significantly increase days of attendance during the first 30 days of outpatient treatment ($p < .035$). This is consistent with the manner in which the incentives were scheduled (i.e. dispersed contingent on return visits) and also consistent with other research showing that reinforcement of attendance at treatment sessions increases the number of sessions attended (see Branson, Barbuti, Clemmey, Herman, & Bhutia, 2012; Ledgerwood, Alessi, Hanson, Godley, & Petry, 2008; Sigmon & Stitzer, 2005). Other research has shown that increased early attendance in outpatient treatment has a positive impact on 90-day retention (Vandrey, Stitzer, Acquavita & Stabile, 2011). Further, longer periods of treatment engagement have been associated with better substance abuse outcomes (McKay, 2005; 2009; Schaefer, Harris, Cronkite, & Turrubiarres, 2008; Zhang, Friedmann, Gerstein, 2003). Thus, the improvement in early attendance is an important clinical observation and suggests that treatment programs should consider employing attendance incentives routinely to improve early treatment engagement.

Generality of study findings is limited by its implementation at a single residential treatment site and a single outpatient treatment system. Generality is also limited by enrollment of a study sample that contained a large proportion of heroin users, exclusion of those who were able to move to treatment-linked housing and those who declined outpatient aftercare following their residential treatment episode. The quasi-experimental design can be viewed as a limitation; randomized studies would provide more precise insight into the interventions tested. That 36% of participants whose intended treatment was CSI did not receive the intervention and were moved to usual care for analysis can be viewed as a study limitation as well as an important caveat on implementation feasibility of the CSI intervention. Finally, more information about the outreach behavior of outpatient clinic staff under the different experimental conditions would have been valuable.

In conclusion, previous research has supported the benefits to drug and alcohol abusing patients of making a transition to outpatient continuing care following a residential admission (McKay, 2005, 2009). However, the treatment system mitigates against this transition to some extent by supporting residential and outpatient as distinct and independent entities that may be physically distant and that require formal discharge from one followed by a delayed and lengthy admission process to the other. The present study adds to the literature supporting use of a contracting with program incentives for improving rates of transition between residential and outpatient continuing care treatment within the current treatment system model. An important observation was the association between sure and immediate outpatient appointments and subsequent high rates of successful transition, suggesting this as a target for future research and systems intervention. The study also poses a caveat about the feasibility of implementing even a relatively simple in-reach intervention in a community treatment system, which may in part be the reason that it is not more widely used. This suggests the need for additional systems-level health services research to address the treatment transition conundrum.

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Figure 1.
Consort diagram

Residential-To-Outpatient Transition

Figure 2.

Percent of substance abuse treatment participants (N = 260) who made initial contact with an outpatient program following discharge from 21–28 day residential treatment (left-hand set of bars) and percent admitted to the outpatient program (right-hand bars). UC = usual care (N = 114); CI = Client Incentive (N = 97); CSI = Contracting with Staff Incentives (N = 49). Asterisk indicates group value is significantly different from usual care.

Scheduled Delay To OP Contact

Figure 3.

Mean days ($\pm$ SEM) to initial contact with the outpatient program for those in each study condition that made an initial contact. Usual Care, N = 71; Client Incentive, N = 72; Contracting with Staff Incentives, N = 41. Conditions not sharing a letter superscript are significantly different.

Actual Delay to OP Contact

Figure 4.

Mean days ($\pm$ SEM) to the appointment made by research or clinical staff prior to residential discharge by study condition for those who had an appointment made. Usual Care, N = 59; Client Incentive, N = 80; Contracting with Staff Incentives N = 45. Conditions not sharing a letter superscript are significantly different.

Figure 5.

Distribution of total incentive payments made during Client Incentive and Contracting with Staff Incentive conditions. Number of incentive-eligible clients (i.e. those who made initial contact with the program and thus earned any incentive for themselves or the program) was 72 for CI and 41 for CSI.

Table 1

Characteristics of the Outpatient Referral Programs

Clinic	Location	Size [^]	IOP [#]	Evening hours	Same Day Enrollment	Study N
A	Central	170	Y	N	Y	18
B	South East	60	Y	N	Y	10
C	South West	140	Y	Y	Y	16
D	South West	100	Y	N	Y	7
E	North East	150	N	Y	N	29
F	North West	165	Y	N	Y	25
G	North West	100	Y	N	Y	6
H	On-site	150	Y	N	N	149

[^] number of clients served[#] intensive outpatient program offered (9 hours per week or more)

Table 2

Participant Characteristics

Characteristics	Study Condition			P Value
	UC (N = 118)	Incentives (N = 97)	CSI (N= 49)	
Race (% minority)	84	81	90	.449
Gender (% female)	36	40	37	.817
Hispanic or Latino (%)	2	1	2	.875
Age (mn yrs)	43	43	45	.359
Education (mn yrs)	11	12	11	.277
Primary Drug Heroin (%)	55	43	57	.624
Court Ordered (%)	9	7	16	.194
Criminal Justice Referral (%)	30	19	35	.157
Mental Health Hx (% positive)	27	37	27	.245
Marital Status (% Never Married)	60	58	61	.955

Table 3

Site Effects: On-site versus all other referral clinics combined

	UC	CI	CSI	Total
Percent (N) With Initial Contact				
On-site clinic	68 (65)	81 (58)	85 (26)	76 (149)
Off-site clinics	55 (49)	64 (39)	83 (23)	64 (111)
Percent (N) Admitted To Treatment				
On-site clinic	54 (65)	64 (58)	77 (26)	62 (149)
Off-site clinics	43 (49)	54 (39)	70 (23)	52 (111)

Table 4

Outpatient Sessions in the First Month of Treatment

Variable	Study Condition Received			Statistical Outcomes		
	UC	CI	CSI	df	F	p
OP Sessions in first 30 days (mm; SD; N = 138)	5.0(4.0) ^a	7.4 (5.1) ^b	6.1 (4.3) ^{a,b}	2, 133	3.45	.035*

Entries not sharing a superscript differed significantly in post-hoc testing ($p < .05$)